

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of:

Elk Waste Services, Inc. : Solid Waste management Act
134 Sara Road :
Saint Marys, PA 15857 :

CONSENT ASSESSMENT OF CIVIL PENALTY

This Consent Assessment of Civil Penalty is entered into this 3rd day of August 2010, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and Elk Waste Services, Inc. ("Elk Waste Services").

The Department has found and determined the following:

- A. The Department is the agency with the duty and authority to administer and enforce the Solid Waste Management Act, Act of July 7, 1980, P.L. 380, *as amended*, 35 P.S. §§6018.101-6018.1003 ("Solid Waste Management Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. §§510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").
- B. Elk Waste Services is a "person," as that term is defined in Section 103 of the Solid Waste Management Act, 35 P.S. §6018.103, and is engaged in the collection and/or transportation of Solid Waste within the Commonwealth of Pennsylvania.
- C. On May 21, 2010, Elk Waste Services transported contaminated liner material and other cleanup waste from a gas well drilling site in Shippen Township, Cameron County to McKean County Landfill in Sergeant Township, McKean County, Pennsylvania.
- D. The contaminated liner material and other cleanup waste ("Waste") noted in Paragraph C, above, is "solid waste" and "residual waste" as those terms are defined in Section 103 of the Solid Waste Management Act, 35 P.S. §6018.103, and 25 Pa. Code §287.1.

E. On May 21, 2010, Elk Waste Services transported the Waste to McKean County Landfill for disposal in a vehicle that did not have a contingency plan to minimize and abate a discharge of residual waste in violation of 25 Pa. Code §299.216(d), and the vehicle did not have a daily operational record in violation of 25 Pa. Code §299.219(a).

F. On May 21, 2010, Elk Waste Services transported the Waste to McKean County Landfill without McKean County Landfill having a permit or written approval from the Department that expressly allowed the disposal of the Waste in violation of Section 303(a) of the Solid Waste Management Act, 35 P.S. §6018.303(a), and 25 Pa. Code §299.215(b).

G. On June 14, 2010, the Department issued Elk Waste Services a Notice of Violation for the violations identified in Paragraphs E, and F, above.

H. The violations described in Paragraphs E, and F, above, constitute unlawful conduct under Section 610(4) of the Solid Waste Management Act, 35 P.S. §6018.610(4); and subjects Elk Waste Services to a claim of civil penalties under Section 605 of the Solid Waste Management Act, 35 P.S. §6018.605.

I. As of the date of this Consent Assessment of Civil Penalty, Elk Waste Services has corrected all of the violations identified in Paragraphs E, and F, above.

After full and complete negotiation of all matters set forth in this Consent Assessment of Civil Penalty and upon mutual exchange of the covenants herein, the Parties desiring to avoid litigation and intending to be legally bound, it is hereby ASSESSED by the Department and AGREED to by Elk Waste Services as follows:

1. *Assessment.* In resolution of the Department's claim for civil penalties, which the Department is authorized to pursue under Section 605 of the Solid Waste Management Act, 35 P.S. §6018.605, the Department hereby assesses a civil penalty of \$500, which Elk Waste Services hereby agrees to pay.

2. *Civil Penalty Settlement.* Upon signing this Consent Assessment of Civil Penalty, Elk Waste Services shall pay the civil penalty assessed in Paragraph 1. The payment is in settlement of the Department's claim for civil penalties for the violations set forth in Paragraphs E, and F, above, for the date set forth in Paragraphs E, and F, above. The payment shall be by corporate check or the like, made payable to Commonwealth of Pennsylvania and sent to John Crow, Solid Waste Supervisor, 230 Chestnut Street, Meadville, PA 16335.

3. *Findings.*

(a) Elk Waste Services agrees that the Findings in Paragraphs A through I are true and correct and, in any matter or proceeding involving Elk Waste Services and the Department, Elk Waste Services shall not challenge the accuracy or validity of these Findings.

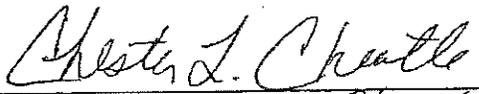
(b) The Parties do not authorize any other persons to use the Findings in this Consent Assessment of Civil Penalty in any matter or proceeding.

4. *Reservation of Rights.* The Department reserves all other rights with respect to any matter addressed by this Consent Assessment of Civil Penalty, including the right to require abatement of any conditions resulting from the events described in the Findings. Elk Waste Services reserves the right to challenge any action which the Department may take, but waives the right to challenge the content or validity of this Consent Assessment of Civil Penalty.

IN WITNESS WHEREOF, the Parties have caused this Consent Assessment of Civil Penalty to be executed by their duly authorized representatives. The undersigned representative of Elk Waste Services certifies, under penalty of law, as provided by 18 Pa.C.S.A. §4904, that they are authorized to execute this Consent Assessment of Civil Penalty on behalf of Elk Waste Services, that Elk Waste Services consents to the entry of this Consent Assessment of Civil Penalty as an ASSESSMENT of the Department; that Elk Waste Services hereby knowingly waives any right to a hearing under the statutes referenced in this Consent Assessment of Civil Penalty; and that Elk Waste Services

knowingly waives their right to appeal this Consent Assessment of Civil Penalty, and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. §7514; the Administrative Agency Law, 2 Pa.C.S.A. §103(a) and Chapters 5A and 7A; or any other provision of law. Signature by Elk Waste Services's attorney certifies only that the assessment has been signed after consulting with counsel.

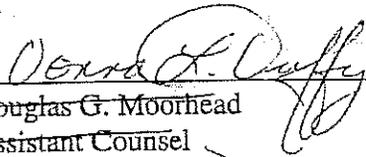
FOR ELK WASTE SERVICES, INC.:


Name Chester L. Cheattle
Title PRESIDENT

Name
Attorney For Elk Waste Services, Inc.

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:


Todd Carlson
Regional Manager
Waste Management Program
Northwest Region


Douglas G. Moorhead
Assistant Counsel
DONNA L. DUFFY
Regional Counsel

cod: Jeremy Preston

Anita Stainbrook
Judith

Commonwealth of Pennsylvania
230 Chestnut Street
Meadville PA 16335

DATE: July 30, 2010

SUBJECT: Transmittal of Settlement

TO: Jeremy Preston
Regional Business Manager

FROM: Anita Stainbrook
Operations Manager
Waste Management

PENALTY AMOUNT: \$500.00

FUND(S): Solid Waste Abatement Fund: Penalty Amount \$ 500.00

AND/OR

Waste Transportation Safety Account: Penalty Amount \$

VIOLATOR: Elk Waste Services, Inc.

ADDRESS: 134 Sara Road

CITY/STATE/ZIP: Saint Marys, PA 15857

16876

ELK WASTE SERVICES, INC.

C/O CHESTER CHEATLE
134 SARA ROAD
ST. MARYS, PA 15857
(814) 834-6771

First Commonwealth
First Commonwealth Bank
General Offices, Indian, PA 15700-0000

60-682/433

DATE

Jul 27, 2010

AMOUNT

\$ *****500.00

Memo:

Five Hundred and 00/100 Dollars

PAY
TO THE
ORDER
OF:

Commonwealth of Pennsylvania
John Crow, Solid Waste Supervi
230 Chestnut St
Meadville, PA 16335

Chester Cheatle
AUTHORIZED SIGNATURE

Security features. Details on back.

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

November 4, 2003

Core Laboratories, Inc.
dba ProTechnics Division of Core Laboratories
ATTN: Will C. Williams
Radiation Safety Officer
9830 Rosprim
Houston, TX 77040

SUBJECT: LICENSE AMENDMENT

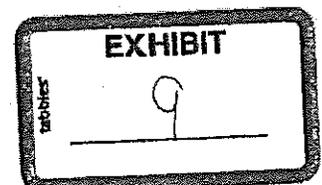
Please find enclosed Amendment No. 30 to License No. 42-26928-01. You should review this license carefully and be sure that you understand all conditions. If you have any questions, you may contact me at (817) 860-8221 or via e-mail lcc1@nrc.gov.

This amendment authorizes an additional disposal alternative pursuant to 10 CFR 20.2002 to inject well returns (sandouts) containing radioactive tracer material with physical half-lives of the material is 120 days or less (sodium-24, scandium-46, chromium-51, rubidium-86, antimony-124, iodide-131, xenon-133, iridium-192, or gold-198) into Class II disposal wells that have been approved to accept non-hazardous oil and gas waste by State agencies.

Attached for your perusal is a copy of the Federal Register (Volume 68, Number 208) dated October 28, 2003, publishing the results of NRC's environmental assessment (EA). The Federal Register indicates that NRC staff completed its assessment of your proposed disposal in Class II wells of sandouts containing radioactive tracer materials. The staff made a finding of no significant impact (FONSI) to the environment.

NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Because of the serious consequences to employees and the public that can result from failure to comply with NRC requirements, you must conduct your radiation safety program according to the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate by NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC in writing of any change in mailing address.



3. By 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. When you decide to terminate all activities involving materials authorized under the license; or
 - b. If you decide not to complete the facility, acquire equipment, or possess and use authorized material.
4. Request and obtain a license amendment before you:
 - a. Change Radiation Safety Officers;
 - b. Order byproduct material more than the amount or form authorized on the license;
 - c. Add or change the areas or address(es) of use identified in the license application or on the license; or
 - d. Change the name or ownership of your organization.
5. Submit a complete renewal application or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.

In addition, please note that NRC Form 313 requires the applicant, by signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

NRC will periodically inspect your radiation safety program. Failure to conduct your program according to NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC may result in enforcement action against you. This could include issuance of a notice of violation; imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG 1600.

Core Laboratories, Inc.

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In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Thank you for your cooperation.

Sincerely,

/RA/

Louis C. Carson II, Health Physicist
Nuclear Materials Licensing Branch

Docket: 030-30429
License: 42-26928-01
Control: 468137

Enclosures: As stated

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;">Licensee</p> <p>1. Core Laboratories, Inc. dba ProTechnics Division of Core Laboratories</p> <p>2. 9830 Rosprim Houston, Texas 77040</p>	<p>In accordance with letter dated August 23, 2000</p> <p>3. License number 42-26928-01 is amended in its entirety to read as follows:</p> <hr/> <p>4. Expiration date January 31, 2006</p> <hr/> <p>5. Docket No. 030-30429 Reference No.</p>
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6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Iodine-131	A. Any	A. 500 millicuries
B. Iridium-192	B. Any	B. 5000 millicuries
C. Scandium-46	C. Any	C. 3000 millicuries
D. Gold-198	D. Any	D. 5000 millicuries
E. Zirconium-95	E. Any	E. 500 millicuries
F. Xenon-133	F. Any	F. 500 millicuries
G. Chromium-51	G. Any	G. 1500 millicuries
H. Antimony-124	H. Any	H. 2000 millicuries
I. Rubidium-86	I. Any	I. 3000 millicuries
J. Bromine-82	J. Any	J. 3000 millicuries
K. Hydrogen-3	K. Any	K. 999 millicuries
L. Sodium-24	L. Any	L. 2000 millicuries
M. Americium-241	M. Sealed Source (Gammatron Model AN-HP, Gulf Nuclear Model VL-1)	M. No single source to exceed 250 microcuries, total possession 100 millicuries
N. Americium-241	N. Sealed Source (Isotope Products Model HEG-241 Series, Capsule A-3015)	N. No single source to exceed 50 millicuries
O. Barium-133	O. Sealed Source (Isotope Products Model HEG-133 Series, Capsule A-3015)	O. No single source to exceed 2 millicuries, total possession 200 millicuries

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number
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6. Byproduct, source, and/or special nuclear material

P. Cesium-137

Q. Cesium-137

R. Cesium-137

S. Cobalt-60

T. Iridium-192

U. Scandium-46

V. Antimony-124

7. Chemical and/or physical form

P. Sealed Source (Isotope Products Model HEG-137 Series, Capsule A-3015)

Q. Sealed Source (Isotope Products Model HEG-137 Series, Capsule A-3015)

R. Any

S. Any

T. Any

U. Any

V. Any

8. Maximum amount that licensee may possess at any one time under this license

P. No single source to exceed 200 millicuries, total possession 20 curies

Q. No single source to exceed 600 millicuries

R. 50 microcuries

S. 50 microcuries

T. 50 microcuries

U. 50 microcuries

V. 50 microcuries

9. Authorized use:

A. through K. For use in tracer studies in oil and gas wells.

A., J., and L. For use in above ground tracer studies.

M. and N. For use as a calibration/stabilization source in Halliburton Model TSCAN logging tool for logging tracer material in oil and gas wells.

O. and P. For use as a calibration/stabilization source in Cedar Bluff Group's Fluid Identification logging tool for logging tracer material in oil and gas wells.

Q. For use in oil and gas well logging.

R. through V. For use in pipe collar markers in oil and gas wells.

**MATERIALS LICENSE
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CONDITIONS

10. Radioactive material shall be used only at the following:

- A. 1930 Elk Street, Rock Springs, Wyoming; Natrona County International Airport, 3857 Dame, Casper, Wyoming; Alaska Department of Natural Resources Deadhorse Tract 57, Spine Road, Prudhoe Bay, Alaska.
- B. License materials may be stored at Shell Offshore, Inc. Gas Well: OSG-C 11553, Well No. 2, Field: Garden Banks Block 602, Offshore Louisiana, in accordance with letter December 16, 1999, pending final abandonment.
- C. Temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating licensed material, including areas of exclusive Federal jurisdiction within Agreement States.

If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

- 11. Licensed material identified in Item 6.L. may be temporarily stored in accordance with letter dated August 10, 1998.
- 12. A. Licensed material shall be used by, or under the supervision and in the physical presence of, individuals who have completed the Support Consultants and Associates, Inc., F. L. Clifford Associates, Sharp Radiation Services, W. H. Henkin Industries, Inc., Amersham/Gulf Nuclear, Inc., or ProTechnics Environmental Services, Inc., training courses and have been designated by the Radiation Safety Officer.
B. The Radiation Safety Officer for this license is Will C. Williams.
- 13. The licensee shall not vacate or release to unrestricted use a field office or storage location whose address is identified in Condition 10, without prior NRC approval.
- 14. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
- 15. Pursuant to 10 CFR 39.91, the licensee is exempted from the requirements of 10 CFR 39.63(b) for use of remote handling tools. This exemption will remain in effect until formally withdrawn by the NRC.

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16. Notwithstanding the requirements of 10 CFR 39.47 and pursuant to 10 CFR 39.91, and in accordance with the statements, representations and procedures contained in letter dated July 14, 1997, and February 4, 1998, the licensee may use radioactive markers with activities of 50 microcuries or less of iridium-192, scandium-46, antimony-124, cobalt-60, and cesium-137 as pipe collar markers in oil and gas wells.
17. The licensee is authorized to hold radioactive material with a physical half-life of less than 120 days for decay-in-storage before disposal in ordinary trash provided:
- A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.
 - B. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate meter set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
 - C. A record of each disposal permitted under this License Condition shall be retained for 3 years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
18. Notwithstanding the requirements of 10 CFR 20.2007, pursuant to 10 CFR 20.2002, and in accordance with the statements, representations, and procedures contained in correspondence dated August 23, 2000, January 23, 2002, and October 30, 2003, the licensee may release well-logging sandouts and well returns, containing residual radioactive materials, into Class II Disposals Wells provided:
- A. The total radioactive concentration of all isotopes is 1,000 picocuries/gram or less, and the physical half-life of the radioactive material is 120 days or less.
 - B. The residual radioactive tracer material (sodium-24, scandium-46, chromium-51, rubidium-86, antimony-124, iodide-131, xenon-133, iridium-192, or gold-198) being disposed of will be in the form of the patented "Zero-Wash" product in sandouts or well returns.
 - C. The well has been Permitted by the State, Territory, or Federal jurisdiction to accept non-hazardous oil and gas waste regardless of whether the job site is in an area where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating licensed material, including areas of exclusive Federal jurisdiction within Agreement States.
 - D. The licensee maintains an agreement with the owner or operator to control access to the Class II Disposal Well until the radioactivity has decayed to unrestricted release levels.

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030-30429

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19. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Application dated November 15, 1991
- B. Facsimile dated November 25, 1991
- C. Letter dated February 14, 1992
- D. Letter dated March 1, 1993
- E. Letter dated April 12, 1993
- F. Letter dated May 4, 1993
- G. Letter dated October 26, 1993
- H. Letter dated April 20, 1994
- I. Letter dated May 6, 1994
- J. Letter dated May 19, 1994
- K. Letter dated May 26, 1994
- L. Letter dated October 20, 1994
- M. Letter dated January 4, 1995
- N. Letter dated January 11, 1995
- O. Letter dated June 13, 1995, authorization of new facility only.
- P. Letter dated June 13, 1995, authorization to use the Model TSCAN
- Q. Letter dated September 12, 1995
- R. Letter dated September 27, 1995
- S. Letter dated October 26, 1995
- T. Letter dated January 17, 1996
- U. Letter dated February 13, 1996
- V. Letter dated February 24, 1997
- W. Letter dated July 14, 1997
- X. Letter dated November 14, 1997
- Y. Letter dated January 20, 1998
- Z. Letter dated January 27, 1998
- AA. Letter dated February 4, 1998
- BB. Letter received May 20, 1998
- CC. Letter dated July 15, 1998
- DD. Letter dated August 10, 1998
- EE. Letter dated August 31, 1999
- FF. Letter dated December 16, 1999
- GG. E-mail dated February 11, 2000
- HH. Letter dated March 3, 2000
- II. Letter dated June 5, 2000
- JJ. Letter dated June 15, 2000
- KK. Facsimile dated July 6, 2000
- LL. E-mail dated February 14, 2000

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
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030-30429

Amendment No. 30

19. (Continued)

- MM. Letter dated May 22, 2000
- NN. Letter dated August 22, 2001
- OO. Letter dated November 7, 2001
- PP. Letter dated August 23, 2000

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Date November 4, 2003

By _____

Jack E. Whitten, Chief
Division of Nuclear Materials Safety
Region IV
Arlington, Texas 76011

Official Use Only – Security-Related Information

NRC FORM 374

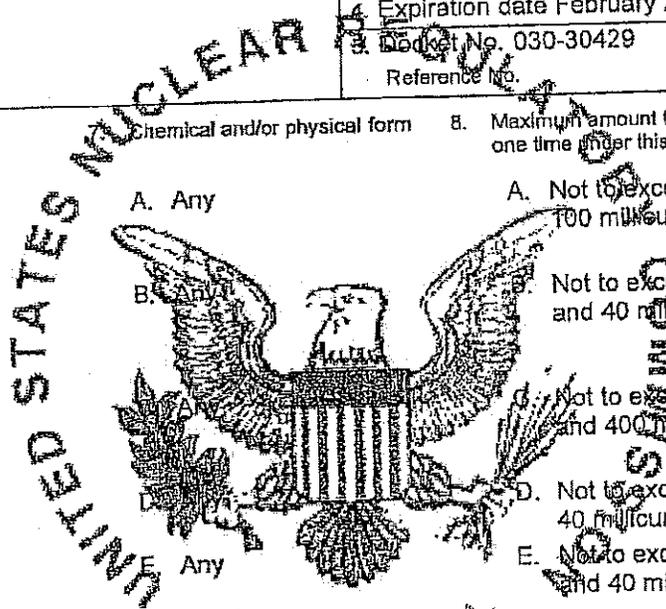
U.S. NUCLEAR REGULATORY COMMISSION

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Amendment No. 44

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p>Licensee</p> <p>1. Core Laboratories, Inc. dba ProTechnics Division of Core Laboratories</p> <p>2. 6316 Windfern Road Houston, Texas 77040</p>	<p>In accordance with letter dated July 30, 2012</p> <p>3. License number 42-26928-01 is amended in its entirety to read as follows:</p> <p>4. Expiration date February 28, 2016</p> <p>5. Docket No. 030-30429 Reference No.</p>
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Hydrogen-3</p> <p>B. Scandium-46</p> <p>C. Bromine-82</p> <p>D. Zirconium-95</p> <p>E. Antimony-124</p> <p>F. Iodine-131</p> <p>G. Iridium-192</p> <p>H. Gold-198</p> <p>I. Bromine-82</p> <p>J. Barium-133</p>	<p>Chemical and/or physical form</p> <p>A. Any</p> <p>B. Any</p> <p>C. Any</p> <p>D. Any</p> <p>E. Any</p> <p>F. Any</p> <p>G. Any</p> <p>H. Any</p> <p>I. Any</p> <p>J. Sealed Source (Isotope Products Labs. Model HEG-133 Series, Capsule A-3015)</p> <p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. Not to exceed 999 millicuries total and 100 millicuries per injection</p> <p>B. Not to exceed 8,000 millicuries total and 40 millicuries per injection</p> <p>C. Not to exceed 3,000 millicuries total and 400 millicuries per injection</p> <p>D. Not to exceed 750 millicuries total and 40 millicuries per injection</p> <p>E. Not to exceed 8,000 millicuries total and 40 millicuries per injection</p> <p>F. Not to exceed 200 millicuries total and 50 millicuries per injection</p> <p>G. Not to exceed 12,000 millicuries total and 40 millicuries per injection</p> <p>H. Not to exceed 1,000 millicuries total and 200 millicuries per injection</p> <p>I. Not to exceed 3,000 millicuries total and 400 millicuries per injection</p> <p>J. No single source to exceed 2 millicuries; total possession 40 millicuries</p>



Official Use Only – Security-Related Information

NRC FORM 374A

U.S. NUCLEAR REGULATORY COMMISSION

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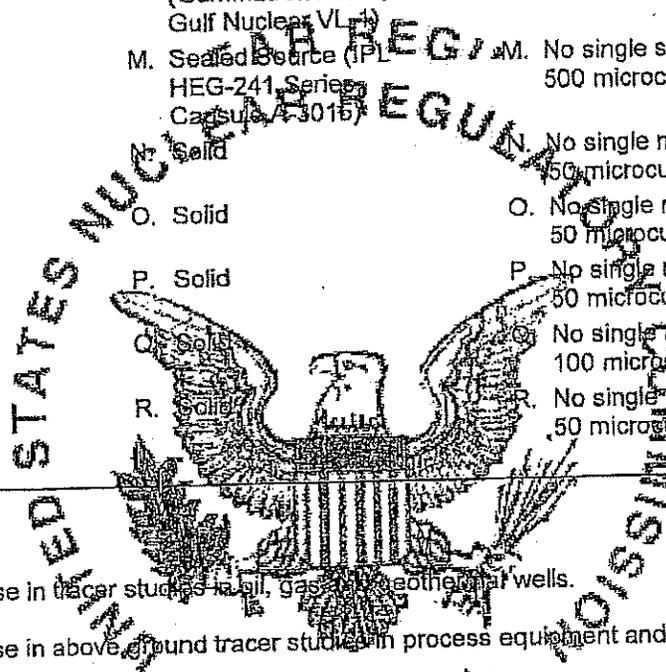
**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

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6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
K. Cesium-137	K. Sealed Source (Isotope Products Model HEG-137 Series, Capsule A-3015)	K. No single source to exceed 500 millicuries; total possession 10 curies
L. Americium-241	L. Sealed Source (Gammatron AN-H, Gulf Nuclear VL-1)	L. No single source to exceed 500 microcuries; 10 millicuries total
M. Americium-241	M. Sealed Source (IPL HEG-241 Series, Capsule A-3015)	M. No single source to exceed 500 microcuries; 10 millicuries total
N. Scandium-46	N. Solid	N. No single marker to exceed 50 microcuries
O. Cobalt-60	O. Solid	O. No single marker to exceed 50 microcuries
P. Antimony-124	P. Solid	P. No single marker to exceed 50 microcuries
Q. Cesium-137	Q. Solid	Q. No single marker to exceed 100 microcuries
R. Iridium-192	R. Solid	R. No single marker to exceed 50 microcuries



9. Authorized use:

- A. through H. For use in tracer studies in oil, gas, and geothermal wells.
- I. For use in above ground tracer studies in process equipment and pipelines.
- J. and K. For use in Cedar Bluff Group Fluid Identification logging tool.
- L. and M. For use as a calibration/stabilization source in Halliburton Model TSCAN logging tool.
- N. through R. For use in pipe collar markers in oil and gas wells.

Official Use Only – Security-Related Information

NRC FORM 374A

U.S. NUCLEAR REGULATORY COMMISSION

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**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number
42-26928-01

Docket or Reference Number
030-30429

Amendment No. 44

CONDITIONS

10. Licensed material shall be stored or used only at the following:

- A. i. Alaska Department of Natural Resources, Deadhorse Tract 57, Spine Road, Prudhoe Bay, Alaska
- ii. 1701 Old St. Mary's Pike, Parkersburg, West Virginia
- iii. 570 Jonah Drive, Rock Springs, Wyoming, and
- iv. 1030 Silurian Lane, Sidney, Montana

B. Licensed material may be stored at Shell Offshore, LLC, Gas Well: OSG-C 11553, Well No. 2, Field: Garden Banks Block 602, Offshore Louisiana, in accordance with letter December 16, 1999, pending final abandonment

C. Licensed material identified in letter dated March 02, 2006, may be stored at Exxon Mobil Production Company's Gas Well: Tip Top T65-30G2, Section 30 Township 29N, Range 113W, Sublette County Wyoming, API #49-0352589, in accordance with letter dated March 02, 2006, pending final abandonment.

D. Licensed material identified in letter dated May 08, 2006, may be stored at Anadarko Petroleum Company's Well: Green Canyon 548#1 St00BP2, Offshore Gulf of Mexico, OCS-G21801, API#60-811-40377-02, in accordance with letter dated May 08, 2006, pending final abandonment.

E. Temporary job sites anywhere in the United States where the U.S. Regulatory Commission maintains jurisdiction for regulating the use of licensed material including areas of exclusive Federal jurisdiction within Agreement States.

If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the federal agency controlling the jurisdiction to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States no under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

11. A. Licensed materials shall be used ~~by~~ or under the supervision and in the physical presence of, or individuals who have been trained as specified in letters dated December 16, 2005 and February 21, 2006.

B. The Radiation Safety Officer for this license is Will C. Williams.

12. The licensee shall not vacate or release to unrestricted use a field office or storage location whose address is identified in Condition 10, without prior U.S. Nuclear Regulatory Commission approval.

13. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transport of Radioactive Material."

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14. Pursuant to 10 CFR 39.91, the licensee is exempted from the requirements of 10 CFR 39.63(b) for use of remote handling tools. This exemption will remain in effect until formally withdrawn by the U.S. Nuclear Regulatory Commission.
15. Notwithstanding the periodic leak test required by 10 CFR 39.35, the requirement does not apply to sources, except sources containing plutonium, that are stored and not being used. The sources exempted from this periodic test shall be tested for leakage before use or transfer to another person. No sealed source shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.
16. Notwithstanding the requirements of 10 CFR 39.47 and pursuant to 10 CFR 39.91, and in accordance with the statements, representations and procedures contained in letters dated July 14, 1997 (ML003724357), November 14, 1997 (ML003724675), January 20, 1998 (ML003724684), February 4, 1998 (ML003724694) and February 27, 2004 (ML040580735), the licensee may use radioactive markers with activities of 50 microcuries or less of iridium-192, scandium-46, antimony-124, and cobalt-60, and 100 microcuries or less of cesium-137 as pipe collar markers in oil and gas wells.
17. The licensee is authorized to hold byproduct material with a physical half-life of less than or equal to 120 days for decay-in-storage before disposal without regard to its activity if the licensee:
 - A. Monitors byproduct material at the surface before disposal and determines that its radioactivity cannot be distinguished from the background radiation level with an appropriate radiation detection survey meter set on its most sensitive scale and with no interposed shielding; and
 - B. Removes or obliterates all radiation labels, except for radiation labels on materials that are within containers and that will be disposed as biomedical waste after they have been released from the licensee; and
 - C. Maintains records of the disposal of licensed materials for up to 3 years. The record must include the date of disposal, the survey instrument used, the background radiation level measured at the surface of each waste container, and the name of the individual who performed the disposal.
18. Notwithstanding the requirements of 10 CFR 20.2007, pursuant to 10 CFR 20.2002, and in accordance with the statements, representations, and procedures contained in correspondence dated May 4, 1993 (ML12243A227), April 20, 1994 (ML12243A209), January 17, 1996 (ML12243A188), February 13, 1996 (ML12243A188), and December 16, 2005 (ML060260462), the licensee may release well-logging sandouts and well returns, containing residual radioactive materials, into on-site shallow earthen pit provided that:
 - A. The total radioactive concentration of all isotopes is 1,000 picocuries/gram or less, and the physical half-life of the radioactive material is 120 days or less.
 - B. The residual radioactive tracer material (scandium-46, bromine-82, zirconium-95, antimony-124, iodine-131, iridium-192, or gold-198) being disposed of will be in the form of the patented "Zero-Wash" product in sandouts or well returns.

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- C. The licensee is required to use well logging beads known as "Zero-Wash", which are insoluble where the radioactivity will not migrate or leach into groundwater, as described in letter dated July 11, 1991 (ML033040193).
- D. The on-site shallow earthen pit disposal method has been permitted by the State, Territory, or Federal jurisdiction regardless of whether the job site is in an area where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating licensed material, including areas of exclusive Federal jurisdiction within Agreement States.
- E. The licensee is required to maintain access control over the on-site shallow earthen pit until the radioactivity has decayed to unrestricted release levels.
- F. The licensee maintains an agreement with the owner or operator to control access to the on-site shallow earthen pit until the radioactivity has decayed to unrestricted release levels.
- G. The licensee is required to maintain records of disposal in accordance with 10 CFR 20.2108.
19. Notwithstanding the requirements of 10 CFR 20.2007, pursuant to 10 CFR 20.2002, and in accordance with the statements, representations, and procedures contained in correspondence dated August 23, 2000 (ML003758270), January 23, 2002 (ML033070068), and October 30, 2003 (ML033070340), the licensee may release well-logging sandpots and well returns containing residual radioactive materials, into Class II Disposal Wells provided that:
- A. The total radioactive concentration of residual materials is 1.0 microcuries/gram or less, and the physical half-life of the radioactive materials is 100 days or less.
- B. The residual radioactive trace material (excluding uranium-238, thorium-232, zirconium-95, antimony-124, iodine-131, iridium-192, or cesium-137) being disposed of will be in the form of the patented "Zero-Wash" product in sandpots or well returns.
- C. The licensee is required to use well logging beads known as "Zero-Wash", which are insoluble where the radioactivity will not migrate or leach into groundwater, as described in letter dated July 11, 1991 (ML033040193). ★ ★ ★ ★ ★
- D. The well has been permitted by the State, Territory, or Federal jurisdiction to accept non-hazardous oil and gas waste regardless of whether the job site is in an area where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating licensed material, including areas of exclusive Federal jurisdiction within Agreement States.
- E. The licensee is required to maintain access control over the Class II Disposal Well until the radioactivity has decayed to unrestricted release levels.
- F. The licensee maintains an agreement with the owner or operator to control access to the Class II Disposal Well until the radioactivity has decayed to unrestricted release levels.

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MATERIALS LICENSE
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License Number
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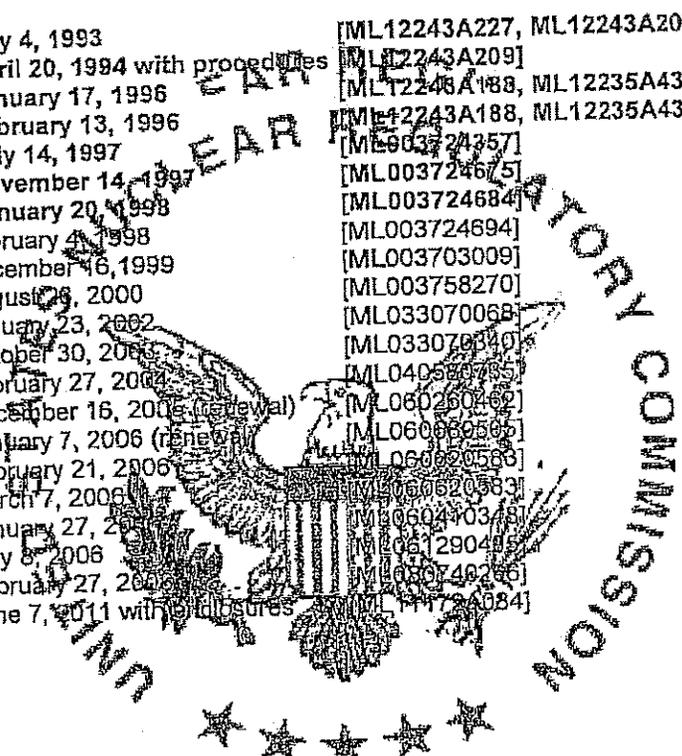
Docket or Reference Number
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G. The licensee is required to maintain records of disposal in accordance with 10 CFR 20.2108.

20. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Letter dated May 4, 1993 [ML12243A227, ML12243A209]
- B. Letter dated April 20, 1994 with procedures [ML12243A209]
- C. Letter dated January 17, 1996 [ML12243A188, ML12235A437]
- D. Letter dated February 13, 1996 [ML12243A188, ML12235A437]
- E. Letter dated July 14, 1997 [ML903724357]
- F. Letter dated November 14, 1997 [ML003724675]
- G. Letter dated January 20, 1998 [ML003724684]
- H. Letter dated February 4, 1998 [ML003724694]
- I. Letter dated December 16, 1999 [ML003703009]
- J. Letter dated August 26, 2000 [ML003758270]
- K. Letter dated January 23, 2002 [ML033070068]
- L. Letter dated October 30, 2003 [ML033070068]
- M. Letter dated February 27, 2004 [ML040520785]
- N. Letter dated December 16, 2005 (renewal) [ML060200462]
- O. Letter dated January 7, 2006 (renewal) [ML060000500]
- P. Letter dated February 21, 2006 [ML060020583]
- Q. Letter dated March 7, 2006 [ML060020583]
- R. Letter dated January 27, 2006 [ML060440348]
- S. Letter dated May 8, 2006 [ML061290415]
- T. Letter dated February 27, 2006 [ML080740266]
- U. Letter dated June 7, 2011 with enclosures [ML11173A084]



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date August 30, 2012

By Roberto J. Torres
Roberto J. Torres, Senior Health Physicist
Nuclear Materials Safety Branch B
Region IV
Arlington, Texas 76011-4511



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

File Copy!

REGIONAL TECHNICAL ASSISTANCE REQUEST FORM

Date: January 24, 2003

Mail and E-Mail to: Donald A. Cool, Ph.D. (DAC), Director
Division of Industrial and Medical Nuclear Safety, NMSS
For E-Mail, cc: IMNS Secretary

From: Ken E. Brockman, Director
Division of Nuclear Materials Safety (DNMS), RIV

Licensee(s): Core Laboratories, Inc. (DBA: ProTechnics Division of Core Laboratories)

License Number(s) 42-26928-01 Docket Number(s): 30-30429

Control Number: 468137

Letter(s) dated:

- August 23, 2000: Core Laboratories' license amendment request (LAR) for an alternate disposal method to allow licensed material in the form of waste returns with radioactive tracer material to be injected in Class II disposal wells.
- November 22, 2002: RIV's Safety & Technical Assessment - Core Laboratories' Request to Inject Well-logging Waste in Class II Disposal Wells

Enforcement Action being held in abeyance: () Yes (X) No

Suggested change in licensing procedure:

Regarding licensing actions, Region IV DNMS Nuclear Materials Licensing Branch (NMLB) requests technical assistance clarifying the following: (1) 10 CFR 51.22(c)(14)(xi) categorical exclusion for using sealed sources and radioactive tracers in well-logging, and (2) Current NRC guidance allowing the Regions to make decisions with appropriate documentation per the May 7, 2001, letter from the Division of Waste Management (DWM) (J.Greeves/M. Wong), "Guidance on the Preparation of Environmental Assessments for Licensing Actions by Regional Offices."

Problem/Issue:

On August 23, 2000, Core Laboratories submitted an LAR to RIV for an alternate disposal method that allows licensed material in the form of waste returns with radioactive tracer material to be injected in Class II disposal wells. Based on reviews of NRC guidance, discussions with NMSS (INMS and DWM), and considering the current Core Laboratories license, it was unclear that Region IV's NMLB could approve this LAR or any similar LARs in the future without NMSS reviewing a TAR on this matter.

Action Requested:

Approve the TAR by concurring with Region IV's November 22, 2002, Safety & Technical Assessment (enclosed therein) on Core Laboratories' LAR to inject well-logging radioactive waste into Class II Disposal Wells.

Recommended Action and Alternatives: Approve or Reject

TARs addressing similar issues (subject and date):

December 18, 1995: Division of Waste Management's TAR response approving Core Laboratories (ProTechnics) 1993 request for generic authorization for onsite burial of radioactive materials from well-logging sandouts, flowbacks, or any other form in an earthen pit pursuant to 10 CFR 20.2002.

Background documents:

- November 22, 2002: RIV's Safety & Technical Assessment - Core Laboratories' Request to Inject Well-logging Waste in Class II Disposal Wells
- January 23, 2002: Supplemental information from Core Laboratories
- January 11, 2002: Letter from the Alaska Oil & Gas Conservation Commission (AOGCC) that allowed Marathon Oil Company to inject waste returns with radioactive tracer material in Class II disposal well, Kenai Unit 24-7.
- August 23, 2000: Core Laboratories Inc. license amendment request for alternate disposal of licensed material in Class II wells.
- May 7, 2001: Letter from the Division of Waste Management (J. Greeves/M. Wong), "Guidance on the Preparation of Environmental Assessments for Licensing Actions by Regional Offices"
- May 3, 2000: State of Texas License that allows Core Laboratories to discard well-logging "sandouts" or other materials from oil and gas wells into Class II disposal wells.

SEPARATOR SHEET



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

November 22, 2002

MEMORANDUM TO: Jack E. Whitten, Acting Chief, Nuclear Materials Licensing Branch
(NMLB)

FROM: Louis C. Carson II, Sr. Health Physicist, NMLB *Louis C. Carson II*
License Reviewer

SUBJECT: SAFETY & TECHNICAL ASSESSMENT - CORE LABORATORIES'
REQUEST TO INJECT WELL-LOGGING WASTE IN CLASS II
DISPOSAL WELLS

Background and Proposed Action

This memorandum is in reference to a license amendment request (LAR) submitted by Core Laboratories, Incorporated (dba: ProTechnics) dated August 23, 2000. Core Laboratories' LAR requested the allowance of an "Additional Disposal Alternative." Core Laboratories stated that they are allowed to place any well returns (containing radioactive tracer material) from a frac-job in an onsite earthen pit. In addition to this earthen pit disposal method, the licensee seeks approval to allow the well returns to be injected in Class II disposal wells that have been approved to accept non-hazardous oil and gas waste by State agencies.

Safety & Technical Assessment

I have reviewed this LAR and determined that RIV's NMLB could grant this request without a Technical Assistance Request (TAR) or Environmental Assessment (EA) to NMSS for review or approval. I have based this determination on reviews of NRC documents and discussions with NRC staff in RIV and HQ. RIV should grant this LAR based on the following: (1) 10 CFR 51.22(c)(14)(xi) is the categorical exclusion for using sealed sources and radioactive tracers in well-logging, (2) Current NRC guidance allows the Regions to make decisions with appropriate documentation, (3) An existing license condition allows Core Laboratories to dispose in earthen pits, and (4) This proposal to inject well returns down Class II disposal wells is safer than the current practice of placing radioactive waste into shallow earthen pits.

- (1) **10 CFR 51.22(c)(14)(xi) is the categorical exclusion for using of sealed sources and radioactive tracers in well-logging.**

(a) NRC's 10 CFR 51.14

The NRC's 10 CFR 51.14, states that: "Categorical Exclusion" means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which the Commission has found to have no such effect in accordance with procedures set out in §51.22, and for which, therefore, neither an environmental assessment nor an environmental impact statement is required.

(b) EPA's 40 CFR 1508.4

The EPA's 40 CFR 1508.4, states that: "Categorical Exclusion" means a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency in implementation of these regulations (§ 1507.3) and for which, therefore, neither an environmental assessment nor an environmental impact statement is required. An agency may decide in its procedures or otherwise, to prepare environmental assessments for the reasons stated in § 1508.9 even though it is not required to do so. Any procedures under this section shall provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect.

(c) Statement of Considerations, March 1984: Categorical Exclusions 10 CFR 51.22(c)(14)

By definition a "Categorical Exclusion" means a category of actions which the NRC has determined do not individually or cumulatively have a significant effect on the human environment. Therefore, the NRC has determined that an EA or EIS is not required and would serve to divert scarce resources from more pressing business.

10 CFR 51.22(c)(14)(xi) categorically excluded the use of sealed sources and radioactive tracers in well-logging procedures. The NRC reviewed 89 well-logging incidents that occurred during the 20 years prior to 1984 in which well-logging sources had been abandoned down wells. An NRC risk assessment showed that only a small radiological risk existed to public health and safety from abandoned radioactive materials. The Commission carefully considered a comment that cited the loss of a 1-Curie americium-beryllium source down a well and subsequent decommissioning efforts. The Commission concluded that the environmental impact of licensing actions authorizing the use of sealed sources and radioactive tracer materials in well-logging procedures was negligible.

The NRC stated that routine safety measures also protect against significant environmental impacts from well-logging activities. Well-logging permits require that gas and oil wells be cased to below potable water aquifers to prevent cross contamination from brine, oil, and gas associated with wells. This requirement also serves to preclude contamination of portable water aquifers when radioactive materials

are used in these cased wells. In the event that radioactive material becomes irretrievable during a well-logging operation, safety requirements are imposed to minimize the escape of radioactivity from the surrounding areas. Additional requirements include mounting a permanent identification plaque at the surface of the well to alert anyone planning to enter the well to the existence of radioactive material. Also, a notification has to be placed in pertinent land records maintained by State oil and gas regulatory agencies to alert against drilling. The radioactive material is in the form of a very low solubility compound. The radioactive materials used as tracers in well-logging have short half-lives, and the quantities involved are small in the low millicurie range. **The NRC concluded that using these tracers does not present any environmental impact because of the small quantities which decay to innocuous radioactivity levels in short periods of time.**

(2) Current NRC guidance allows the Regions to make decisions with appropriate documentation.

(a) NUREG-1748, Appendix E Categorical Exclusion Checklist

The NRC's NUREG-1748, Draft Report, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs provides a Categorical Exclusion Checklist in Appendix E. This checklist has been completed by the license reviewer as an enclosure to this document in support of this evaluation process. The answers to all four generic categorical exclusion questions were "No." It was concluded that this LAR for approval of an "Additional Disposal Alternative" is categorically excluded and requires no further environmental review. Additionally, an environmental assessment for this action is not required, since well-logging activities are categorically excluded under 10 CFR 51.22(c)(14)(xi).

(b) Division of Waste Management Guidance

A May 7, 2001, letter from the Division of Waste Management (J. Greeves/M. Wong), "Guidance on the Preparation of Environmental Assessments for Licensing Actions by Regional Offices" states that EAs are required for all licensing actions that are not categorically excluded per 10 CFR 51.22, not covered in an existing Environmental Impact Statement (EIS), and not required to have a prepared EIS. Concerning licensing actions with decommissioning issues, the May 2001 letter states that NRC staff will use categorical exclusions listed in 10 CFR 51.22(c)(20) for sealed sources or small quantities of short-lived radionuclides. The May 7, 2001, letter heavily references the guidance for the use of categorical exclusions contained in Policy and Guidance Directive FC 84-20, Revision 1. Section III of FC 84-20 covers license actions that have been found to be within the safety envelope of previous license actions that qualified under categorical exclusion per 10 CFR 51.22(c)(14)(i) - (xvi).

Section III of FC 84-20 states, in part, that if a previous technical and/or license-based analysis had been performed which bounded the environmental radiological hazards to the public for the specific generic issue, and the Region believes its specific license action is within the safety envelope of the previous analysis, the Region can cite the previous generic analysis, document its rationale for making this assessment, and file copies of the previous analysis and its rationale in the license file. No coordination with NMSS is necessary.

(c) NUREG-1556, Vol. 20, Section 4.10: Licensing Actions Eligible for Categorical Exclusion

NUREG-1556, Vol. 20, Section 4.10.2, states that license actions that clearly qualify for categorical exclusion under the provision of 10 CFR 51.22 are not required to have an EA or documentation in the license file specific to the issue of the EA. Such categorically excluded license actions do not need to be coordinated with NMSS with regard to whether an EA is needed. License actions that qualify for categorical exclusion after the NRC staff has completed additional technical and/or license-based justifications do not need an EA, nor do they need to be coordinated with NMSS with regard to whether an EA is needed. The licensing staff is required to place in the license file, written justification to support the determination that an EA is not needed.

Section 4.10.2, states that license actions not specifically listed in Category 14 of 10 CFR 51.22 will require a TAR. The Regions should perform a technical assessment to justify why the license action qualifies for a categorical exclusion under 10 CFR 51.22(c)(14)(xvi). However, Section 4.10.3 states that the use of tracers in well-logging is specifically covered by the categorical exclusion in 10 CFR 51.22(c)(14)(xi).

(3) **An existing license condition allows Core Laboratories to dispose in earthen pits under a generic authorization to bury radioactive material.**

(a) Core Laboratories' License Condition 17

Core Laboratories' License Condition 17 states, in part, that the licensee is authorized to hold radioactive material with a half-life of less than 120 days for decay-in-storage (DIS) before disposal in ordinary trash. License Condition 17 was added to the license in January 1996 after the Division of Waste Management's (DWM) review of a Technical Assistance Request (TAR) that was written by RIV in June 1993.

(b) Generic Authorization for Radioactive Material Disposal per 10 CFR 20.2002

In 1993 Core Laboratories (ProTechnnics) requested a generic authorization to bury radioactive materials from well-logging sandouts, flowbacks, or any other form in an earthen pit pursuant to 10 CFR 20.2002. On December 18, 1995, DWM answered the TAR and approved the licensee's generic 10 CFR 20.2002 onsite burial request under a number of provisions including the following: (1) The licensee is required to assure that the concentration of radioactive material will be less than 1,000 pCi/gram. (2) The half-life of the radioactive material being disposed will be less than 120 days. Frac sands containing Cr-51, Rb-86, I-131, Xe-133, and I-131 had no further restrictions.

(3) For frac sands containing Sc-46, Zr-95, Sb-124, and Ir-192, the licensee is required to maintain access control over the burial site until the radioactivity has decayed to unrestricted release levels. (4) The licensee is required to use well-logging beads known as zero-wash, which are insoluble where the radioactivity will not migrate or leach into groundwater.

(c) Potential Doses to the Public from Onsite Burials

According to the 1995 TAR, the NRC reviewed the licensee's request for onsite burials at multiple locations in accordance with 10 CFR 20.2002. Potential doses to the public are required to be less than 100 millirem/year. In fact, the controls that the NRC set for the licensee assures that doses to the public from the onsite burials will not exceed 15 millirem/year. Also, the licensee is required to maintain records of the burial in accordance with 10 CFR 20.2108(a).

(4) This proposal to inject well returns down Class II disposal wells is a safer than the current practice of placing radioactive waste into shallow earthen pits.

(a) Earthen Pit Versus Class II Disposal Well

The licensee places several feet of soil over the disposal pit. There is more of a potential for access to these shallow pits by members of the public than Class II wells. Class II disposal wells must meet structural requirements and can be in excess of 250 feet deep. By regulatory design waste materials are injected into the wells, and only under extraordinary circumstances are waste materials recovered from Class II wells. The oil field owner and the licensee can maintain greater access control over a Class II disposal well. From an ALARA and occupational safety perspective, using Class II disposal wells instead of earthen pits are less risky.

(b) EA of the Radionuclides as Tracers in Enhanced Recovery of Oil & Gas (EOR)

NUREG/CR-3467, EA of the Radionuclides as Tracers in Enhanced Recovery of Oil and Gas (EOR) states that "EOR injection fluids into underground sources of drinking water are extremely unlikely because of strict underground injection control regulations (UIC). EOR operations are designated Class II wells and are subject to stringent construction, operating, monitoring, and reporting requirements."

(c) Class II Wells: EPA regulations 40 CFR144

Class II Wells are described in EPA regulations under 40 CFR 144.6 as "Wells which inject fluids which are brought to the surface in connection with natural gas storage operations or conventional oil or gas production."

Some of the EPA requirements on Class II disposal well operators are found in 40 CFR 144.28 and include the following: Compliance with the Safe Drinking Water Act; 24-hour reporting of non-compliance; well plugging & abandonment planning, financial

assurance; well casing & cementing; operating & monitoring requirements; records retention; and change of ownership & operational control.

For purposes of this discussion, understand that the EPA defines and classifies three types of waste; Hazardous Waste, Radioactive Waste, and Mixed Waste as follows:

- Hazardous Waste means a hazardous waste as defined in 40 CFR 261.3.
- Radioactive Waste means any waste which contains radioactive material in concentrations which exceed those listed in 10 CFR Part 20, Appendix B, Table II, Column 2.
- Radioactive Mixed Waste: means a waste that contains both Resource Conservation and Recovery Act hazardous waste and source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended. Hazardous waste containing radioactive wastes are no longer hazardous waste when it meets the eligibility criteria and conditions of 40 CFR 266, Subpart N.

Note that the licensee [Core Laboratories] proposes to dispose of material into Class II wells with radioactivity concentrations that are less than 30 percent of the levels in 10 CFR Part 20, Appendix B. These levels do not meet the EPA's definition of radioactive waste. In the EPA's classification of wells in 40 CFR 144.6, the disposal of radioactive waste is not addressed in Class II wells, but is addressed in Class I, III, and IV wells.

(d) State of Alaska Class II Disposal Well Requirements

A letter dated January 11, 2002, from the Alaska Oil & Gas Conservation Commission (AOGCC) confirmed that Marathon Oil Company's Class II disposal well, Kenai Unit 24-7 was allowed to inject waste returns with radioactive tracer material. The tracer material was Core Laboratories' "Zero Wash" product. This particular Class II well had been permitted under Disposal Injection Order No. 11 by the AOGCC in November 1996 under the provisions of 40 CFR Part 144. The letter states that the disposal of used tracer material did not qualify as Class II waste, and that Disposal Injection Order No. 11 did not relieve them from obtaining additional authorizations from other federal, state, or local authorities.

I spoke to the AOGCC engineer concerning Class II disposal wells. He explained that only oil and gas material returns (drill fluids including mud, sand, tracer residue, and other solids) are allowed to be injected into Class II disposal wells. The State issued permits for the construction and use of these wells. The user has to file an application, and the well has to meet aquifer, groundwater, and integrity testing requirements. In general, materials are injected into these disposal wells, and nothing is taken out of the wells.

I reviewed the AOGCC's program for the implementation of Class II well and underground injection control. The AOGCC's process includes the following: application, technical review of the permit by petroleum engineers and geologist, confining system determination, casing and cement requirements, integrity monitoring, application meeting between the AOGCC and operator, Commissioners' review, public hearing, and issuance of the injection order.

(e) State of Texas Class II Disposal Well Requirements

Core Laboratories provided the NRC a copy of their State of Texas license that allows them to discard well-logging "sandout" or other materials from oil and gas wells into Class II disposal wells.

I spoke to the Texas Bureau of Radiation Control (TBRC), former chief of Industrial Licensing Program, about the criteria they used for granting this licensed material disposal method. The TBRC representative explained that no specific rationale existed regarding their decision to amend the license for disposals in Class II wells. However, approval to inject radioactive well returns into Class II wells are granted by the Texas Railroad Commission, Environmental Section. I spoke to a representative of the Texas Railroad Commission and reviewed Texas requirements for Class II well disposals. The Texas Railroad Commission process includes the following: application; technical review of the permit; area determination; integrity monitoring and reporting; geological, casing, operating standard equipment, public hearing; and issuance of the permit.

All permit applications for Class II wells and disposal comes to the Environmental Services Section, where they are evaluated and processed. If required, the Environmental Services Section requests that a hearing be scheduled, and the Commission provides notice to all interested persons. After the hearing, the examiners recommend final action to the Commissioners to decide if the permit will be issued. If no protests are received on an application, the Director of Environmental Services may administratively approve the application.

Jack Whitten

-8-

Conclusions

Region IV believes that this LAR for an "Additional Disposal Alternative" for well-logging waste to be injected into Class II disposal wells is within the safety envelope of previous generic safety analyses. Specifically, the safety analysis referenced in the March 1984 Statement of Considerations for the 10 CFR 51.22(c)(14)(xi) well-logging categorical exclusion and DWM's December 1995 approval of Region IV's TAR for allowing a generic onsite disposal of well-logging waste are being cited as generic analyses supporting this determination. Additionally, the use of tracers in well-logging is specifically covered by the categorical exclusion in 10 CFR 51.22(c)(14)(xi). No further environmental review, assessment, or documentation are required based the guidance that is provided in Section 2 of this document and the Categorical Exclusion Checklist enclosed.

Enclosure: As stated

ENCLOSURE

CATX Checklist

Action Name: Core Laboratories (dba: ProTechnics) Lic#42-26928-01
Action Location: N/A
Action Description: Additional Disposal Alternative to place well-logging waste into Class II disposal wells
CATX Category: 10 CFR 51.22(c)(14)(xi)

	YES	No	Need Data
A. Is the action likely to significantly affect any aspect of the natural environment?		X	
B. Is the action likely to significantly affect any aspect of the cultural environment including those that might be related to environmental justice?		X	
C. Is the action likely to generate a great deal of public interest about any environmental issue?		X	
D. Is there a high level of uncertainty about the action's environmental effects?		X	

CONCLUSIONS:

- 1. The action is a CATX and requires no further environmental review.
- 2. The action is a CATX but requires further review under one or more other environmental authorities (list).
- 3. The action requires an EA.
- 4. The action requires an EIS.

Class B
License Reviewer

11/22/02
Date

SEPARATOR SHEET



ProTechnics
6316 Windfern, Room 310
Houston, Texas 77040 USA
Tel: 713-328-2310
Fax: 713-328-2161
www.protechnics.com

TOM HAMPTON
President

RECEIVED

FEB - 1 2002

January 23, 2002

Mr. Jack E. Whitten
Senior Health Physicist
Nuclear Materials Licensing Branch
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

Re: License No. 42-26928-01

Dear Mr. Whitten:

Enclosed are copies of letters that I e-mailed you about yesterday. For your reference also enclosed is a copy of the original letter sent to you asking for an amendment of our license for disposal into a Class II disposal well.

Please call me at above number as soon as you receive this letter or if you have any questions.

Thank you for your prompt attention in this matter.

Sincerely,

Tom Hampton
President

TH:ym

Enclosure



ProTechnics
6316 Windfren
Houston, Texas 77040 USA
Tel: 713-328-2320
Fax: 713-328-2163
www.protechnics.com

AUG 31 2000

August 23, 2000

Mr. Jack E. Whitten
Senior Health Physicist
Nuclear Materials Licensing Branch
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

RE: License No. 42-26928-01

Dear Mr. Whitten:

The purpose of this letter is to request an amendment to our radioactive material license to allow an additional disposal alternative. Currently, we are allowed to place any well returns (containing radioactive tracer material) from a frac job in the on site earthen pit. In addition to this method, we would like approval to allow the well returns to be disposed of in a Class II Disposal Well permitted to accept non-hazardous oil & gas waste.

We are currently licensed in the State of Texas (copy enclosed) for this method of disposal. The oil customers we work with are requesting this method to save time and expense as they currently dispose of some well work over fluids by this method.

The half-life of the tracer material we will dispose of by this method will be less than 90 days. The maximum concentration of the tracer material in the well returns will be less than 1,000 pCi/gm. The transport of the well returns will be by an enclosed steel frac tank.

In addition, please amend the license to change the mailing address to:

6316 Windfren
Houston, Texas 77040

ADAMS # ML003758270
Template _____
Date 8/23/00 QC'd by _____

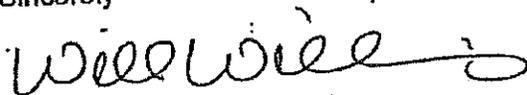
CLB
NYSE

468137

The post office changed the mailing address. The location of the facility remains the same.

If you have any questions or need additional information, please call.

Sincerely

A handwritten signature in cursive script that reads "Will Williams". The signature is written in black ink and is positioned above the typed name.

Will Williams
Corporate Radiation Safety Officer

Enclosures



**Marathon
Oil Company**

Candance J. Walker
Attorney
Law - Health, Environment & Safety
5555 San Felipe Street (77056-2799)
P. O. Box 4813 (77210-4813)
Houston, Texas USA
Telephone: 713/296-2633
Fax: 713/296-4386
Email: CJWalker@MarathonOil.com

January 22, 2002

By Fax: 713/328-2161
Tom Hampton, President
ProTechnics
A Core Laboratories Company
6316 Windfern, Rm. 310
Houston, Texas 77040

COPY

Re: NRC approval for injection in Non- Agreement States

Dear Mr. Hampton,

Marathon is writing to make a formal request that ProTechnics submit a request to the Nuclear Regulatory Commission (NRC) to allow disposal via injection of ProTechnics' patented radioactive tracers known as "Zero Wash". The NRC approval for injection will assist both Marathon and other ProTechnics customers in obtaining injection approval in affected non-agreement states.

As you know, Marathon submitted an approval for injection packet to the Alaska Oil and Gas Conservation Commission (AOGCC). Pursuant to your earlier discussions with Mark Susich, Marathon Alaska office, attached is a copy of Marathon's AOGCC approval letter for use as a supporting exhibit in your NRC request. Please send me a copy of your NRC approval request via fax at 713-296-4386 or mail to my attention at P. O. Box 4813, Houston, Texas 77210-4813. Also, please inform me when you receive the NRC authorization.

Marathon would like to see ProTechnics take prompt action on this issue. This is an important issue to Marathon. As you know, Marathon is a company dedicated to environmental compliance. Please feel free to contact my office with any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Candance J. Walker', written over the word 'Sincerely,'.

Candance J. Walker, Esq.

CJW:pph

cc: Mark Susich
Marathon-Anchorage

Mr. Tom Hampton
ProTechnics
January 22, 2002
Page 2 of 2.

cc: By Fax: 713/328-2163
Larry J. Stephenson, P.E., C.P.S.M.
ProTechnics
6316 Windfern
Houston, Texas 77040

Enclosure

STATE OF ALASKA

ALASKA OIL AND GAS CONSERVATION COMMISSION

JAN 15 2002
PATTON BOGGS LLP
TONY KNOWLES, GOVERNOR

233 W. 7TH AVENUE, SUITE 100
ANCHORAGE, ALASKA 99501-6500
PHONE (907) 270-1433
FAX (907) 276-7542

January 11, 2002

Mr. Kyle Parker
Patton Boggs LLP
1031 West Fourth Avenue, Suite 504
Anchorage, AK 99501

COPY

Re: Class II Disposal of Tracer Returns

Dear Mr. Parker:

You have asked the Commission for confirmation that your client, Marathon Oil Company ("Marathon"), is permitted to dispose of certain radioactive tracer returns in the Kenai Unit 24-7 Class II disposal well.

Disposal Injection Order No. 11, issued by the Commission on November 21, 1996, authorizes the operator of the Kenai Unit 24-7 well to inject "Class II oil field fluids" in a specified interval of the well in conformance with 20 AAC 25. The Commission's regulation on underground disposal, 20 AAC 25.252, refers to 40 C.F.R. 144.6(b) for the classification of a Class II well. The latter provision, in turn, describes a Class II well, in relevant part, as a well that injects fluids

that are brought to the surface in connection with . . . conventional oil or natural gas production and may be commingled with waste waters from gas plants which are an integral part of production operations, unless those waters are classified as a hazardous waste at the time of injection.

40 C.F.R. 144.3 provides that the term "[h]azardous waste means a hazardous waste as defined in 40 CFR 261.3." The latter regulation excludes the following from the definition of hazardous waste: "Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy." See 40 C.F.R. 261.3(a)(1) and 40 C.F.R. 261.4(b)(5).

Marathon has employed the firm ProTechnics to assist in evaluating well completions using ProTechnics' radioactive tracers known as "Zero Wash." You have informed the Commission that the tracers aid in detailing the completion placement and effectiveness of Marathon's hydraulic fracturing and acidizing treatments. You have also informed the Commission that the use and disposal of the radioactive tracers are regulated by the Nuclear Regulatory Commission.

Mr. Kyle Parker
January 11, 2002
Page 2 of 2

The Commission understands that sands returned to the surface may contain some Zero Wash tracer beads and that it is such sands that Marathon wishes to dispose of in the Kenai Unit 24-7 well. Since this material has been brought to the surface in connection with conventional oil or gas production operations, it appears to qualify as Class II waste. The second criterion listed in 40 C.F.R. 144.3, concerning classification as hazardous waste, may apply only to waste waters from gas plants. However, even if this criterion applies to the Zero Wash tracer returns, they appear to qualify as non-hazardous wastes under the exclusion for "wastes associated with the exploration, development, or production of crude oil [or] natural gas."

It should be noted that the disposal of *unused* tracer material is an entirely different matter. Such material would not appear to qualify as a Class II waste. The Commission understands that the only tracer material Marathon proposed to dispose of in the Kenai Unit 24-7 well is material that has actually been used downhole for bona fide well completion purposes.

Please note further that the Commission's authorization under Disposal Injection Order No. 11 does not relieve the operator from the responsibility to obtain any additional authorizations that may be required from federal, state, or local authorities.

Sincerely,

Cammy Echols Taylor
Cammy Echols Taylor
Chair

COT/jc

SEPARATOR SHEET



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 7, 2001

MEMORANDUM TO: George Pangburn, Director, Region I/DNMS
Douglas M. Collins, Director, Region II/DNMS
Cynthia D. Pederson, Director, Region III/DNMS
Dwight D. Chamberlain, Director, Region IV/DNMS

FROM: John T. Greeves, Director, Division of Waste Management, NMSS

SUBJECT: GUIDANCE ON THE PREPARATION OF ENVIRONMENTAL
ASSESSMENTS FOR LICENSING ACTIONS BY REGIONAL OFFICES

As you may be aware, my Division has lead responsibility for the review of Environmental Assessments (EAs) and the preparation of Environmental Impact Statements (EISs) for the Office of Nuclear Material Safety and Safeguards licensing actions, involving fuel cycle, uranium recovery, decommissioning, low level waste, and spent fuel facilities, to ensure consistency and compliance with the requirements of 10 CFR Part 51. The purpose of this memorandum is to inform staff in the regional offices of the approach that should be used for preparing EAs.

EAs must be prepared for all proposed licensing actions that are:

- not categorically excluded (10 CFR 51.22),
- not covered in an existing EIS, and
- not required to have an EIS prepared (10 CFR 51.20).

Guidance for the use of categorical exclusions is contained in Revision 1, Supplement to Policy and Guidance Directive FC 84-20: "Impact of Revision of 10 CFR Part 51 on Materials License Actions" (attached). That Supplement suggests that 10 CFR 51.22(c)(11) and (c)(14) could be used for decommissioning activities. However, because of a 1997 amendment to Part 51, references to Sections (c)(11) and (c)(14) are no longer appropriate for decommissioning actions. Users of the Supplement are hereby directed to use 10 CFR 51.22(c)(20) for decommissioning actions. The Supplement will be revised or replaced by other guidance documents to be issued within the next 3-4 months.

The categorical exclusion listed in 10 CFR 51.22(c)(20) pertaining to sealed sources or small quantities of short-lived radionuclides is the only categorical exclusion available for residual materials and releases associated with decommissioning. Such radionuclides include Tc-99m and I-131, among others. Written justification to support the use of categorical exclusions should be documented in the license file.

CONTACT: Melanie Wong, NMSS/DWM
(301) 415-6262



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON D C 20555-0001

9 1994

MEMORANDUM FOR: Those on Attached List

FROM: Carl J. Paperiello, Director
Division of Industrial and
Medical Nuclear Safety, NMSS

SUBJECT: REVISION 1, SUPPLEMENT TO POLICY AND GUIDANCE DIRECTIVE
FC 84-20: "IMPACT OF REVISION OF 10 CFR PART 51 ON
MATERIALS LICENSE ACTIONS"

This supplement replaces the supplement to FC 84-20 dated February 19, 1992, and provides guidance on materials license actions that qualify for categorical exclusion under 10 CFR 51.22(c)(14)(i) through (xv), and also guidance for determining when field studies and other materials license actions are eligible for categorical exclusion in accordance with 10 CFR 51.22(c)(14)(xvi).

BACKGROUND:

Licensing and regulatory actions eligible for categorical exclusion or otherwise not requiring environmental review include those actions listed in § 51.22(c)(14)(xvi), which states:

(14) Issuance, amendment, or renewal of materials licenses issued pursuant to 10 CFR parts 30, 31, 32, 33, 34, 35, 36, 39, 40 or part 70 authorizing the following types of activities:

(xvi) Any use of source, byproduct, or special nuclear material not listed above which involves quantities and forms of source, byproduct, or special nuclear material similar to those listed in paragraphs (c)(14)(i) through (xv) of this section (Category 14)

If a particular materials license action does not fall under a categorical exclusion in §§ 51.22(c)(14)(i) through (xv), it may still be eligible for exclusion under § 51.22(c)(14)(xvi). However, as stated in the March 1, 1984 memorandum, from the Deputy Director, Office of Nuclear Material Safety and Safeguards (NMSS), (See Attachment to PG&D FC 84-20), the Commission has directed the staff, in a Staff Requirement Memorandum, dated February 28, 1984, to prepare:

"a written memorandum explaining why the action qualifies for the categorical exclusion (emphasis in original) selected. The written memorandum shall include a discussion of the factors listed in the

Attachment

APR 10 1994

MEMORANDUM FOR: Those on Attached List

C. H. Hehl, Director
Division of Radiation Safety and Safeguards, RI

J. Philip Stohr, Director, Director
Division of Radiation Safety and Safeguards, RII

William L. Axelson, Director
Division of Radiation Safety and Safeguards, RIII

Dwight D. Chamberlain, Acting Director
Division of Radiation Safety and Safeguards, RIV

Ross A. Scarano, Director
Division of Radiation Safety and Safeguards, RV

John E. Glenn, Chief
Medical, Academic, and Commercial
Use Safety Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

Frederick C. Combs, Chief
Operations Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

Robert L. Baer, Chief
Source Containment and Devices Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

Charles J. Haughney, Chief
Storage & Transport Systems Branch
Division of Industrial and
Medical Nuclear Safety, NMSS

1994 : 9 : 1994

Multiple Addressees

2

selected subsections¹ and shall become part of the permanent docket or record relating to that action."

This written memorandum should be signed by the Director, Division of Industrial and Medical Nuclear Safety (IMNS), NMSS, or his delegate, and should be included in the license file.

As noted in Policy and Guidance Directive (PG&D) FC 84-20, the NRC may prepare an EA or statement in any case as it deems appropriate, regardless (emphasis added) of whether it is covered by a categorical exclusion. The preparation of all EAs or statements for materials license actions needs to be coordinated with NMSS.

GUIDANCE:

Guidance on the use of categorical exclusions is provided below in three sections for convenience: (I) Exclusions under § 51.22(c)(14)(i) through (xv), (II) Exclusions under § 51.22(c)(14)(xvi), and (iii) Exclusions based on license actions found to be within the safety envelope of previous license actions that qualified under i and ii.

I. License Actions That Qualify for Categorical Exclusion Under §§ 51.22(c)(14)(i) through (xvi)

Since these license actions do not need an EA, coordination with NMSS with regard to an EA normally is not needed. However, in the case of novel or unusual license applications in this category, the regions should consult with NMSS, at an early stage of the review, on the possible need for an EA.

(A) License actions that clearly qualify for categorical exclusion under §§ 51.22(c)(14)(i) through (xv) - Such license actions, except for license termination actions (see Section I.(B)(i) below), do not need an EA or documentation in the license file with regard to the issue of an EA. Nor do such license actions need to be coordinated with NMSS with regard to whether an EA is needed.

(B) License actions that qualify for categorical exclusion under §§ 51.22(c)(14)(i) through (xv) based on additional technical and/or license-based justifications - Such license actions do not need an EA. Nor do such license actions necessarily need to be coordinated with NMSS with regard to whether an EA is needed. Unless otherwise stated below, the licensing staff needs to place, in the license file, written justification to support the determination that an EA is not needed. Examples of license actions which will need either documentation or justification are discussed below.

¹The "selected subsections" are §§ 51.22(c)(9), (c)(11), or (c)(14)(xvi). For materials licensees, the only exclusion that applies is § 51.22(c)(14)(xvi).

(i) All license termination actions - Documentation is required regardless of whether a license termination action clearly qualifies for a categorical exclusion under §§ 51.22(c)(14)(i) through (xv).

(a) For routine license termination actions that clearly qualify for categorical exclusion under §§ 51.22(c)(14)(i) through (xv), the close out survey and the submitted form NRC-314 which certifies the proper disposition of the licensee's radioactive materials, are sufficient documentation. Additional documentation for more complex license termination actions will be determined by the regions on a case-by-case basis. Only complex license termination actions, such as a license action that requires the submittal of a decommissioning plan (e.g., 10 CFR 30.36(c)(2)(i)), will require documentation of the justification to support why an EA is not needed. In many cases, such license actions need to be coordinated with the Division of Low-Level Waste and Decommissioning (LLWM) of NMSS (see Section (c) below). LLWM is responsible for providing the justification for any license termination action the regions has coordinated with LLWM.

(b) For license actions that qualify for categorical exclusion under §§ 51.22(c)(14)(i) through (xv) based on additional technical and/or license-based justification, the licensing staff will need to place in the license file, justification to support a determination that an EA is not needed. License termination actions for this group of licenses, if the justification has already been provided for the license, can follow section (a) above. Otherwise, the necessary justification needs to be placed in the license file.

(c) LLWM will coordinate with NMSS for the determination on whether an EA is needed (see Enclosure C), on those actions which have been referred to them. Unless otherwise noted, the regions can use LLWM's responses to them concerning decommissioning activities as the region's justification to support a determination that an EA is not needed.

(ii) The performance of field studies in which licensed material originating onsite is deliberately released directly into the environment for the purposes of the study - If a research and development or academic institution application proposes to release to the environment radioactive materials that originated onsite (i.e., within the controlled property of the licensee), an EA is normally not needed and is covered under categorical exclusion § 51.22(c)(14)(v) provided²:

² Even if a particular license action will meet these criteria, the Region can request NMSS to make a determination on whether a Sholly-type notice should be issued (see footnote 3 below).

(a) All releases, originating onsite, to the environment (e.g., air and liquid effluents, direct radiation from deposition of radioactive materials from the release (e.g., groundshine), etc.) comply with ALARA and Part 20 requirements.

(b) To assist in demonstrating compliance with the requirements of 10 CFR Part 20, the licensee should set ALARA goals for air, effluents at a modest fraction of the values in Appendix B, Table 2, Columns 1 and 2, to §§ 20.1001-20.2401. Experience indicates that values of about 10 millirems per year from all of the licensee's radioactive air effluents should be practicable for almost all materials facility licensees (see Regulatory Guide 8.37). Therefore, as a first step toward demonstrating compliance with ALARA for radioactive air effluents, the licensee demonstrates that the nearest member of the general public receives no more than 10 millirems per year from all of the licensee's radioactive air effluents (i.e., licensee demonstrates it meets the Environmental Protection Agency's air emission standard).

(c) All releases onsite comply with all applicable decommissioning requirements (e.g., decommissioning recordkeeping requirements pursuant to 10 CFR 30.35(g), etc.) and current decommissioning policies.

Documentation that supports the licensee's application as meeting the above criteria is sufficient to support why an EA is not needed. For license actions that cannot meet the above criteria, the regions should coordinate with IMNS to determine whether an EA is needed. For example, an EA would be required for discrete sources released to the environment, that originated onsite, and which may not be recovered at the conclusion of the study or decommissioning.

II. License Actions That Qualify for Categorical Exclusion Under § 51.22(c)(14)(xvi)

All license actions that qualify for categorical exclusion under § 51.22(c)(14)(xvi) will require a Technical Assistance Request (TAR) to IMNS. The Director, IMNS, or his delegate, will respond to the TAR with a memorandum to the region that originated the TAR. In addition, the Director, IMNS, or his delegate, may choose to publish a notice in the FEDERAL REGISTER, similar to that required by 10 CFR 50.91(a)³, on the availability, to the public, of the IMNS memorandum. Upon completion of all IMNS actions, the IMNS memorandum is to be included in the official license file.

³ These FR notices are commonly referred to as Sholly Notices, which declare to the public that no significant hazards, based on staff analysis, will result following the approval of such license actions.

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(A) Field Studies - Supplemental information to the Final Rule (49 CFR, 9352, March 12, 1984,) page 9377, for "use of radioactive materials for research and development and for educational purposes" concerning categorical exclusion § 51.22(c)(14)(v) states:

"This categorical exclusion does not encompass (a) processing or manufacturing, (b) performance of field studies in which licensed material is deliberately released directly into the environment for purposes of the study, or (c) use of radioactive tracers in field flood studies involving secondary and tertiary oil and gas recovery."

Thus, field studies in which licensed material is deliberately released directly into the environment, for purpose of the study, or use of radioactive tracers in field flood studies involving secondary and tertiary oil and gas recovery, cannot, by themselves, qualify for categorical exclusion under § 51.22(c)(14)(v). However, if such studies qualify for categorical exclusion under § 51.22(c)(14)(xvi), an EA will not be needed. Enclosure A gives an example of a field study which did not require an EA.

To expedite the processing of the TAR, the Regions should perform an initial technical assessment, to be enclosed with the TAR, to justify why the field study qualifies for categorical exclusion under § 51.22(c)(14)(xvi). Enclosure B provides the type of information that should be submitted to assist the Director, IMNS, or his delegate, in developing the necessary documentation, to be placed in the licensee's file, as directed by the Commission under categorical exclusion § 51.22(c)(14)(xvi).

(B) Others - Paragraph 51.22(c)(14)(xvi) of 10 CFR Part 51 can also be used for license actions, other than field studies, as justification for not performing an EA. A TAR to IMNS will be needed. The Regions should perform either an initial technical assessment or provide the license-based rationale (i.e., based on the licensing, inspection, and other information) on why the particular license action qualifies for categorical exclusion under § 51.22(c)(14)(xvi). Enclosures C and D give examples of the type of information that should be submitted to the Director, IMNS, or his delegate, in developing the necessary documentation, to be placed in the licensee's file, as directed by the Commission for not performing an EA under categorical exclusion § 51.22(c)(14)(xvi).

III. License Actions That Have Been Found To Be Within The Safety Envelope Of Previous License Actions That Qualified Under Categorical Exclusion §§ 51.22(c)(14)(i) through (xvi)

⁴ The staff interprets these releases to be those that originated offsite.

1994

Multiple Addressees

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If a previous technical and/or license-based analysis had been performed which bounded the environmental radiological hazards to the public for the specific generic issue and the Region believes its specific license action is within the safety envelope of the previous generic analysis, the Region can cite the previous generic analysis, document its rationale for making this assessment, and file copies of the previous analysis and its rationale in the license file. No coordination with NMSS is necessary. If the previous analysis referenced categorical exclusion 5 51.22(c)(14)(xvi), the documentation shall include the original memorandum from the Director, IMNS, or his delegate.

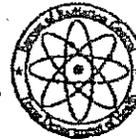


Carl J. Paperiello, Director
Division of Industrial and
Medical Nuclear Safety, NMSS

Enclosures:

- A. Memo fm C. Paperiello to R. Bellamy dtd 12/8/93
- B. Note fm D. Howe to File dtd 11/23/93
- C. Memo fm C. Paperiello to W. Axelson dtd 11/16/93
- D. Memo fm C. Paperiello to C. Hehl dtd 10/20/93

SEPARATOR SHEET



RADIOACTIVE MATERIAL LICENSE

Pursuant to the Texas Radiation Control Act and Texas Health Department regulations on radiation, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess and transfer radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Texas Department of Health (Agency) now or hereafter in effect and to any conditions specified below.

LICENSEE	This license is issued in response to a letter	
1. Name PROTECHNICS DIVISION OF CORE LABORATORIES INC ATTN WILL C WILLIAMS	Dated: March 3, 2000	
2. Address 1160 DAIRY ASHFORD SUITE 444 HOUSTON TX 77079	Signed by: Larry J. Stephenson	
	3. License Number L03835	Amendment Number 37
PREVIOUS AMENDMENTS ARE VOID		
	4. Expiration Date August 31, 2005	

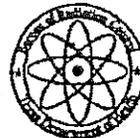
RADIOACTIVE MATERIAL AUTHORIZED

5. Radioisotope	6. Form of Material	7. Maximum Activity*	8. Authorized Use
A. Any radioactive material with atomic number less than 83 and with a half-life less than 120 days	A. Any (except sealed sources)	A. No single unit quantity to exceed 40 mCi Total activity of any single radioisotope not to exceed 2 Ci.	A. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
B. Ir-192/Ir-194	B. Any (except sealed sources)	B. No single unit quantity to exceed 40 mCi of either isotope Total: 15 Ci	B. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
C. Sc-46	C. Any (except sealed sources)	C. No single unit quantity to exceed 40 mCi Total: 4000 mCi	C. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
D. Sb-124	D. Any (except sealed sources)	D. No single unit quantity to exceed 40 mCi Total: 4000 mCi	D. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
E. Kr-85	E. Any (except sealed sources)	E. No single unit quantity to exceed 20 Ci Total: 40 Ci	E. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
F. Co-60	F. Any (except sealed sources)	F. No single unit quantity to exceed 20 mCi Total: 500 mCi	F. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.

* Ci-Curies mCi-Millicuries μCi-Microcuries



Texas Department of Health
BUREAU OF RADIATION CONTROL



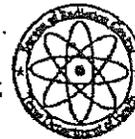
RADIOACTIVE MATERIAL LICENSE

LICENSE NUMBER	AMENDMENT NUMBER
L03835	37

5. Radioisotope (continued)	6. Form of Material (continued)	7. Maximum Activity* (continued)	8. Authorized Use (continued)
G. H-3	G. Any (except sealed sources)	G. No single unit quantity to exceed 20 Ci Total: 300 Ci	G. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
H. C-14	H. Any (except sealed sources)	H. No single unit quantity to exceed 20 mCi Total: 1 Ci	H. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
I. P-32	I. Any (except sealed sources)	I. No single unit quantity to exceed 20 Ci Total: 100 Ci	I. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
J. Cl-36	J. Any (except sealed sources)	J. No single unit quantity to exceed 20 mCi Total: 500 mCi	J. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
K. Fe-55	K. Any (except sealed sources)	K. No single unit quantity to exceed 20 mCi Total: 500 mCi	K. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
L. Co-58	L. Any (except sealed sources)	L. No single unit quantity to exceed 20 mCi Total: 500 Ci	L. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
M. Ni-63	M. Any (except sealed sources)	M. No single unit quantity to exceed 20 mCi Total: 500 mCi	M. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
N. Sr-90	N. Any (except sealed sources)	N. No single unit quantity to exceed 20 mCi Total: 500 mCi	N. Tracer studies in oil, gas and geothermal wells. Field flood studies and inter-well tracer studies.
O. Ir-192, Sb-124, Sc-46	O. Zero Wash* beads	O. No single source to exceed 50 μ Ci	O. Collar markers in gas and oil wells.



Texas Department of Health
BUREAU OF RADIATION CONTROL



RADIOACTIVE MATERIAL LICENSE

LICENSE NUMBER	AMENDMENT NUMBER
L03835	37

5. Radioisotope (continued)	6. Form of Material (continued)	7. Maximum Activity* (continued)	8. Authorized Use (continued)
P. Co-60	P. Metal Strips	P. No single source to exceed 50 μ Ci	P. Collar markers in gas and oil wells.
Q. Cs-137	Q. Solid	Q. No single source to exceed 50 μ Ci	Q. Collar markers in gas and oil wells.
R. Am-241	R. Sealed source (Gtrn Model AN-HP; GN Model VL-1; BEBIG Model Am.G11)	R. No single source to exceed 250 μ Ci	R. Calibration and stabilization source in Halliburton TSCAN logging tool.
S. Ba-133	S. Sealed source (IPL Model HEG-133)	S. No single source to exceed 2 mCi	S. Calibration/stabilization source in Cedar Bluff Group fluid identification tool.
T. Am-241	T. Sealed source (IPL Model HEG-241)	T. No single source to exceed 250 μ Ci	T. Calibration/stabilization source in Halliburton TSCAN logging tool.

9. The licensee shall comply with the provisions (as amended) of Title 25 Texas Administrative Code (TAC) §289.201, §289.202, §289.203, §289.204, §289.205, §289.252, §289.253 and §289.257.

10. Radioactive material shall only be stored at:

Site Number	Location
004	Kilgore - 2505 Highway 42 North
005	Houston - 1160 Dairy Ashford, Suite 444
006	Alice - 815 Commerce Street
007	Midland - 2001 Commerce Street
008	Houston - 9830 Rosprim

11. The licensee shall limit storage of Ir-192 and Ir-194 to 5000 mCi at all storage locations except the Kilgore, Texas facility which is authorized to maintain no more than 15 Ci of Ir-192 and Ir-194 total. This condition does not supersede the maximum allowable activity as authorized in Part B of Condition 7.

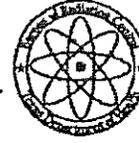
12. The authorized place of use is at temporary sites, in areas not under exclusive Federal jurisdiction, throughout Texas.

13. In addition to the possession limits in Condition 7, the licensee shall further restrict the possession of licensed material to quantities below the limit specified in 25 TAC §289.252(u)(4)(C) for establishing decommissioning financial assurance.

14. Radioactive material shall be used by, or under the direct supervision of, individuals designated by the Radiation Safety Officer (RSO) only after each worker has successfully completed an Agency accepted training course. Documentation verifying the successful completion of the training for each worker shall be maintained by the licensee for inspection by the Agency.



Texas Department of Health
BUREAU OF RADIATION CONTROL



RADIOACTIVE MATERIAL LICENSE

LICENSE NUMBER	AMENDMENT NUMBER
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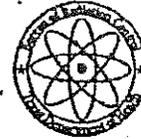
15. The individual designated to perform the functions of RSO for activities covered by this license is Will C. Williams.
16. Radioactive material shall not be stored or used at a permanent site unless that site is specifically authorized on this license. A site is considered permanent if radioactive material is stored and/or used at that location for more than 90 days in any twelve month period.

In accordance with 25 TAC §289.202(o)(1) and §289.202(ddd)(1), the licensee is hereby exempted from limits required in 25 TAC §289.202(ggg)(2) and §289.2029(ggg)(8), when radioactive material is released during a "sandout" or when material must otherwise be reversed out of a gas or oil well. The released material shall be handled and/or disposed in a manner outlined in the procedures submitted with the application dated July 27, 1995, or discarded in a Class I disposal well for nonhazardous waste.

18. Individuals involved in operations which utilize, during any 24 hour period, more than 50 mCi of I-125 and/or I-131 or unvented laboratory operations involving 10 mCi of I-125 and/or I-131 in a noncontained form shall have bioassays performed within one week or if the use of I-125 and/or I-131 is on a continual basis, bioassays shall be performed once every two weeks. Records of the bioassays shall be maintained for inspection by the Agency and the action points listed below shall be observed.
 - A. Whenever the thyroid burden at the time of measurement exceeds 0.12 μ Ci of I-125 or 0.04 μ Ci of I-131, the following actions shall be taken:
 - (1) An investigation of the operations involved, including ventilation surveys shall be carried out to determine the causes of exposure and to evaluate the potential for further exposures.
 - (2) If the investigation indicates that further work in the area might result in exposure of a worker to concentrations that are excessive, the licensee shall restrict the worker from further exposure until the source of exposure is discovered and corrected.
 - (3) Corrective actions that will eliminate or lower the potential for further exposures shall be implemented.
 - (4) A repeat bioassay shall be taken within 1 week of the previous measurement in order to confirm the effectiveness of the corrective action taken or to verify internal radioiodines present.
 - (5) Reports or notification shall be provided as required by 25 TAC §289.202(yy) and §289.202(aaa).
 - B. If the thyroid burden at any time exceeds 0.5 μ Ci of I-125 or 0.14 μ Ci of I-131, the following actions shall be taken:
 - (1) Prevent the individual from any further handling of I-125 or I-131 until the thyroid burden is below the above limits.
 - (2) Carry out all steps described above.
 - (3) As soon as possible, refer the case to appropriate medical consultation for recommendations regarding therapeutic procedures that may be carried out to accelerate removal of radioactive iodine from the body. This should be done within two to three hours after exposure when the time of exposure is known so that any prescribed thyroid blocking agent would be effective.
 - (4) Carry out repeated measurements at approximately one week intervals at least until the thyroid burden is less than 0.12 μ Ci of I-125 or 0.04 μ Ci of I-131.



Texas Department of Health
BUREAU OF RADIATION CONTROL



AUG 31 2000

RADIOACTIVE MATERIAL LICENSE

LICENSE NUMBER	AMENDMENT NUMBER
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19. Individuals involved in operations which utilize, at any one time, more than 100 mCi of tritium in a noncontained form, other than metallic foil, shall have bioassays performed within one week following a single operation and at weekly intervals for continuing operations.
20. The licensee is authorized to discard all radioactive material authorized in Conditions 5, 6, 7 and 8 and listed in 25 TAC §289.202(ggg)(7), whose half lives do not exceed 300 days, in a Type I municipal solid waste site in accordance with the provisions of 25 TAC §289.202(ff)(4) and procedures submitted with application dated July 27, 1995.
21. The licensee is hereby exempted from the requirements of 25 TAC §289.253(n)(1)(D) only for users of radioactive material authorized in Part R of Conditions 5, 6, 7 and 8. The licensee shall maintain a separate utilization log containing, as a minimum, the make and model number and/or serial number (or if absent, a unique description) of each sealed source authorized by Part R of Conditions 5, 6, 7 and 8 removed from storage, the identity of the logging supervisor receiving the sources of radiation, the locations where used and dates of use. These utilization logs shall be kept available for inspection by the Agency for five years from the date of the recorded event.
22. Except as specifically provided otherwise by this license, the licensee shall possess and use the radioactive material authorized by this license in accordance with statements, representations, and procedures contained in the following:

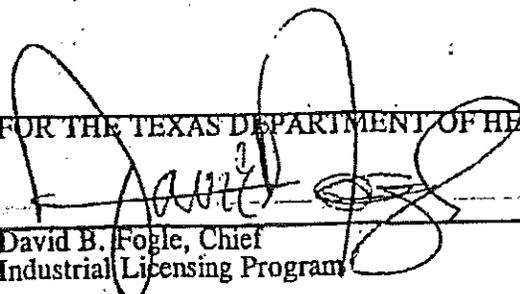
application dated July 27, 1995,
 letters dated September 23, 1995, March 14, 1997, April 28, 1997, June 16, 1997, July 14, 1997,
 January 7, 1998, March 3, 2000, May 23, 2000 and
 letter received September 9, 1998 with attached letter dated November 11, 1994.

Title 25 TAC §289 shall prevail over statements contained in the above documents unless such statements are more restrictive than the regulations.

WPS:da

FOR THE TEXAS DEPARTMENT OF HEALTH

Date: July 24, 2000


 David B. Fogle, Chief
 Industrial Licensing Program

468137

Remarks:

Region IV Reviewer: Louis C. Carson II, Sr. Health Physicist, DNMS
Region IV Reviewer: Jack E. Whitten, Sr. Materials Analyst, DNMS
Reviewer Code: L83112

Request Needed by: 02 /21/03

bcc:

- EWMerschoff
- TPGwynn
- KEBrockman
- CLCain
- JEWhitten, SMA
- DACool, NMSS/INMS
- JBCarrico, NMSS/INMS/MSIB
- SLMerchant, NMSS/INMS/RGB
- LCCarsonII
- NMLB
- FCDB
- RIV Nuclear Materials File - 5th Floor

DOCUMENT NAME: S:\DNMS\mb\LCC\CORELAB-TAR.wpd
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RIV:NMLB	C:NMLB	SMA:DNMS	D:DNMS
LCCarsonII <i>ALC</i>	CLCain <i>JE Whitten</i> <i>KE Brockman</i>	JEWhitten <i>JE Whitten</i> <i>ALC</i>	KEBrockman <i>JE Whitten</i>
01/24/03	01/24/03	01/24/03	01/24/03

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

November 4, 2003

Core Laboratories, Inc.
dba ProTechnics Division of Core Laboratories
ATTN: Will C. Williams
Radiation Safety Officer
9830 Rosprim
Houston, TX 77040

SUBJECT: LICENSE AMENDMENT

Please find enclosed Amendment No. 30 to License No. 42-26928-01. You should review this license carefully and be sure that you understand all conditions. If you have any questions, you may contact me at (817) 860-8221 or via e-mail lcc1@nrc.gov.

This amendment authorizes an additional disposal alternative pursuant to 10 CFR 20.2002 to inject well returns (sandouts) containing radioactive tracer material with physical half-lives of the material is 120 days or less (sodium-24, scandium-46, chromium-51, rubidium-86, antimony-124, iodide-131, xenon-133, iridium-192, or gold-198) into Class II disposal wells that have been approved to accept non-hazardous oil and gas waste by State agencies.

Attached for your perusal is a copy of the Federal Register (Volume 68, Number 208) dated October 28, 2003, publishing the results of NRC's environmental assessment (EA). The Federal Register indicates that NRC staff completed its assessment of your proposed disposal in Class II wells of sandouts containing radioactive tracer materials. The staff made a finding of no significant impact (FONSI) to the environment.

NRC expects licensees to conduct their programs with meticulous attention to detail and a high standard of compliance. Because of the serious consequences to employees and the public that can result from failure to comply with NRC requirements, you must conduct your radiation safety program according to the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate by NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers: Inspection and Investigations," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC in writing of any change in mailing address.

3. By 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. When you decide to terminate all activities involving materials authorized under the license; or
 - b. If you decide not to complete the facility, acquire equipment, or possess and use authorized material.
4. Request and obtain a license amendment before you:
 - a. Change Radiation Safety Officers;
 - b. Order byproduct material more than the amount or form authorized on the license;
 - c. Add or change the areas or address(es) of use identified in the license application or on the license; or
 - d. Change the name or ownership of your organization.
5. Submit a complete renewal application or termination request at least 30 days before the expiration date on your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of radioactive material after your license expires is a violation of NRC regulations.

In addition, please note that NRC Form 313 requires the applicant, by signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

NRC will periodically inspect your radiation safety program. Failure to conduct your program according to NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC may result in enforcement action against you. This could include issuance of a notice of violation; imposition of a civil penalty; or an order suspending, modifying, or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG 1600.

Core Laboratories, Inc.

-3-

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Thank you for your cooperation.

Sincerely,

/RAI

Louis C. Carson II, Health Physicist
Nuclear Materials Licensing Branch

Docket: 030-30429
License: 42-26928-01
Control: 468137

Enclosures: As stated

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	In accordance with letter dated August 23, 2000
1. Core Laboratories, Inc. dba ProTechnics Division of Core Laboratories	3. License number 42-26928-01 is amended in its entirety to read as follows:
2. 9830 Rosprim Houston, Texas 77040	4. Expiration date January 31, 2006
	5. Docket No. 030-30429 Reference No.

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Iodine-131	A. Any	A. 500 millicuries
B. Iridium-192	B. Any	B. 5000 millicuries
C. Scandium-46	C. Any	C. 3000 millicuries
D. Gold-198	D. Any	D. 5000 millicuries
E. Zirconium-95	E. Any	E. 500 millicuries
F. Xenon-133	F. Any	F. 500 millicuries
G. Chromium-51	G. Any	G. 1500 millicuries
H. Antimony-124	H. Any	H. 2000 millicuries
I. Rubidium-86	I. Any	I. 3000 millicuries
J. Bromine-82	J. Any	J. 3000 millicuries
K. Hydrogen-3	K. Any	K. 999 millicuries
L. Sodium-24	L. Any	L. 2000 millicuries
M. Americium-241	M. Sealed Source (Gammatron Model AN-HP, Gulf Nuclear Model VL-1)	M. No single source to exceed 250 microcuries, total possession 100 millicuries
N. Americium-241	N. Sealed Source (Isotope Products Model HEG-241 Series, Capsule A-3015)	N. No single source to exceed 50 millicuries
O. Barium-133	O. Sealed Source (Isotope Products Model HEG-133 Series, Capsule A-3015)	O. No single source to exceed 2 millicuries, total possession 200 millicuries

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number
42-26928-01

Docket or Reference Number
030-30429

Amendment No. 30

6. Byproduct, source, and/or special nuclear material

7. Chemical and/or physical form

8. Maximum amount that licensee may possess at any one time under this license

P. Cesium-137

P. Sealed Source (Isotope Products Model HEG-137 Series, Capsule A-3015)

P. No single source to exceed 200 millicuries, total possession 20 curies

Q. Cesium-137

Q. Sealed Source (Isotope Products Model HEG-137 Series, Capsule A-3015)

Q. No single source to exceed 600 millicuries

R. Cesium-137

R. Any

R. 50 microcuries

S. Cobalt-60

S. Any

S. 50 microcuries

T. Iridium-192

T. Any

T. 50 microcuries

U. Scandium-46

U. Any

U. 50 microcuries

V. Antimony-124

V. Any

V. 50 microcuries

9. Authorized use:

A. through K. For use in tracer studies in oil and gas wells.

A., J., and L. For use in above ground tracer studies.

M. and N. For use as a calibration/stabilization source in Halliburton Model TSCAN logging tool for logging tracer material in oil and gas wells.

O. and P. For use as a calibration/stabilization source in Cedar Bluff Group's Fluid Identification logging tool for logging tracer material in oil and gas wells.

Q. For use in oil and gas well logging.

R. through V. For use in pipe collar markers in oil and gas wells.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
42-26928-01Docket or Reference Number
030-30429

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CONDITIONS**10. Radioactive material shall be used only at the following:**

- A. 1930 Elk Street, Rock Springs, Wyoming; Natrona County International Airport, 3857 Dame, Casper, Wyoming; Alaska Department of Natural Resources Deadhorse Tract 57, Spine Road, Prudhoe Bay, Alaska.
- B. License materials may be stored at Shell Offshore, Inc. Gas Well: OSG-C 11553, Well No. 2, Field: Garden Banks Block 602, Offshore Louisiana, in accordance with letter December 16, 1999, pending final abandonment.
- C. Temporary job sites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating licensed material, including areas of exclusive Federal jurisdiction within Agreement States.

If the jurisdiction status of a Federal facility within an Agreement State is unknown, the licensee should contact the federal agency controlling the job site in question to determine whether the proposed job site is an area of exclusive Federal jurisdiction. Authorization for use of radioactive materials at job sites in Agreement States not under exclusive Federal jurisdiction shall be obtained from the appropriate state regulatory agency.

- 11. Licensed material identified in Item 6.L. may be temporarily stored in accordance with letter dated August 10, 1998.
- 12. A. Licensed material shall be used by, or under the supervision and in the physical presence of, individuals who have completed the Support Consultants and Associates, Inc., F. L. Clifford Associates, Sharp Radiation Services, W. H. Henkin Industries, Inc., Amersham/Gulf Nuclear, Inc., or ProTechnics Environmental Services, Inc., training courses and have been designated by the Radiation Safety Officer.

B. The Radiation Safety Officer for this license is Will C. Williams.
- 13. The licensee shall not vacate or release to unrestricted use a field office or storage location whose address is identified in Condition 10, without prior NRC approval.
- 14. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
- 15. Pursuant to 10 CFR 39.91, the licensee is exempted from the requirements of 10 CFR 39.63(b) for use of remote handling tools. This exemption will remain in effect until formally withdrawn by the NRC.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
42-26928-01Docket or Reference Number
030-30429

Amendment No. 30

16. Notwithstanding the requirements of 10 CFR 39.47 and pursuant to 10 CFR 39.91, and in accordance with the statements, representations and procedures contained in letter dated July 14, 1997, and February 4, 1998, the licensee may use radioactive markers with activities of 50 microcuries or less of iridium-192, scandium-46, antimony-124, cobalt-60, and cesium-137 as pipe collar markers in oil and gas wells.
17. The licensee is authorized to hold radioactive material with a physical half-life of less than 120 days for decay-in-storage before disposal in ordinary trash provided:
- A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.
 - B. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate meter set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.
 - C. A record of each disposal permitted under this License Condition shall be retained for 3 years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.
18. Notwithstanding the requirements of 10 CFR 20.2007, pursuant to 10 CFR 20.2002, and in accordance with the statements, representations, and procedures contained in correspondence dated August 23, 2000, January 23, 2002, and October 30, 2003, the licensee may release well-logging sandouts and well returns, containing residual radioactive materials, into Class II Disposals Wells provided:
- A. The total radioactive concentration of all isotopes is 1,000 picocuries/gram or less, and the physical half-life of the radioactive material is 120 days or less.
 - B. The residual radioactive tracer material (sodium-24, scandium-46, chromium-51, rubidium-86, antimony-124, iodide-131, xenon-133, iridium-192, or gold-198) being disposed of will be in the form of the patented "Zero-Wash" product in sandouts or well returns.
 - C. The well has been Permitted by the State, Territory, or Federal jurisdiction to accept non-hazardous oil and gas waste regardless of whether the job site is in an area where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating licensed material, including areas of exclusive Federal jurisdiction within Agreement States.
 - D. The licensee maintains an agreement with the owner or operator to control access to the Class II Disposal Well until the radioactivity has decayed to unrestricted release levels.

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030-30429

Amendment No. 30

19. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Application dated November 15, 1991
- B. Facsimile dated November 25, 1991
- C. Letter dated February 14, 1992
- D. Letter dated March 1, 1993
- E. Letter dated April 12, 1993
- F. Letter dated May 4, 1993
- G. Letter dated October 26, 1993
- H. Letter dated April 20, 1994
- I. Letter dated May 6, 1994
- J. Letter dated May 19, 1994
- K. Letter dated May 26, 1994
- L. Letter dated October 20, 1994
- M. Letter dated January 4, 1995
- N. Letter dated January 11, 1995
- O. Letter dated June 13, 1995, authorization of new facility only.
- P. Letter dated June 13, 1995, authorization to use the Model TSCAN
- Q. Letter dated September 12, 1995
- R. Letter dated September 27, 1995
- S. Letter dated October 26, 1995
- T. Letter dated January 17, 1996
- U. Letter dated February 13, 1996
- V. Letter dated February 24, 1997
- W. Letter dated July 14, 1997
- X. Letter dated November 14, 1997
- Y. Letter dated January 20, 1998
- Z. Letter dated January 27, 1998
- AA. Letter dated February 4, 1998
- BB. Letter received May 20, 1998
- CC. Letter dated July 15, 1998
- DD. Letter dated August 10, 1998
- EE. Letter dated August 31, 1999
- FF. Letter dated December 16, 1999
- GG. E-mail dated February 11, 2000
- HH. Letter dated March 3, 2000
- II. Letter dated June 5, 2000
- JJ. Letter dated June 15, 2000
- KK. Facsimile dated July 6, 2000
- LL. E-mail dated February 14, 2000

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
42-26928-01Docket or Reference Number
030-30429

Amendment No. 30

19. (Continued)

- MM. Letter dated May 22, 2000
- NN. Letter dated August 22, 2001
- OO. Letter dated November 7, 2001
- PP. Letter dated August 23, 2000

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

/RA/

Date November 4, 2003

By _____

Jack E. Whitten, Chief
Division of Nuclear Materials Safety
Region IV
Arlington, Texas 76011

Carlson, Todd

From: Carlson, Todd
Sent: Tuesday, November 16, 2010 9:57 AM
To: Burch, Kelly; Gustafson, Staci; Lobins, Craig
Cc: Wozniak, Gary
Subject: FW: Protechnics COA
Attachments: ① ProTechnics COA.pdf

I'm sending this to let you know that our Rad Protection folks signed a CO&A with ProTechnics over the incident at Rustick landfill this spring that set off their rad meter. The CO&A was for \$29,000. The event was initiated with a flowback event which brought the radioactive tracer beads to the surface and the eventual transfer of the radioactive material to McKean County Landfill. ProTechnics is the company licensed to use the radioactive material at well sites. This sounds like a potential source of exposure for our well inspectors at the well sites. Maybe Gary and Craig will want to include something related to this in the 8 hour refresher...at least for O&G staff(?).

---Original Message---

From: Stainbrook, Anita
Sent: Tuesday, November 16, 2010 9:10 AM
To: Crow, John; Sheriff, Richard
Cc: Carlson, Todd; Fair, Joel
Subject: FW: Protechnics COA

Fyi. Rad followed through on penalty with ProTechnics.

---Original Message---

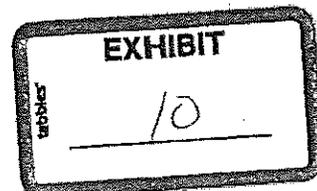
From: Forney, Lisa
Sent: Monday, November 15, 2010 10:12 AM
To: Brennan, Patrick; Stainbrook, Anita
Cc: Yusko, James (DEP); Derstine, Terry; Brown, Donald P.; Craig, Bridget; Leskosky, John; Cooley, Marc B; Means, Jennifer; Forney, Lisa; Deman, Joseph
Subject: Protechnics COA

I would like to share of copy of our executed COA with ProTechnics. If you have any questions or wish to discuss, please let me know.

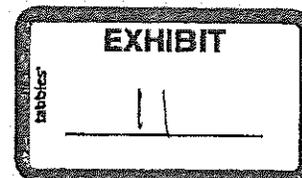
As a side note to Pat....

The efforts to date are getting attention in the industry. I just received a phone call from ProTechnics. They are very concerned that the well owner/operator (JW Operating) was held accountable. I told them that NW's Waste Program also collected a penalty from the transporter. I reminded them that when this occurred previously we issued an NOV. However, it happened again..... further action was warranted. I guess that they will get used to it and hopefully do a better job in the future. Just out of curiosity, would you be willing to share a copy of your CACP?

Lisa A. Forney | Environmental Protection Compliance Specialist
Department of Environmental Protection
Southcentral Regional Office
909 Elmerton Avenue | Harrisburg, PA 17110.8200
Phone: 717.705.4898 | Fax: 717.705.4710
www.depweb.state.pa.us



USPTO PATENT FULL-TEXT AND IMAGE DATABASE



(1 of 1)

United States Patent
Bandy, et al.

5,182,051
January 26, 1993

Raioactive tracing with particles

Abstract

There is provided radioactive particles having a ceramic matrix and an element which can be bombarded with neutrons to produce a gamma ray-emitting isotope. The particles are manufactured by mixing the ceramic components and the element, forming particles, sintering the particles, and the particles are subsequently made radioactive by bombardment with neutrons. Particles injected into wells or flow apparatus are traced by adding the radioactive particles and detecting the radioactive particles with gamma ray-sensitive instruments. Particles containing different elements are detected by spectral analysis of gamma rays.

Inventors: Bandy; Thomas R. (Katy, TX), Read; Donna A. (Houston, TX), Wallace; Edward S. (Englewood, CO)

Assignee: ProTechnics International, Inc. (Houston, TX)

Family ID: 27041585

Appl. No.: 07/666,044

Filed: March 7, 1991

Related U.S. Patent Documents

<u>Application Number</u>	<u>Filing Date</u>	<u>Patent Number</u>	<u>Issue Date</u>
466238	Jan 17, 1990		

Current U.S. Class: 252/645; 250/260; 252/965; 376/162; 501/152; 501/55; 501/68; 850/63

Current CPC Class: C09K 8/80 (20130101); E21B 43/267 (20130101); E21B 47/1015 (20130101); G21G 4/04 (20130101); E21B 47/0005 (20130101); Y10S 252/965 (20130101)

**Current International
Class:**C09K 8/60 (20060101); C09K 8/80 (20060101); E21B
43/25 (20060101); E21B 47/10 (20060101); E21B
43/267 (20060101); E21B 47/00 (20060101); G21G 4/00 (20060101);
G21G 4/04 (20060101); G21G 004/04 ()**Field of Search:**

;252/644,645,965 ;250/260,303,308,356.2 ;501/55,68,152 ;376/162

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 Article "Tracer Technology Finds Expanding Applications" . .
 Brochure "Macrolite Ceramic Spheres" . .
 Article "Tracers Can Improve Hydraulic Fracturing" . .
 Article "Improved Evaluation Techniques for Multiple Radioactive Tracer Applications" . .

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Parent Case Text

SPECIFICATION

This is a continuation-in-part of U.S. Ser. No. 7/466,238, filed Jan. 17, 1990, now abandoned.

Claims

What we claim is:

1. A non-radioactive particle comprising a sintered ceramic material having embedded therein a target element wherein the target element is either iridium or scandium.
2. The non-radioactive particle of claim 1 wherein the target element is present in the particle at a concentration in the range of about 0.2 per cent to about 4.0 per cent by weight.
3. The non-radioactive particle of claim 1 wherein the target element is present in the particle at a concentration in the range of about 0.2 per cent to about 0.5 per cent by weight.
4. A radioactive particle comprising a sintered ceramic material having embedded therein a target element, said target element being made radioactive by bombardment with neutrons.
5. The particle of claim 4 wherein the sintered ceramic material has a size less than about 25 microns before sintering.
6. The particle of claim 4 wherein the ceramic material comprises a mixture of silica and alumina.
7. The particle of claim 4 wherein the ceramic material comprises at least 30 per cent by weight alumina.
8. The particle of claim 4 wherein the target element is selected from the group of elements consisting of gold, iodine, iridium, scandium, antimony, silver, hafnium, zirconium, rubidium, chromium, iron, strontium, cobalt and zinc.
9. The particle of claim 4 wherein the target element is either iridium or scandium.
10. The particle of claim 4 wherein the target element is present as an oxide or salt compound.
11. The particle of claim 4 wherein the target element is present in the particle at a concentration in the range from a detectable amount to about 5 per cent by weight.
12. The particle of claim 4 wherein the target element is present in the particle at a concentration in the range from a detectable amount to about 0.5 per cent by weight.
13. The particle of claim 4 wherein the particle is in the size range from about 8 mesh to about 400 mesh.
14. The particle of claim 4 wherein the specific gravity is in the range from about 0.5 gm/cc to about 3.9 gm/cc.

Slurries are also used in a well for cementing the casing in the well. The cement slurry is pumped into the well through the casing and flows upward outside the casing. It is important to know where the cement is located outside the casing in the well after it sets. Radioactive tracers are sometimes added to the cement slurry as it is pumped into a well. After the cement has set, a logging tool which measures gamma ray radiation is run into the well and the level of radiation is measured at different depths in the casing of the well. Different radioisotopes may be added to different portions of the cement slurry and the logging tool may be used to measure the location of the different tracers outside the casing. A spectral log may be used to indicate the distance of the tracer from the wellbore.

Another use of slurries in wells is in the process of gravel packing of wells. In this process particles, called "gravel," are placed near the wellbore and in the wellbore outside a screen to prevent formation solids from entering the wellbore or plugging the screen. It is important to know whether the gravel pack is continuous and how far it extends vertically in the well. Radioactive particles are added to the gravel as it is pumped into the well and a logging tool is run into the well after the gravel packing operations are complete to determine the location of the gravel.

Radioactive tracers are used in many other flow systems for measuring flow rates, flow patterns and other phenomena associated with movement of fluids or solids in industry or science. In many of these applications the radioactive tracers are placed directly in a liquid. There is often difficulty from the radioactive material plating on to surfaces or being disseminated through the flow system to contaminate the system with radioactivity.

U.S. Pat. No. 3,492,147 discloses a process for production of resin-coated solids, the resin coating incorporating radioactive materials. U.S. Pat. No. 4,731,531 discloses the use of particulate material which is non-radioactive until it is irradiated by neutrons at the surface of a well immediately before it is injected into the well or after it has been deposited in the formation around the well. The non-radioactive isotope is contained in an infusible resin coated on the surface of the particles. Radioactive particles having an infusible resin on the surface were sold by Halliburton Company under the trademark RAYFRAC.RTM.. Other radioactive particles sold for use in the oil industry are believed to be manufactured by simply immersing sand particles in a radioactive solution and drying the particles, the radioactivity then being trapped within natural cracks existing in the sand particles.

Techniques for detecting and measuring radioactivity are well known. A device such as a Geiger Counter will measure total radioactivity. Techniques for measuring the amount of radiation as a function of the energy of the gamma ray are also well known. Each radioactive isotope emits a characteristic spectrum of energies of radiation. Spectral analysis of the gamma rays from a radioactive isotope of an element used in the laboratory and surface facilities is well-known. In recent years, tools have been developed and made available for measuring the spectral analysis of gamma rays in wells. Spectral analysis makes possible use of multiple radioactive tracers in a flow system or well at the same time. In addition, technology has been developed to determine the relative distance from the detecting tool of different tracers, based on the phenomenon of Compton scattering of the gamma rays. One system for use in wells is sold by Halliburton Logging Services, Inc. under the trademark TRACERSCAN. This same detection technology could be used in other flow systems. The spectral log in a well makes possible both the vertical and radial distribution of tracers used in evaluating the effectiveness of hydraulic fracturing, cementing, and gravel packing operations. The article "Tracer Technology Finds Expanding Applications," *Petroleum Engineer International*, Jun., 1989, pp. 31-36, and references cited therein describe the new spectral analysis technology and its application to wells.

In the application of radiotracers in wells, preferably no tracers are left inside the casing, since only tagged material outside the casing contributes useful information regarding material placement within the formation. A severe limitation in using prior art radioactive particles which are initially radioactive or which are made radioactive by neutron bombardment before injection into a well or piping system is that radioactive material washes off particles or is abraded or is broken from the surface of the particles as they are pumped in a flow stream. This loss of radioactivity from the particles creates a background radiation at certain locations or throughout the well or piping system. The extraneous source of radiation can be a severe limitation in subsequent radioactive logging of wells and greatly diminishes the accuracy of measurements intended to be indicative of conditions outside the wellbore. In piping systems on the surface of the earth, radioactive contamination can be hazardous and can interfere with other operations.

Therefore, there is a great need for particles that can be made radioactive and particles that are radioactive which can be pumped into wells or other flow streams without loss of radioactivity and contamination of the flow stream. Further, a method of manufacturing such particles which allows incorporation of a variety of elements which can produce distinctive radioactive spectra is needed, and a method of employing these particles to locate slurries which have been injected into wells or other piping systems is needed.

SUMMARY OF THE INVENTION

In one embodiment of this invention, sintered ceramic particles which are a precursor to radioactive particles, comprising an element which can be bombarded with neutrons to form an isotope which emits gamma rays, are provided. In another embodiment, radioactive particles are provided. In another embodiment, a method of manufacturing particles specially suited for tracing flow in a fluid or slurry is disclosed. The manufacturing process comprises the steps of mixing in powder form ceramic components and an element which, when bombarded by neutrons forms a radioactive isotope, forming the powder mixture into particles, sintering the particles to produce an effective amount of strength and irradiating the sintered particles with neutrons.

In yet another embodiment, sintered radioactive particles produced by mixing ceramic components and an isotope which can be made radioactive by neutron radiation, which are irradiated by neutrons before use, are added to a non-radioactive slurry as it is pumped into a well. The well is then logged with an instrument which measures the level of radioactivity from the gamma ray emission of the particles. Gamma ray spectra are measured to differentiate tracers when particles containing different elements are injected into the stream at different times. In still another embodiment, particles in surface piping systems are traced using radioactivity measurements. In another embodiment, the precursor particles are bombarded with neutrons after their injection into a well or other flow system.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The particles which can be made radioactive of the present invention are particles which contain a target element which is embedded in a sintered ceramic matrix.

The radioactive isotope particles of the present invention are ceramic particles that emit gamma rays to allow their detection by instruments. The particles are made of sintered ceramic components and an element which has been bombarded with neutrons to become a gamma ray-emitting isotope.

The ceramic components are common oxides, normally silica or alumina, but other oxides used in the

ceramic art may be used. In the mixtures comprising predominantly silica and alumina, a range of mixtures from pure alumina to predominantly silica can be used. Mixed crystalline materials of silica and alumina such as mullite may be used. The ceramic components are first finely divided or powdered and mixed with the target element. By this technique, the target element can be uniformly distributed through the particle. The structure of the powdered starting materials may still be present in the finished particles, but the particles will have an effective amount of strength resulting from bonding of the original powder of ceramic components which has occurred during the sintering process. Other components may be added to aid sintering and to substantially lower the sintering temperature, such components being well known in the ceramics art.

The sintered matrix of the particles should have sufficient strength to resist breaking when the particles are pumped in a stream of fluid. The amount of strength needed will depend upon their application. If the particles are to be pumped at high flow rates in a slurry, such as in hydraulic fracturing treatments in wells, the particles should be strong enough to prevent breaking at high stress, substantially like the ceramic particles now provided as proppant for this application. For added strength, particles having an alumina content above 30 percent by weight are preferred. Also, sintered particles made from very finely divided powder are higher in strength. Powder less than 25 microns in size is preferred. If the radioactive particles are to be incorporated into a flow stream moving at a low speed and without abrasive conditions, much lower strength ceramic particles are acceptable, although high strength will not be a disadvantage. In addition to strength, density and size may be important properties of the ceramic particles to be considered in each application.

The target element added to emit gamma rays is embedded in the matrix of the ceramic materials before sintering. The element is selected based upon several variables. One of the important characteristics is the half-life of the radioactive isotope produced by neutron bombardment. This property is selected based on the measurements to be made and does not limit this invention. Half-lives of from about two days to about 250 days are commonly used. The energies of the gamma rays emitted by the isotope are also an important factor in selecting the element. This is especially true when two or more radioactive isotopes are to be used in the same flow stream, when it is desirable that the energy spectra of the different isotopes not excessively overlap. It is preferred that the energy spectrum of the gamma rays of the different isotopes not overlap such that the intensity of the gamma rays from each element can be more accurately measured. Thereby, the concentration of each individual isotope can be measured by spectral analysis of the gamma rays.

The cost and availability of the target element embedded in the ceramic particles is one consideration in the selection of which element to use in a particle. Target elements suitable for use in the particles of this invention include gold, iodine, iridium, scandium, antimony, silver, hafnium, zirconium, rubidium, chromium, iron, strontium, cobalt, and zinc. Preferred target elements are antimony, iridium, scandium, silver, and hafnium. Most preferred are iridium and scandium.

The target element may be present in its elemental form or as a compound. Compounds of elements useful in this invention are commonly salts or oxides. Iridium oxide is available as a black powder known as "iridium black." Hafnium oxide is available in pure form. Antimony bromide is available in very pure form as crystals. Other compounds of the element may be used, but oxides and salts are readily available. The compound should be stable at the high temperature of processing of the ceramic particle, such that sublimation does not deplete the particles of the compound. The temperature of sintering the particles will normally be above the melting point of the compound of the element.

The concentration of the element in the ceramic particle will depend on the application of the

particles, but an effective amount will be less than 5 per cent of the weight of the particle, preferably less than 1 per cent and most preferably less than 0.5 per cent by weight.

Sizes of the particles will normally range from about 8 mesh to about 400 mesh. Particles of a wide range of sizes can be separated into desired sizes by sieving or other particle size separation techniques.

Specific gravity of the particles will range from about 0.5 gm/cc to about 3.9 gm/cc. Particles of different densities can be made and separated by density using well known particle separation techniques.

Radioactive ceramic particles may be manufactured by methods known in the ceramic industry for manufacturing proppants for use in hydraulic fracturing of wells or for manufacturing synthetic gravel for use in gravel packing of wells. Such ceramic particles for proppants are manufactured and used for their strength, their density and their sphericity. U.S. Pat. 4,668,645 discloses a particle for use as a proppant and a method of manufacturing such particles. U.S. Pat. No. 4,068,718 discloses the use of high strength and high density bauxite-containing particles for use as a proppant in wells and describes the methods of manufacture of such particles. The two aforesaid U.S. patents are incorporated herein for all purposes.

Other methods for manufacturing sintered ceramic particles from powder, employing a variety of grinding, mixing, pelletizing and sintering techniques can be used. Ceramic particles of various densities and strengths can be made by mixtures of the oxides of aluminum, silicon, iron, magnesium and other minerals. Ceramic particles made for use as proppants or in gravel packing are manufactured by grinding the ceramic components to fine particle sizes, preferably less than 25 micron particle size, forming a paste of the finely ground material, forming the paste into rounded particles with pelletizing equipment and then sintering the particles. Such particles are sold by Norton Alcoa Proppants of Dallas, TX and by Carbo Ceramics Company of Dallas, TX. We have discovered that the ceramic components of such particles can be mixed with an element which, when bombarded with neutrons, forms a gamma ray emitting isotope, to produce a radioactive particle which has essentially the properties of the ceramic particle not containing the element. Such particles have high strength and resistance to crushing, and can be pumped into a variety of fluid streams without loss of radioactive material to the fluid stream and the conduits for the stream.

MACROLITE.RTM. ceramic spheres sold by 3M Company of St. Paul, MN are made from a ceramic powder to have void spaces and specific gravities as low as about 0.58 gm/cc. The particles of this invention can be manufactured by incorporating a target element into the ceramic materials of MACROLITE.RTM. ceramic spheres before they are formed.

It is advantageous to use elements which are not radioactive during formation of the particles, so that health hazards from radioactive materials are avoided during manufacture of the particles. This is an important feature of our invention.

After the particles to be made radioactive, i.e. the precursor radioactive particles, are formed and sintered, the particles may be injected into a flow system or the particles may be transported to a nuclear reactor and radiated with neutrons such that the element present forms a radioactive isotope of that element. The equation given below describes the level of activity resulting from neutron radiation:

where:

A.times.Activity in millicuries

N.sub.L .times.6.022.times.10.sup.23

h=Isotopic Abundance

X.sub.sect =Neutron Capture Cross Section

g=Target element mass in grams

t.sub.1/2 =Half life of produced nuclide in seconds

N.sub.f =Neutron flux (neutron cm sec

M=Target nuclide atomic weight in grams

t=Neutron bombardment time in seconds.

Activity produced is directly proportional to neutron bombardment time, neutron flux and target element mass. Once an element has been selected for its half-life of radioactivity and its desirable gamma ray spectrum, the concentration of the element needed to seed the particles and the neutron bombardment time can be calculated for a certain location in a certain nuclear reactor having a known neutron flux rate at different locations. The costs of the element and the neutron irradiation are selected to minimize the total cost of producing particles having an effective level of radioactivity.

The selected amount of the target element is added to a suitable amount of ceramic powder which is to be formed into particles, such that the amount of powder to be irradiated, stored and injected into a stream is convenient for the irradiation facility, storage facilities and pumping equipment available for injecting the radioactive powder.

Twenty millicuries of radioactivity is a common amount of radioactivity to transport in one batch. Therefore, this amount of radioactivity will be used as an example. Other amounts, for example 40 millicuries, are often used and the same principles are applicable. The equation above shows, for example, that if 20 millicuries of radioactivity from iridium-192 is to be produced, and the nuclear reactor produces a flux in the cans to be used in the reactor of 5×10^{12} neutrons cm^{-2} sec^{-1} , 11.5 milligrams of iridium is needed for a bombardment time of 96 hours. This amount of iridium in the form of iridium black is added to a measured amount of ceramic powder, thoroughly mixed and blended, and formed into particles which are then sintered in accord with known techniques for producing sintered particles. The equation shows that if the amount of target element is doubled the amount of bombardment time can be halved. Therefore, the cost of producing particles having differing amounts of target elements can readily be determined, depending on the cost of the element and the cost of irradiation time. For many elements to be made radioactive, the lowest cost of radioactivity will be obtained with the largest amount of the target element in the ceramic particles. Then the highest limiting concentration of the element is determined by that concentration which changes the physical properties of strength or specific gravity of the ceramic particles into an unacceptable range of the property. Tests should be performed to determine the maximum acceptable concentration of target element by mixing various concentrations of element and ceramic

components, sintering the particles and measuring the desired property. Specific gravity of particles may be measured by well known methods. Strength may be measured by crush tests of packed beds of particles or by individual particles strength tests which are well known for testing proppant particles.

For some applications, only a small amount of particles is needed to contain 20 millicuries of radioactivity. But, it is possible to vary the concentration of target element in the ceramic over a wide range of concentrations. The lowest practical level of concentration will normally be determined by the volume available in the reactor used for irradiation or by the pump used to meter the particles into the stream where they will be used. For particles to be used in hydraulic fracturing, 20 millicuries of activity will preferably be contained in a volume of particles in the range from about 5 milliliters to about 100 milliliters of particles. Much larger amounts of particles could be used to contain the radioactivity, but the minimum concentration of target element in the ceramic will usually be determined by the pumping apparatus used to add the particles to a stream and the volume limitations of the reactor used for irradiation of the particles. Small volumes of particles can be used when accurate means are available for metering small amounts of particles into a stream. Radioactivity levels in the range from about 0.02 to about 20.0 millicuries per milliliter of particles are suitable. Preferably, the radioactivity level is in the range from about 0.2 to about 4.0 millicuries per milliliter of particles.

After the particles are radiated with neutrons, their manufacture is complete. The particles must then be handled as radioactive sources. Well known techniques are used for protecting personnel from exposure to gamma rays emitted from the particles.

Radioactive particles are added to a fluid which is being pumped into a well or are added to a fluid passing through surface piping or equipment for other applications by first mixing the radioactive particles with fluid to form a concentrated slurry. The liquid of the slurry may be viscosified by polymers. The slurry of radioactive particles is stored in a small closed radioactive materials reservoir. The reservoir may contain an agitator to keep the radioactive particles in suspension. The slurry is pumped from the reservoir into the low-pressure section of the flow stream to be traced. With a low pressure pump such as a peristaltic pump. A high-pressure positive displacement pump can be used when the particles are injected into a high-pressure stream. The concentration of radioactive particles in the concentrated slurry or radioactive particles is usually in the range of about 10 grams to about 1000 grams per gallon of slurry.

For most applications in wells, the slurry of radioactive particles is pumped out of the reservoir and into the stream at a rate such that 20 millicuries is used to trace from about 10,000 to about 100,000 pounds of solid particles or about 10,000 to about 100,000 gallons of fluid. The activity level may vary in the range from about 0.1 to about 10 millicuries per thousand gallons of fluid or thousand pounds of solids. This amount of radioactivity is preferably contained in a volume of particles from about 5 cc to about 100 cc, but much larger volumes of particles may be used with a suitable pump for pumping the slurry of radioactive particles. If this amount of radioactivity is contained in a larger volume of particles, the radioactive particles will either contain a proportionately lower concentration of target element or the particles will be irradiated with neutrons for a proportionately smaller time.

Preferably, the radioactive particles have about the same size and specific gravity as the non-radioactive particles in the flow stream when applied to tracing the particles in hydraulic fracturing and gravel packing operations. The particles should be small enough to produce low settling rates when used in cement slurries. For other types of fluids, the size and specific gravity will be selected to accomplish the purpose of the tracing application. For example, particles less than a certain size may

be sieved from a mixture of sizes and added to a flow stream to determine the size of constrictions in the flow stream. Other applications dependent on size and specific gravity will be obvious to users of the particles.

Specific gravity of the particles can be varied to be compatible with the application. The ceramic particles produced for hydraulic fracturing of wells vary in specific gravity from about 2.6 gm/cc to about 3.8 gm/cc. The density of these particles will not be significantly changed when the element to be made radioactive is embedded into the particles. Preferably, radioactive particles will be made to have approximately the same density as the non-radioactive particles with which they are used. Particles sold by 3M Company under the trademark MACROLITE.RTM. may have a specific gravity as low as 0.58 gm/cc. Again, preferably the radioactive particles will be made to approximately match the density of the non-radioactive particles. Strength of the particles will also vary with specific gravity, but even the relatively low strength of these low specific gravity particles will be adequate for gravel packing applications. Other applications not requiring high-strength can also use the low specific gravity particles. To avoid breaking and abrasion of particles, which can lead to loss of radioactivity from the particles, strength is preferably as high as consistent with other properties of the particles.

After the radioactive particles are pumped into a well and out of the casing of the well so that they are no longer in the wellbore, a logging instrument is lowered into the well which is capable of detecting the gamma rays emitted by the isotope of the element. The gamma rays are capable of penetrating at least several inches of the earth surrounding the well and of penetrating the casing in the well. The gamma rays specific to the isotope of the element may be detected by performing an analysis of the energy of the gamma rays detected by the logging tool. A spectrum of energy of gamma rays characteristic of each radioactive element present is obtained. Techniques are used for determining, based on differing attenuation by Compton scattering of gamma rays having differing energy levels, the amount of gamma radiation coming from inside the wellbore, which would result from radioactive material lost from the particles during flow down the wellbore.

Ceramic particles containing different target elements may be used at the same time or at different times in the pumping operation, may have different specific gravity or may have different size. The locations of the particles having different target elements are then determined with the gamma ray detector.

In gravel packing operations, the radioactive particles may be inside the casing and outside a screen or other type filter in the wellbore. In this application, also, the logging tool is surrounded by the radioactive particles.

In a flow stream or other surface apparatus, the gamma ray detection instrument is located in the vicinity of the radioactive particles to detect the gamma rays. Particle location of particles containing different target elements, which may also have different sizes and specific gravities, can be determined by spectral analysis of the gamma rays.

The applications described above assumed that the particles had been irradiated by neutrons before injection into the well or flow stream. It should be understood that the precursor particles, obtained after sintering and before irradiation with neutrons, can be used in all applications if a neutron source is applied to the particles after they are in the flow stream or well. The particles of this invention will be stable to their environment of use, and can be irradiated or re-irradiated long after the time they are injected into a flow stream or well.

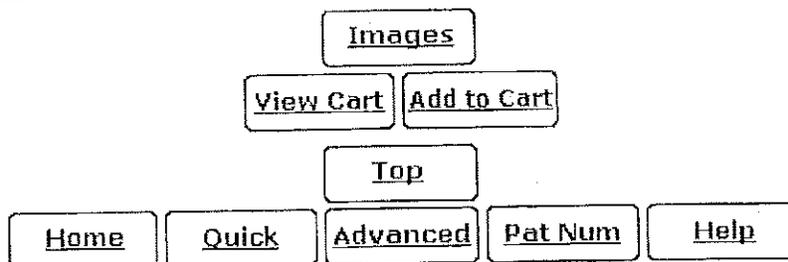
EXAMPLE

Ceramic particles containing iridium were manufactured. The procedures normally used for manufacturing a ceramic proppant particle containing primarily alumina and silica and smaller amounts of other oxide minerals were used. The ceramic materials were finely ground. About 20 grams of iridium black, available from Aldrich Chemical Company, was thoroughly mixed with 30,418 grams of the ceramic powder. The powdered mixture was then formed into a paste containing chemical binders. The paste was formed into approximately spherical particles. The ceramic materials are said to be "green" at this stage. The green ceramic particles were then sintered by firing in an oven at a temperature in the range of about 1400.degree. to 1500.degree. C. The particles containing the iridium were essentially the same density and crush resistance as the particles of high strength ceramic material without the iridium. The size range of the particles was from about 20 mesh to about 40 mesh.

A portion of the particles containing iridium was then placed in a nuclear reactor for a period of 42 hours. A volume of 15 milliliters of particles was irradiated at a neutron flux of 9×10^{12} neutrons $\text{cm}^{-2} \text{sec}^{-1}$. At the end of irradiation, the activity of the particles was measured to be about 20 millicuries. The activity calculated from the above equation was 20.7 millicuries.

The radioactive particles were transported to a well where hydraulic fracturing operations were performed. Fracturing fluid is pumped down the casing of the well and through perforations. Sand in the size range 20-40 mesh is used as proppant. Radioactive ceramic particles manufactured according to the methods described herein are added to the fluid along with the sand at an appropriate time. The ceramic radioactive particles have about the density of sand and are 20-40 mesh size. After these fracturing operations are complete, the well is logged with the TRACERSCAN system. Results of the log show that gamma ray radiation from iridium is present only near the perforations. The very low level of radioactivity in the wellbore above the perforations shows that loss of radioactive iridium material from the particles during the operations is negligible.

The invention has been described with reference to its preferred embodiments. Those of ordinary skill in the art may, upon reading this disclosure, appreciate changes or modifications which do not depart from the scope and spirit of the invention as described above or claimed hereafter.





Research Article

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Study and application of ZeroWash tracer fracture monitoring

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ABSTRACT

Hydraulic fracturing is an effective technique for increasing the productivity of wells producing from low permeability formations. Tracer fracture monitoring technique is near-wellbore zone fractures direct test method that can monitor the height and width of hydraulic fractures in the near-wellbore section. ZeroWash Tracer uses a medium strength ceramic proppant which is mainly used in fracturing process. It can make three different energy levels of tracer into the fracturing fluid and pump into formation, to monitor wellbore proppant distribution and identify fracture height. The application of ZeroWash Tracer in Changqing oilfield has been a great success. ZeroWash Tracer is used to monitor wellbore proppant distribution and evaluate fracturing effects in Hydraulic Fracturing.

Keywords: Tracer; low permeability; fracture monitoring technique; ZeroWash Tracer; hydraulic fracturing.

INTRODUCTION

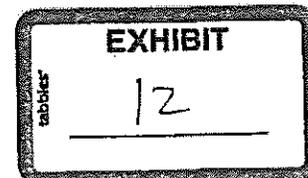
The oilfield tracer technology has been carried out since 1950s, and it has experienced four stages of development, i.e. Chemical tracer, radioactive isotope tracer, non-radioactive isotope tracer and micro-matter tracer[1].

Currently/Generally the chemical tracers used in oilfield tests were sodium bromide, potassium iodide, isopropyl alcohol, etc. The main disadvantages of them were large amount, high cost and significant detection-error. Radioactive isotope tracer, which mainly is tritiated compounds, can be used as tracers of water, oil tracer gas tracer or tracers water allocation, and it is commonly used in oilfield tests[2,3]. Non-radioactive isotope tracer are those that no radioactive isotope tracer, such as ¹²C, ¹³C, ¹⁵N, ¹⁸O, etc. Compared to the former, the latter has no high temperature conversion, no radioactive hazard, less dosage, convenient operation, and high measurement precision, etc[4]. Micro-matter tracer technology is to inject tracer into the well according to the rule to sampling[5], and then using inductively coupled plasma mass spectrometry to analyze the sample, and draw out the production curve of each well. Reservoir parameters are analyzed by the characteristics of production curve. Finally, the study of reservoir heterogeneity and distribution was studied through a comprehensive analysis of mathematical models and interpretation.

ZeroWash Tracer technology is an advanced technology developed by American Corelab company, and it is mainly used in fracturing process. It can join three different energy levels of tracer to the fracturing fluid and pumped into formation, to monitor wellbore proppant distribution and identify fracture height, in order to evaluate fracturing effects.

EXPERIMENTAL SECTION

2.1. Principle and Characteristic



ZeroWash Tracer using a medium strength ceramic proppant, and in the production of the proppant, non-radioactive heavy metal (such as antimony oxide or iridium, or scandium oxide) will be injected. Standard hybrid technology are used to mix metal salt and clay, add water in the mixture made spherical as figure 1, and then baked in the kiln, cooled and sieved, graded according to size, cleaned and polished to remove traces of dust. After sieving again, using neutron bombardment to active the heavy metal material, it can be put into application after packaging.

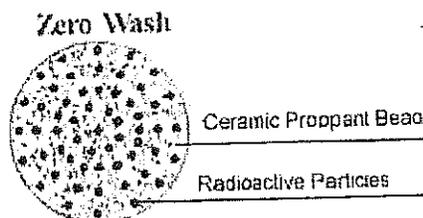


Fig. 1. Zero Wash Coating tracer structure diagram

NaI scintillation detector is used by Tracer imaging technology to detect gamma radiation, and electron multiplier photo tube to measure gamma and to send it to the download multiband analyzer, which can store and sort according to different energy level. According to tracer particles distance and isotope infusion concentration, the amount of proppant can be determined within the scope of detecting. According to the theory of cylindrical around wellbore and the number of proppant and size of cylinder, the assuming proppant is limited to a certain crack, and fracture proppant concentration inside can be calculated. The dimension of the theory cylinder was determined by the vertical resolution of test-tool and depth of detection. Detection of the depth was in proportion to isotope radiation energy level.

In the fracturing process, prepad fluid and carrying fluid are pumped in the first half and second half, with three different kinds of tracers to pump into the formation. After fracturing and flowback, in order to determine the fracture height and width, test system of monitoring tools are used to measure tracer radioactivity.

2.2. ZeroWash Tracer Fracture Monitoring design

ZeroWash Tracer fracture monitoring technology use low pressure creep displacement pump to inject, the principle and characteristics are as follows: using the roller axial of low pressure creep displacement pump to move along the pipe and drive the fluid in the tube. The main advantage of this pump is the fluid could not contact the pump body, and the pump would not be polluted, and there is no risk of dismantling the pump, time delay and cost waste when pump components are needed to be replaced. What's more, low pressure injection can eliminate various danger of high pressure injection during injection, it can be more flexible to change or increase the tracer.

In the fracturing process, three different radioactive tracers are pumped in three different stages, and different tracers are marked with different colors on the logging map, Sb-124 in blue, Sc-46 in yellow, Ir-192 in red. The injection procedure design is as table 1 showed.

Table 1. The tracer injection procedure design

Stage	Liquid type	Output value m ³ /min	Liquid volume m ³	Concentration of proppant kg/m ³	tracer	Concentration of tracer mCi	Cumulative time Min:Sec
prepad fluid	slickwater	0.3-0.5	6.2				
Packer	slickwater	0.5-1.6	1.5				
Pnd fluid	Crosslinked guar gum	1.6	16.0		Sb-124	5	10:13
	Crosslinked guar gum	1.6	8.0	243	Sc-46	5	15:42
	Crosslinked guar gum	1.6	12.0	405	Sc-46	5	24:25
	Crosslinked guar gum	1.8	23.0	486	Ir-192	15	39:41
	Crosslinked guar gum	1.8	14.0	567	Ir-192	10	49:14
Slurry fluid	Crosslinked guar gum	1.8	14.0	567	Ir-192	10	49:14
	Crosslinked guar gum	1.8	10.0	648	Ir-192	10	56:14
Displacement fluid	guar gum based fluid	1.6	6.0				59:59

RESULTS AND DISCUSSION

3.1. Test Results

The well is a production well located in a structure of Changqing Oilfield. The fractured layer is CL3, and its thickness is 9.0 m. The reservoir porosity is 8%, and the permeability is 0.04 mD. Sand fracturing technology was

applied in this well. The perforation interval was from 2017.0m to 2020.0 m, and 40m³ quartz sand was pumped into the well with a pump rate of 2.4 m³/min. Fig.2 shows the result of tracer fracture monitoring technique used in this well. Different colours represent different gamma values of the tracers. The tracer which was pumped at the end of the injection always exists in the near wellbore place. As a result, there may be one, two or three tracer curves, and it depends on how many kinds of tracers were used in this well. The picture in the left shows the logging date, perforation interval, formation, and tracer profiles along the wellbore. The right one is a mirror symmetry picture showing a double wings fracture system. The fracture height is about 11m from the monitoring result.

3.2. Discussion

Analysis of fracturing tracer test result as following:

- (1) The mud shale from 2010m to 2015m makes the fracture cannot be further extended upward.
- (2) The radioactivity of tracers in pad fluid between 2016m and 2019m is very strong. It means that large number of fracturing fluid leaked into the formation or the fracture near wellbore distorted.
- (3) The distribution of proppant changes over time shows that the placement of proppant in early time is the same as that in late time.
- (4) The fracture height: from 2015m to 2026m.
- (5) At 2030 m, the fracture extends down only at the preflush stage. It indicates that cement channeling occurred in that place.
- (6) In general, the perforated layer has been fully fractured.

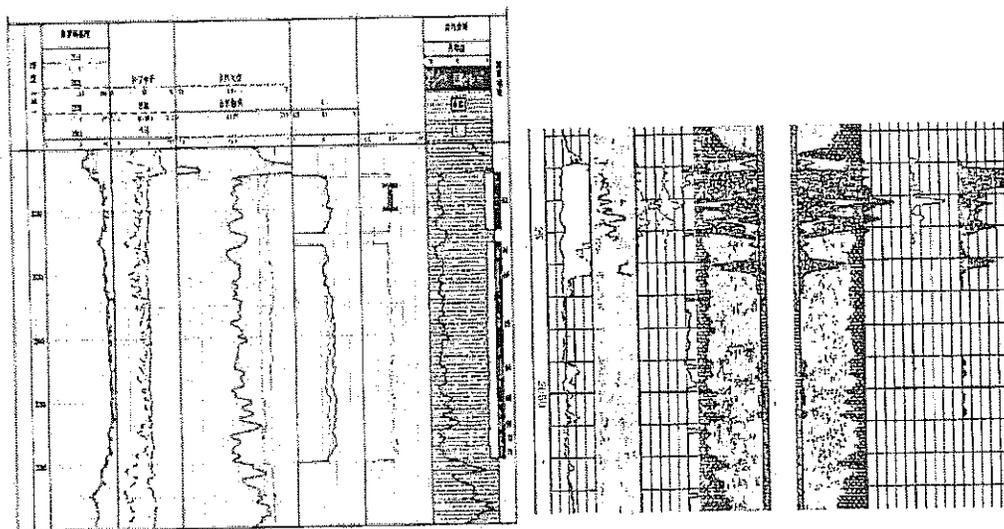


Fig.2. Integrated logging curve and diagnostic chart of tracer tests

CONCLUSION

- (1) ZeroWash Tracer is helpful to recognize the fracture geometry and distribution, and to identify the scale of fracturing. It is benefit to optimize the fracturing design and fracturing process improvement.
- (2) ZeroWash Tracer diagnostics is helpful to optimize reservoir parameters and to build a stimulation model. It is the foundation to improve the effectiveness of fracturing.
- (3) Field application proved that ZeroWash Tracer technology was an effective diagnostic technique for well fracturing.

Acknowledgements

The support of Ph.D. Programs Foundation of Ministry of Education of China (No. 20114220110001) and the National Natural Science Foundation of China (No. 61170031) are gratefully acknowledged.

REFERENCES

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- [3] WU Di, HAN Yi-long, and FAN Song-wen, *Journal of Isotopes*, Vol.16, No.1, 19-22, 2003
- [4] WANG Zuoying, ZHANG Peixin, and GAO Yuan, *Journal of Isotopes*, 2000, Vol.13, No.1, 18-21
- [5] Xu Jiabin, *Well Testing*, 2008, Vol.12, No.4, 20-22,

Sostar, Janelle K

From: Kendra L. Smith <klsmith@smithbutzlaw.com>
Sent: Thursday, March 24, 2016 1:00 PM
To: DC, OpenRecords
Subject: Right to Know Law Appeal
Attachments: Central Office RTK Appeal Part 1.pdf; Central Office RTK Appeal Part 2 - Position Statement.pdf

Dear Sir/Madam,

Please find attached a Right To Know Law Appeal. Please contact me with any questions.

Kendra L. Smith, Esq.
Smith Butz, LLC
Attorneys at Law
125 Technology Drive, Suite 202
Bailey Center I, Southpointe
Canonsburg, PA 15317
Phone: (724) 745-5121
Fax: (724) 745-5125
Email: klsmith@smithbutzlaw.com
Web: www.smithbutzlaw.com

CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. This email is intended to be reviewed by only the individual or organization named above. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein is prohibited. If you have received this email in error, please notify the sender by return email and delete this email from your system. Thank you.

Exhibit A

2



March 25, 2016

Via E-Mail only:

Kendra L. Smith, Esquire
Smith Butz, LLC
125 Technology Drive
Canonsburg, PA 15317
klsmith@smithbutzlaw.com

Via E-Mail only:

Dawn Schaef
Agency Open Records Officer
PA Dept. of Environmental Protection
Rachel Carson State Office Bldg.
PO Box 8473
Harrisburg, PA 17105
EP-DEP-RTK@pa.gov

RE: OFFICIAL NOTICE OF APPEAL – DOCKET #AP 2016-0587

Dear Parties:

Please review this information carefully as it affects your legal rights.

The Office of Open Records (“OOR”) received this appeal under the Right-to-Know Law (“RTKL”), 65 P.S. §§ 67.101, *et seq.* on March 24, 2016. This letter describes the appeal process. A binding Final Determination will be issued pursuant to the timeline required by the RTKL. In most cases, that means within 30 calendar days.

OOR Mediation: This is a voluntary, informal process to help parties reach a mutually agreeable settlement on records disputes before the OOR. To participate in mediation, both parties must agree in writing. If mediation is unsuccessful, both parties will be able to make submissions to the OOR, and the OOR will have 30 calendar days from the conclusion of the mediation process to issue a Final Determination.

Note to Parties: Statements of fact must be supported by an affidavit or attestation made under penalty of perjury by a person with actual knowledge. Any factual statements or allegations submitted without an affidavit will not be considered. The agency has the burden of proving that records are exempt from public access (*see* 65 P.S. § 67.708(a)(1)). **To meet this burden, the agency must provide evidence to the OOR.** The law requires the agency position to be supported by sufficient facts *and* citation to all relevant sections of the RTKL, case law, and OOR Final Determinations. An affidavit or attestation is required to show that records do not exist. Blank sample affidavits are available on the OOR’s website.

Submissions to OOR: Both parties may submit information and legal argument to support their positions by **11:59:59 p.m. seven (7) business days from the date of this letter.** *Submissions sent via postal mail and received after 5:00 p.m. will be treated as having been received the next business day.* The agency may assert exemptions on appeal even if it did not assert them when the request was denied (*Levy v. Senate of Pa.*, 65 A.3d 361 (Pa. 2013)).

Include the docket number above on all submissions related to this appeal. Also, any information you provide to the OOR must be provided to all parties involved in this appeal. Information shared with the OOR that is not also shared with all parties will not be considered.

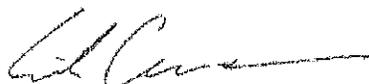
Agency Must Notify Third Parties: If records affect a legal or security interest of an employee of the agency; contain confidential, proprietary or trademarked records of a person or business entity; or are held by a contractor or vendor, **the agency must notify such parties of this appeal immediately and provide proof of that notice to the OOR within seven (7) business days from the date on this letter.** Such notice must be made by (1) providing a copy of all documents included with this letter; and (2) advising that interested persons may request to participate in this appeal (*see* 65 P.S. § 67.1101(c)).

Commonwealth Court has held that “the burden [is] on third-party contractors ... to prove by a preponderance of the evidence that the [requested] records are exempt.” (*Allegheny County Dep’t of Admin. Servs. v. A Second Chance, Inc.*, 13 A.3d 1025, 1042 (Pa. Commw. Ct. 2011)). **Failure of a third-party contractor to participate in an appeal before the OOR may be construed as a waiver of objections regarding release of the requested records.**

Law Enforcement Records of Local Agencies: District Attorneys must appoint Appeals Officers to hear appeals regarding criminal investigative records in the possession of a local law enforcement agency. If access to records was denied in part on that basis, the Requester should consider filing a concurrent appeal with the District Attorney of the relevant county.

If you have any questions about the appeal process, please contact the assigned Appeals Officer (contact information is enclosed) – and be sure to provide a copy of any correspondence to all other parties involved in this appeal.

Sincerely,



Erik Arneson
Executive Director

Enc.: Assigned Appeals Officer contact information
Entire appeal as filed with OOR

REQUEST TO PARTICIPATE BEFORE THE OOR

Please accept this as a Request to Participate in a currently pending appeal before the Office of Open Records. The statements made herein and in any attachments are true and correct to the best of my knowledge, information and belief. I understand this statement is made subject to the penalties of 18 Pa.C.S. § 4904, relating to unsworn falsifications to authorities.

NOTE: The requester filing the appeal with the OOR is a named party in the proceeding and is NOT required to complete this form.

OOR Docket No: _____

Today's date: _____

Name: _____

IF YOU ARE OBJECTING TO THE DISCLOSURE OF YOUR HOME ADDRESS, DO NOT PROVIDE THE OFFICE OF OPEN RECORDS WITH YOUR HOME ADDRESS. PROVIDE AN ALTERNATE ADDRESS IF YOU DO NOT HAVE ACCESS TO E-MAIL.

Address/City/State/Zip _____

E-mail _____

Fax Number: _____

Name of Requester: _____

Address/City/State/Zip _____

Telephone/Fax Number: _____ / _____

E-mail _____

Name of Agency: _____

Address/City/State/Zip _____

Telephone/Fax Number: _____ / _____

E-mail _____

Record at issue: _____

I have a direct interest in the record(s) at issue as (check all that apply):

- An employee of the agency
- The owner of a record containing confidential or proprietary information or trademarked records
- A contractor or vendor
- Other: (attach additional pages if necessary) _____

I have attached a copy of all evidence and arguments I wish to submit in support of my position.

Respectfully submitted, _____ (must be signed)

Please submit this form to the Appeals Officer assigned to the appeal. Remember to copy all parties on this correspondence. The Office of Open Records will not consider direct interest filings submitted after a Final Determination has been issued in the appeal.



pennsylvania

OFFICE OF OPEN RECORDS

APPEALS OFFICER:

Jill S. Wolfe, Esquire

CONTACT INFORMATION:

Commonwealth of Pennsylvania
Office of Open Records
Commonwealth Keystone Building
400 North Street, 4th Floor
Harrisburg, PA 17120-0225

PHONE:

(717) 346-9903

FACSIMILE:

(717) 425-5343

E-MAIL:

JiWolfe@pa.gov

**Preferred method of contact
and submission of information:**

EMAIL

Please direct submissions and correspondence related to this appeal to the above Appeals Officer. Please include the case name and docket number on all submissions.

You must copy the other party on everything you submit to the OOR.

The OOR website, <http://openrecords.pa.gov>, is searchable and both parties are encouraged to review prior final determinations involving similar records and fees that may impact this appeal.

Exhibit B

Exhibit B

1



RECEIVED

MAR 29 2016

OFFICE OF OPEN RECORDS

RIGHT-TO-KNOW LAW ("RTKL")
APPEAL OF DENIAL, PARTIAL DENIAL, OR DEEMED DENIAL

Office of Open Records ("OOR")

Email: openrecords@pa.gov

Fax: (717) 425-5343

Commonwealth Keystone Building

400 North St., 4th Floor

Harrisburg, PA 17120-0225

Today's Date: March 29, 2016

Requester Name(s): Kendra L. Smith, Esq.

Address/City/State/Zip: 125 Technology Drive, Suite 202, Bailey Center I, Canonsburg, PA 15317

Email: klsmith@smithbutzlaw.com Phone/Fax: 724-745-5121 / 724-745-5125

Request Submitted to Agency Via: [X] Email [] Mail [] Fax [] In-Person (check only one)

Date of Request: February 1, 2016 Date of Response: March 9, 2016 [] Check if no response

Name of Agency: Pennsylvania Department of Environmental Protection - Northeast Region

Address/City/State/Zip: 2 Public Square, Wilkes-Barre, PA 18701

Email: N.A Phone/Fax: 570-826-2511 / 570-830-3054

Name & Title of Person Who Denied Request (if any): Colleen Stutzman, Assistant Regional Director

I was denied access to the following records (REQUIRED. Use additional pages if necessary): Any and all documents pursuant to the request. The Department's Northeast Regional Office claims that it does not have any records responsive to the request. The position statement attached hereto outlines the denial in greater detail.

I requested the listed records from the Agency named above. By signing below, I am appealing the Agency's denial, partial denial, or deemed denial because the requested records are public records in the possession, custody or control of the Agency; the records do not qualify for any exemptions under § 708 of the RTKL, are not protected by a privilege, and are not exempt under any Federal or State law or regulation; and the request was sufficiently specific.

I am also appealing for the following reasons (Optional. Use additional pages if necessary): See the attached Position Statement.

- [X] I have attached a copy of my request for records. (REQUIRED)
[X] I have attached a copy of all responses from the Agency regarding my request. (REQUIRED)
[X] I have attached any letters or notices extending the Agency's time to respond to my request.
[] I hereby agree to permit the OOR an additional 30 days to issue a final order.
[] I am interested in resolving this issue through OOR mediation. This stays the initial OOR deadline for the issuance of a final determination. If mediation is unsuccessful, the OOR has 30 days from the conclusion of the mediation process to issue a final determination.

Respectfully submitted, [Signature] (SIGNATURE REQUIRED)

You should provide the Agency with a copy of this form and any documents you submit to the OOR.

DEP Right-to-Know Law Record Request Form

Business Hours: 8:00 am - 4:30 pm (RTK requests received after 4:30 pm are considered received the next business day)
Mail to: DEP Open Records Officer ("AORO"), DEP/BOS, PO Box 8473, Harrisburg, PA 17105-8473.
Or Fax to: 717-705-8023
Or Email to: EP-DEP-RTK@pa.gov *Request sent to any other email will not be deemed a RTKL request.
Contact: 717-787-2043

Name of Requestor (or Anonymous): Kendra L. Smith, Esq.
Name of Company (or N/A): Smith Butz, LLC
Requestor's Street Address: 125 Technology Drive, Suite 202, Bailey Center I
Requestor's City/State/Zip Code: Canonsburg, PA 15317
Requestor's Telephone Number: (724) 745-5121
Requestor's Email Address: klsmith@smithbutzlaw.com

Records being requested (please sufficiently describe the record(s) requested so that they are identifiable to Department staff.):

Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP
Name of Individual / Company for records being requested (including former names)

Yeager Drill Site

Facility Name for requested records (if different than Company Name)

McAdams Road, Washington, PA 15301

Street Address (including zip code)

Washington

County(ies)

Amwell

Municipality(ies)

Additional information to assist with search and retrieval of responsive records (e.g. permit no.(s); dates or timeframe of records requested; programs of interest; geographic area):

Please see, "Attachment 1," attached hereto.

FORM OF RECORD PRODUCTION – check appropriate response:

REQUESTING FILE REVIEW ACCESS:

Seeking access, review and self copying of records is at a reduced cost of \$.15 per page.

YES

NO

REQUESTING DUPLICATION AND MAILING RECORDS:

Agency copying of records is at a cost of \$.25 per page

YES

NO

REQUESTING CERTIFICATION OF RECORDS:

I WANT DEP TO CERTIFY RECORDS (AT A COST OF \$5.00 PER REQUEST):

YES

PENNSYLVANIA – OFFICE OF OPEN RECORDS
RIGHT-TO-KNOW REQUEST

“ATTACHMENT 1”

Any and all approvals, permits, licenses/licensures, applications for permits and/or licenses, reciprocity letters, reciprocity licenses, reciprocity agreements and/or reciprocity arrangements, including, but not limited to all licenses issued by the Pennsylvania Department of Environmental Protection (“PA DEP”) to Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP (hereinafter, “Protechnics”) for use, storage and possession of radioactive materials and/or other licensed material. Additionally, this request seeks any and all investigation reports, Notices of Violation(s), Consent Order and Agreement(s) issued to Protechnics by the PA DEP and/or between Protechnics and the PA DEP for any and all work or services performed by Protechnics at any natural gas well site in the Commonwealth of Pennsylvania. Included in this request is a request for copies of all Notices of Violation issued by the PA DEP to Protechnics, including but not limited to Notices of Violation dated 06/15/10, 01/28/10, 11/26/13, 09/13/13 and 10/14/13, Violation Numbers 677913, 677915, 677914, 682834, 682833, 682829, 682835 and all corresponding inspection reports, field notes and other related writings. Further, this request seeks any and all Consent Order and Agreements between the PA DEP and Protechnics, including, but not limited to, Consent Orders and Agreements dated November 2, 2013 and November 2, 2010.

Additionally, this request includes a request for copies of all enforcement activity taken by the PA DEP against Protechnics, including but not limited to Enforcement ID Number 305057, 259202 and 263973, as well as all inspection reports completed by the PA DEP regarding Protechnics, including, but not limited to, Inspection ID Numbers 1891418, 1919964, 2147772, 2204156 and 2221258.

This request further seeks any and all Radioactive Tracer Well Site Agreements made between Protechnics and any well site operator(s) for each and every well traced in the Commonwealth of Pennsylvania that is or was submitted to the PA DEP, including, but not limited to, the April 7, 2013 Radioactive Tracer Well Site Agreement between Protechnics and a well operator.

In addition to the above, this request seeks any and all notifications submitted to the PA DEP by Protechnics or the associated operator or subcontractor regarding Protechnics confirmation that licensed material, including, but not limited to, radioactive material, was returned to the surface at any well site in which Protechnics operated/performed work or services in the Commonwealth of Pennsylvania.

Additionally, this request seeks any and all documents, correspondence, e-mails and any other communication(s) between Protechnics and the PA DEP and/or Range Resources and the PA DEP regarding Protechnics and any and all work/services performed in the Commonwealth of Pennsylvania by Protechnics.

Further, this request seeks any and all MSDS/SDS (material data safety sheets and safety data sheets) in the possession of the PA DEP regarding any and all products utilized by Protechnics at

any well site in Pennsylvania, including, but not limited to, all MSDS/SDS for Protechnics Radioactive Tracer Products, as well as any and all Chemical Frac Tracer ("CFT") products, including, but not limited to, CFT 1000, CFT 1100, CFT 1200, CFT 1300, CFT 2000, CFT 2100, CFT 1900, CFT 1700.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

February 8, 2016

VIA EMAIL

Kendra L. Smith, Esquire
Smith Butz, LLC
125 Technology Drive, Suite 202, Bailey Center 1
Canonsburg, PA 15317
klsmith@smithbutzlaw.com

Re: Right-to-Know Request Numbers: 1400-16-071 (CO), 4100-16-0027 (SE), 4200-16-023 (NE), 4300-16-019 (SC), 4400-16-010 (NC), 4500-16-018 (SW), 4600-16-029 (NW)

Dear Attorney Smith:

On February 1, 2016, the open-records officer of the Department of Environmental Protection (Department) received your written request for records and assigned it the tracking numbers listed above. The subject of your request requires its assignment to the Department's Central Office (CO) and the Southeast (SE), Northeast (NE), Southcentral (SC), Northcentral (NC), Southwest (SW), and Northwest (NW) Regional Offices. Each office has its own tracking number and may respond separately to your request for records in their possession. For purposes of this letter, the Department's CO is initially responding on behalf of all assigned offices under the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-67.3104 (RTKL).

You requested records for Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP located at the Yeager Drill Site, McAdams Road, Washington, Pennsylvania. You are seeking:

- Any and all approvals, permits, licenses/licensures, applications for permits and/or licenses, reciprocity letters, reciprocity licenses, reciprocity agreements and/or reciprocity arrangements, including, but not limited to all licenses issued by the Department to Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP (hereinafter, "Protechnics") for use, storage and possession of radioactive materials and/or other licensed material. Additionally, this request seeks any and all investigation reports, Notices of Violation(s), Consent Order and Agreement(s) issued to Protechnics by the Department and/or between Protechnics and the Department for any and all work or services performed by Protechnics at any natural gas well site in the Commonwealth of Pennsylvania. Included in this request is a request for copies of all Notices of Violation issued by the Department to Protechnics, including but not limited to Notices of Violation dated June 15, 2010, January 28, 2010, November 26, 2013, September 13, 2013 and October 14, 2013, Violation Numbers 677913, 677915, 677914, 682834, 682833, 682829, 682835 and all corresponding inspection reports, field notes and other related writings. Further, this request seeks any and all Consent Order and Agreements between the Department and Protechnics, including, but not limited to, Consent Orders and Agreements dated November 2, 2013 and November 2, 2010.

- Copies of all enforcement activity taken by the Department against Protechnics, including but not limited to Enforcement ID Numbers 305057, 259202 and 263973, as well as all inspection reports completed by the Department regarding Protechnics, including, but not limited to, Inspection ID Numbers 1891418, 1919964, 2147772, 2204156 and 2221258.
- Any and all Radioactive Tracer Well Site Agreements made between Protechnics and any well site operator(s) for each and every well traced in the Commonwealth of Pennsylvania that is or was submitted to the Department, including, but not limited to, the April 7, 2013, Radioactive Tracer Well Site Agreement between Protechnics and a well operator.
- Any and all notifications submitted to the Department by Protechnics or the associated operator or subcontractor regarding Protechnics confirmation that licensed material, including, but not limited to, radioactive material, was returned to the surface at any well site in which Protechnics operated/performed work or services in the Commonwealth of Pennsylvania.
- Any and all documents, correspondence, e-mails and any other communication(s) between Protechnics and the Department and/or Range Resources and the Department regarding Protechnics and any and all work/services performed in the Commonwealth of Pennsylvania by Protechnics.
- Any and all MSDS/SDS (material data safety sheets and safety data sheets) in the possession of the Department regarding any and all products utilized by Protechnics at any well site in Pennsylvania, including, but not limited to, all MSDS/SDS for Protechnics Radioactive Tracer Products, as well as any and all Chemical Frac Tracer ("CFT") products, including, but not limited to, CFT 1000, CFT 1100, CFT 1200, CFT 1300, CFT 2000, CFT 2100, CFT 1900, CFT 1700.

By your email on February 1, 2016, to Department Legal Counsel, Edward Stokan, you amended your RTKL request to the following:

- All drill sites in the Commonwealth, including but not limited to the Yeager Drill site as indicated in attachment 1 of the original request.

Under the RTKL, a written response to your request is due on or before February 8, 2016.

This is an interim response. Under the provisions of 65 P.S. §67.902(b)(2), you are hereby notified that your request is being reviewed for the reasons listed below and the Department will require up to an additional 30 days, until March 9, 2016, to issue a final response to your request.

- Compliance with your request may require the redaction of certain information that is not subject to access under RTKL.
- Your request is under legal review to determine whether a requested record is a "public record" for purposes of the RTKL.

- o The extent or nature of the request precludes a response within the required time period.

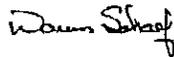
If you have requested an estimate of cost, the Department will only advise of prepayment costs if record production exceeds \$100.00. 65 P.S. § 1307(h). Otherwise, requested records will be produced and billed accordingly. If you are concerned about copying costs, you may wish to withdraw this request and conduct an informal file review. An informal file review allows self-copying at the reduced rate of \$.15 per page for standard size pages and provides you the opportunity to review and copy only those records you desire rather than all records the Department deems responsive to your request.

Further information about informal files reviews can be found at: <http://www.dep.pa.gov/Citizens/PublicRecords/Pages/Informal-File-Review.aspx#VpAasxwo7X4>. An informal file review does not preclude you from filing a RTKL request at a later date.

Lastly, if you elected to have records copied and mailed to you, the estimated or actual total for any fees owed when the record becomes available will be included in the Department's subsequent response. Prepayment is required before providing access when the estimated cost to fulfill a request exceeds \$100.00. 65 P.S. § 67.1307(h).

If you have any questions regarding this letter, please contact me.

Sincerely,



Dawn Schaef
Agency Open Records Officer

cc: RTK CO Legal via email
RTK CO COM, OG, RP via email
RTK SE NE SC NC SW NW via email

[Print](#) | [Close Window](#)

Subject: FW: New Right-to-Know Law Record Request Received - Kendra L. Smith, Esq. (565)
From: "EP, Right-to-Know" <EP-DEP-RTK@pa.gov>
Date: Mon, Feb 01, 2016 10:53 am
To: "klsmith@smithbutzlaw.com" <klsmith@smithbutzlaw.com>
Cc: "EP, Right-to-Know" <EP-DEP-RTK@pa.gov>
Attach: RTKPDF.565.pdf

Attorney Smith-
Your attachment was not attached to your RTKL request. Please reply back to this email with your attachment. Thank you.

Agency Open Records Office
Department of Environmental Protection | Bureau of Office Services
Rachel Carson State Office Building
400 Market St | Hbg PA 17101
Phone: 717.787.2043 | Fax: 717.705.8023
www.dep.pa.gov

-----Original Message-----
From: ep-dep-rtk@pa.gov [mailto:ep-dep-rtk@pa.gov]
Sent: Monday, February 01, 2016 10:28 AM
To: EP, Right-to-Know
Subject: New Right-to-Know Law Record Request Received - Kendra L. Smith, Esq. (565)

A new Right-to-Know Law Record Request has been Received. A copy of the request has been attached to this e-mail.

Subject: Your Right-to-Know Law Request Has Been Received by DEP
From: ep-dep-rtk@pa.gov
Date: Mon, Feb 01, 2016 10:28 am
To: klsmith@smithbutzlaw.com
Attach: RTKPDF.565.pdf

Thank you for your Right-to-Know Law submission that will be forwarded to the Agency Open Records Officer (AORO) for processing.

If you wish to modify a pending Right-to-Know Law request, do not complete another online form. A second online submittal will not modify your original request. Instead, please send an e-mail to ep-dep-rtk@pa.gov and we will assist you with modifying your original request.

Please note that your request is deemed received on the Department's next business day if:

- Your request was submitted after 4:30 p.m. Monday-Friday,
- Your request was submitted during a weekend,
- Your request was submitted on a holiday observance recognized by the Commonwealth, or
- Your request was submitted any time Executive Offices are closed as a result of weather or any other emergency.

The Department will contact you no later than five business days from the receipt of your request as to its status. If you have any further questions on this process, please visit the Department's webpage at:
http://www.portal.state.pa.us/portal/server.pt/community/public_records/19207

Thank you.

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[Print](#) | [Close Window](#)

Subject: Right-to-Know Request Number: 4200-16-023 (NE)
From: "Ksiazek, Ruth" <rksiazek@pa.gov>
Date: Wed, Mar 09, 2016 12:42 pm
To: "klsmith@smithbutzlaw.com" <klsmith@smithbutzlaw.com>
Cc: "Stutzman, Colleen" <cstutzman@pa.gov>
Attach: 2016_03_09_11_28_52.pdf

Dear Requestor:

Attached is response to your Right-to-Know Request Numbers 4200-16-023 (NE). If you have any questions, please contact Colleen Stutzman at cstutzman@pa.gov.

Ruth Ksiazek | Secretarial Supervisor
Department of Environmental Protection | Northeast Regional Office
2 Public Square | Wilkes-Barre, PA 18701-1915
Phone: 570.830.3052 | Fax: 570.830.3054
www.dep.pa.gov

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pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHEAST REGIONAL OFFICE

March 9, 2016

VIA EMAIL

Kendra L. Smith, Esquire
Smith Butz, LLC
125 Technology Drive, Suite 202, Bailey Center 1
Canonsburg, PA 15317
klsmith@smithbutzlaw.com

Re: Right-to-Know Request Numbers: 1400-16-071 (CO), 4100-16-0027 (SE), 4200-16-023 (NE), 4300-16-019 (SC), 4400-16-010 (NC), 4500-16-018 (SW), 4600-16-029 (NW)

Dear Attorney Smith:

On February 1, 2016, the open-records officer of the Department of Environmental Protection (Department) received your written request for records and assigned it the tracking numbers listed above. The subject of your request required that it be assigned to the Department's Central Office (CO), and the Southeast (SE), Northeast (NE), Southcentral (SC), Northcentral (NC), Southwest (SW), and the Northwest (NW) Regional Offices. For purposes of this letter, the Department's NE Regional Office is responding on its own behalf as to your request under the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-67.3104 (RTKL). You will receive final responses under separate cover from the other assigned offices.

You requested records for Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP located at the Yeager Drill Site, McAdams Road, Washington, Pennsylvania. You are seeking:

- Any and all approvals, permits, licenses/licensures, applications for permits and/or licenses, reciprocity letters, reciprocity licenses, reciprocity agreements and/or reciprocity arrangements, including, but not limited to all licenses issued by the Department to Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP (hereinafter, "Protechnics") for use, storage and possession of radioactive materials and/or other licensed material. Additionally, this request seeks any and all investigation reports, Notices of Violation(s), Consent Order and Agreement(s) issued to Protechnics by the Department and/or between Protechnics and the Department for any and all work or services performed by Protechnics at any natural gas well site in the Commonwealth of Pennsylvania. Included in this request is a request for copies of all Notices of Violation issued by the Department to Protechnics, including but not limited to Notices of Violation dated June 15, 2010, January 28, 2010, November 26, 2013, September 13, 2013 and October 14, 2013, Violation Numbers 677913, 677915, 677914, 682834, 682833, 682829, 682835 and all corresponding inspection reports, field notes and other related writings. Further, this request seeks any and all Consent Order and Agreements between

the Department and Protechnics, including, but not limited to, Consent Orders and Agreements dated November 2, 2013 and November 2, 2010.

- Copies of all enforcement activity taken by the Department against Protechnics, including but not limited to Enforcement ID Numbers 305057, 259202 and 263973, as well as all inspection reports completed by the Department regarding Protechnics, including, but not limited to, Inspection ID Numbers 1891418, 1919964, 2147772, 2204156 and 2221258.
- Any and all Radioactive Tracer Well Site Agreements made between Protechnics and any well site operator(s) for each and every well traced in the Commonwealth of Pennsylvania that is or was submitted to the Department, including, but not limited to, the April 7, 2013, Radioactive Tracer Well Site Agreement between Protechnics and a well operator.
- Any and all notifications submitted to the Department by Protechnics or the associated operator or subcontractor regarding Protechnics confirmation that licensed material, including, but not limited to, radioactive material, was returned to the surface at any well site in which Protechnics operated/performed work or services in the Commonwealth of Pennsylvania.
- Any and all documents, correspondence, e-mails and any other communication(s) between Protechnics and the Department and/or Range Resources and the Department regarding Protechnics and any and all work/services performed in the Commonwealth of Pennsylvania by Protechnics.
- Any and all MSDS/SDS (material data safety sheets and safety data sheets) in the possession of the Department regarding any and all products utilized by Protechnics at any well site in Pennsylvania, including, but not limited to, all MSDS/SDS for Protechnics Radioactive Tracer Products, as well as any and all Chemical Frac Tracer ("CFT") products, including, but not limited to, CFT 1000, CFT 1100, CFT 1200, CFT 1300, CFT 2000, CFT 2100, CFT 1900, CFT 1700.

By your email on February 3, 2016, to Department Legal Counsel, Edward Stokan, you amended your RTKL request to the following:

- All drill sites in the Commonwealth including, but not limited to, the Yeager Drill site as indicated in attachment 1 of the original request.

An initial response to your request was due on February 8, 2016. On February 8, 2016, you were notified that the Department required an additional 30 days, until March 9, 2016, to respond to your request.

The Department's NE Regional Office does not have the records that you request in its possession, under its custody or in its control.

Pursuant to the Office of Open Records' Final Decision in *Jenkins v. Pa. Dep't of State*, No. AP-2009-0065 (Pa. O.O.R.D, April 2, 2009), "It is not a denial of access when an agency does not possess records and [there is no] legal obligation to obtain them." Further, an agency is not required "to create a record which does not currently exist or to compile, maintain, format or organize a record in a manner in which the agency does not currently compile, maintain, format or organize the record." 65 P.S. § 67.705.

However, you have a right to appeal this response in writing to the Executive Director, Office of Open Records (OOR), Commonwealth Keystone Building, 400 North Street, 4th Floor, Harrisburg, Pennsylvania 17120. If you choose to file an appeal you must do so within 15 business days of the mailing date of this response and send to the OOR:

- 1) all Department responses;
- 2) your request; and
- 3) the reason why you think the record exists under the custody or control of the Department.

Also, the OOR has an appeal form available on the OOR website at:
<http://www.openrecords.pa.gov/Using-the-RTKL/Pages/RTKLForms.aspx#VpQKEBwo7X6>

Sincerely,



Colleen Stutzman
Assistant Regional Director
Northeast Regional Office

**POSITION STATEMENT IN SUPPORT OF APPEAL TO DENIAL OF RTKL
REQUEST 4100-16-023 (NE)**

Kendra L. Smith, Esquire (the "Requester") submits this Position Statement in support of this Appeal of the Department of Environmental Protection's ("Department") March 9, 2016 denial of Right to Know Request 4200-16-0023 (NE).

On February 1, 2016, the Requester submitted a Right to Know Request ("Request") to the Department seeking records related to activities of Core Laboratories d/b/a ProTechnics, Division of Core Laboratories at the Yeager Drill site in Amwell Township, Washington County, Pennsylvania where ProTechnics was hired to inject radioactive tracers and to perform radioactive tracing associated with hydraulic fracturing. It appears that the Department transmitted this Request to its regional offices, each of which transmitted a response to the Requester. These responses were substantially the same but, because they were assigned separate Request Numbers by the Department, they will be appealed separately. This appeal relates only to the Department's Northeast region response, identified by the Northeast region as No. 4200-16-0023 (NE).

In its Response the Northeast region office responds that it "does not have the records that you request in its possession, under its custody or in its control." The Northeast region's assertion that it possesses no responsive records is dubious in light of the responses to this same Request by the Department's other regional offices, which refused to provide relevant records based on a variety of ill-founded and inapplicable claimed exemptions under the Right to Know Law, as are more fully addressed in the individual appeals to each of the Department's regional offices' determinations. Essentially, the Northeast region's response that it possesses no responsive records cannot be credited because the Department's other offices' responses to the Request were grossly deficient, misapplied the Right to Know Law exemptions and contained information regarding ProTechnics from other Department regional offices other than the region responding to the

request. As such, the Requester challenges the Department's assertion that its Northeast regional office possesses no records responsive to the Request.

In addition, Requester challenges the Northeast regional office's March 9, 2016 response as ProTechnics was the only company in the Commonwealth of Pennsylvania utilizing radioactive tracing technology. See, Program Managers' Conference Call Minutes, attached hereto as **Attachment 1**. The Northeast region has numerous oil and gas wells that have been fractured wherein ProTechnics would have been called upon to utilize its unique radioactive tracing technology. Further, when using such radioactive tracer technology, ProTechnics is required to complete a "Radioactive Tracer or Tracer Well Site Agreement" between it and the oil and gas well operator(s). As such, the Northeast Department would have in its files, at a minimum, all Radioactive Tracer or Tracer Well Site Agreements between ProTechnics and the well site owner/operator as have been produced, albeit heavily redacted, by other regional department offices. See, Radioactive Tracer Well Site Agreement and Tracer Well Site Agreement, attached hereto as **Attachment 2**. Such agreements are required to be filed with the Department. Further, the Northeast region should have in its record a copy of ProTechnics' United States Nuclear Regulatory License, a PA Reciprocal License issued by the PA Department of Radiation, or a PA general license to use radioactive materials in the Commonwealth of Pennsylvania issued by the PA Department of Radiation, if in fact ProTechnics utilized radioactive tracers on any of the oil and gas wells fractured in the Northeast region. For these reasons Requester challenges the Northeast's response to the Request.

Program Managers' Conference Call

Wednesday, June 16, 2010

9:30 – 11:30 am

MINUTES

Participants

- CO: Steve Socash, Laura Henry, Joe Sieber, Renee Bartholomew (BWM)
Dave Allard, Jim Barnhart (BRP)
- SE: Joe Feola, Jim Wentzel
- NE: Bill Tomayko, Tracey McGurk
- SC: John Oren, John Spang
- NC: Pat Brennan
- SW: Mike Forbeck, Diane McDaniel
- NW: Todd Carlson, Joel Fair

Topics Discussed

- o **Next meeting:** Thursday, September 9, 2010, RCSOB 14th floor Large Conference Room; face-to-face meeting directly after the SWANA/PWIA Conference
- o **Iridium-192 at Rustick LF & NORM/TENORM Issues** (see associated e-mail)
Dave Allard discussed this case and additional NORM/TENORM issues associated with disposal of frac fluid at MWLF's. Rustick had a hit of Iridium-192 in waste generated at an Oil & Gas well in which the drilling was traced by ProTechnics, a company out of Texas that utilizes Iridium-192 beads for tracing the efficiency of a well fracture. ProTechnics is currently the only company utilizing this technology in PA, and the Department has come across some compliance issues concerning disposal of the resulting waste. ProTechnics' license allows for in-situ decay on site with subsequent disposal at a LF; however, it has been discovered that drill cuttings may have been improperly managed. RP is currently seeking to take enforcement action against ProTechnics, and recent WM inspections will probably result in enforcement action by that program as well.

In general, Radium has been an issue; it has also been found in the solid component of the frac waste. It is OK for a MWLF to dispose of this material under a BRP exemption, and Regional WM staff has the ability to approve its disposal. BRP requirements include maintenance of a spreadsheet of loads containing TENORM for tracking purposes. It is important that WM and RP continue to coordinate with each other on these issues (enforcement actions, handling for disposal, etc.) and that WM keeps RP in the loop when it sees new sources of TENORM coming in for disposal.





ProTechnics
A Div. of Core Laboratories, LP
[Redacted]
www.protechnics.com

TRACER WELL SITE AGREEMENT

By signature below, the parties hereby agree to the requirements set out below for handling well returns containing tracer material. The State of Pennsylvania has approved the placing of well returns containing tracer material in an on site earthen barrier for decay in situ. The following steps must be taken when handling well returns containing tracer material.

1. All well returns containing gamma emitting tracer material shall be diverted to the on site earthen barrier.
2. The earthen barrier will be covered with two feet of clean soil.
3. The earthen barrier shall be identified by GPS coordinates. This area will be restricted by the use of a durable barrier.
4. The earthen barrier will posted with signage (Caution - Radioactive Material - Keep Out - Do not dig in this area - notify ProTechnics [Redacted] for additional information.
5. This signed agreement between the Company below and ProTechnics for decay in situ will be kept on file by ProTechnics.
6. Access control of the earthen barrier must be maintained by the well owner/operator until 3 Years. The signs can be removed at this time.

ProTechnics reserves the right to supervise any necessary decontamination activities should any actions occur that result in the loss of integrity of the earthen barrier.

Dated and signed April 17th, 2010

[Redacted]
ProTechnics Division of Core Laboratories LP

[Redacted]
Representative

4/17/10
Date Signed

[Redacted]
Well Owner/Operator

[Redacted]
Well Name:

Pennsylvania 2/25/2010



RADIOACTIVE TRACER WELL SITE AGREEMENT

By signature below, the parties hereby agree to the requirements set out below for handling well reversal, well returns, or flowback ("Well Returns") containing radioactive tracer material. The Pennsylvania Department of Environmental Protection, Bureau of Radiation Protection ("PA DEP") has approved the placing of Well Returns containing radioactive tracer material in an on-site earthen barrier for decay *in situ* for three years from the date of radioactive tracer material injection. The following steps must be taken when handling Well Returns containing radioactive tracer material.

1. The Well Owner/Operator shall notify ProTechnics [REDACTED] within 24 hours of Well Returns containing any solid materials. ProTechnics shall survey such returns for the presence of radioactive tracer material within 2 business days after notification from the Well Owner/Operator.
2. All Well Returns containing radioactive tracer material shall be diverted to the on-site earthen barrier. If the Well Returns are first diverted to on-site tanks, the tanks must be surveyed prior to removal from the well site. ProTechnics shall survey all equipment, location ground site cover tarps, holding tanks, or anything else that may have come into contact with the Well Returns within 2 days after notification from the Well Owner/Operator and prior to removal from the well site. The Well Owner/Operator shall notify ProTechnics within 24 hours of any such contamination.
3. The earthen barrier will be covered with two feet of stabilized clean soil and stabilized in accordance with 25 Pa. Code § 102.1 *et seq.*, the Site's approved Erosion and Sediment Control Plan, 25 Pa. Code § 78.1 *et seq.*, and the respective Oil and Gas Permit (Oil and Gas Well Permit No. _____).
4. Upon establishment, the earthen barrier shall be identified by GPS coordinates. Access to this area will be restricted by a durable fence.
5. The earthen barrier will be posted with signage: Caution – Radioactive Material – Keep Out – Do Not dig in this area before (Date: _____) – notify ProTechnics [REDACTED] for additional information.
6. This signed agreement between the Well Owner/Operator and ProTechnics for radioactive material decay *in situ* in the earthen barrier will be kept on file by ProTechnics and a copy sent to PA DEP to become incorporated into the ProTechnics' Radioactive Material License for the well location listed below.
7. Both the access control fence and the earthen barrier integrity must be maintained by the Well Owner/Operator for 3 years from the date of tracer material injection or approximately (Date: _____). All associated signage and fences shall be removed within 30 days of the above date.
8. Any failure by the Well Owner / Operator to promptly report solid material Well Returns which contain radioactive materials or to control such radioactive materials onsite may subject both ProTechnics and the Well Owner/Operator to regulatory enforcement by PA DEP.

ProTechnics reserves the right to supervise any necessary decontamination activities should any actions occur that result in the loss of integrity of the earthen barrier.

This agreement will be attached and incorporated into ProTechnics' Radioactive Materials License Number [REDACTED] which is administered by PA DEP, until the date specified in Item #7.

Henry, Faith

From: Kendra L. Smith <klsmith@smithbutzlaw.com>
Sent: Tuesday, March 29, 2016 3:56 PM
To: DC, OpenRecords
Subject: Right to Know Law Appeal 4200-16-0023 (NE)
Attachments: Appeal of Denial of RTK 4200-16-0023 (NE).pdf

Dear Sir/Madame,

Please find attached a Right to Know Law Appeal of Denial for request 4200-16-0023 (NE). Please contact me if you have any questions.

Thank you

Kendra L. Smith, Esq.
Smith Butz, LLC
Attorneys at Law
125 Technology Drive, Suite 202
Bailey Center I, Southpointe
Canonsburg, PA 15317
Phone: (724) 745-5121
Fax: (724) 745-5125
Email: klsmith@smithbutzlaw.com
Web: www.smithbutzlaw.com

CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. This email is intended to be reviewed by only the individual or organization named above. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein is prohibited. If you have received this email in error, please notify the sender by return email and delete this email from your system. Thank you.

Exhibit B

2



March 30, 2016

Via E-Mail only:

Kendra L. Smith, Esquire
Smith Butz, LLC
125 Technology Drive, Ste. 202
Bailey Center I
Canonsburg, PA 15317
klsmith@smithbutzlaw.com

Via E-Mail only:

Dawn Schaeff
Agency Open Records Officer
PA Dept. of Environmental Protection
Rachel Carson State Office Bldg.
PO Box 8473
Harrisburg, PA 17105
EP-DEP-RTK@pa.gov

RE: OFFICIAL NOTICE OF APPEAL – **DOCKET #AP 2016-0602**

Dear Parties:

Please review this information carefully as it affects your legal rights.

The Office of Open Records (“OOR”) received this appeal under the Right-to-Know Law (“RTKL”), 65 P.S. §§ 67.101, *et seq.* on March 29, 2016. This letter describes the appeal process. A binding Final Determination will be issued pursuant to the timeline required by the RTKL. In most cases, that means within 30 calendar days.

OOR Mediation: This is a voluntary, informal process to help parties reach a mutually agreeable settlement on records disputes before the OOR. To participate in mediation, both parties must agree in writing. If mediation is unsuccessful, both parties will be able to make submissions to the OOR, and the OOR will have 30 calendar days from the conclusion of the mediation process to issue a Final Determination.

Note to Parties: Statements of fact must be supported by an affidavit or attestation made under penalty of perjury by a person with actual knowledge. Any factual statements or allegations submitted without an affidavit will not be considered. The agency has the burden of proving that records are exempt from public access (*see* 65 P.S. § 67.708(a)(1)). **To meet this burden, the agency must provide evidence to the OOR.** The law requires the agency position to be supported by sufficient facts *and* citation to all relevant sections of the RTKL, case law, and OOR Final Determinations. An affidavit or attestation is required to show that records do not exist. Blank sample affidavits are available on the OOR’s website.

Submissions to OOR: Both parties may submit information and legal argument to support their positions by 11:59:59 p.m. seven (7) business days from the date of this letter. *Submissions sent via postal mail and received after 5:00 p.m. will be treated as having been received the next business day.* The agency may assert exemptions on appeal even if it did not assert them when the request was denied (*Levy v. Senate of Pa.*, 65 A.3d 361 (Pa. 2013)).

Include the docket number above on all submissions related to this appeal. Also, any information you provide to the OOR must be provided to all parties involved in this appeal. Information shared with the OOR that is not also shared with all parties will not be considered.

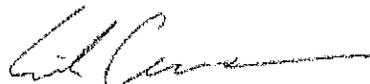
Agency Must Notify Third Parties: If records affect a legal or security interest of an employee of the agency; contain confidential, proprietary or trademarked records of a person or business entity; or are held by a contractor or vendor, **the agency must notify such parties of this appeal immediately and provide proof of that notice to the OOR within seven (7) business days from the date on this letter.** Such notice must be made by (1) providing a copy of all documents included with this letter; and (2) advising that interested persons may request to participate in this appeal (*see* 65 P.S. § 67.1101(c)).

Commonwealth Court has held that “the burden [is] on third-party contractors ... to prove by a preponderance of the evidence that the [requested] records are exempt.” (*Allegheny County Dep’t of Admin. Servs. v. A Second Chance, Inc.*, 13 A.3d 1025, 1042 (Pa. Commw. Ct. 2011)). **Failure of a third-party contractor to participate in an appeal before the OOR may be construed as a waiver of objections regarding release of the requested records.**

Law Enforcement Records of Local Agencies: District Attorneys must appoint Appeals Officers to hear appeals regarding criminal investigative records in the possession of a local law enforcement agency. If access to records was denied in part on that basis, the Requester should consider filing a concurrent appeal with the District Attorney of the relevant county.

If you have any questions about the appeal process, please contact the assigned Appeals Officer (contact information is enclosed) – and be sure to provide a copy of any correspondence to all other parties involved in this appeal.

Sincerely,



Erik Arneson
Executive Director

Enc.: Assigned Appeals Officer contact information
Entire appeal as filed with OOR

REQUEST TO PARTICIPATE BEFORE THE OOR

Please accept this as a Request to Participate in a currently pending appeal before the Office of Open Records. The statements made herein and in any attachments are true and correct to the best of my knowledge, information and belief. I understand this statement is made subject to the penalties of 18 Pa.C.S. § 4904, relating to unsworn falsifications to authorities.

NOTE: The requester filing the appeal with the OOR is a named party in the proceeding and is NOT required to complete this form.

OOR Docket No: _____

Today's date: _____

Name: _____

IF YOU ARE OBJECTING TO THE DISCLOSURE OF YOUR HOME ADDRESS, DO NOT PROVIDE THE OFFICE OF OPEN RECORDS WITH YOUR HOME ADDRESS. PROVIDE AN ALTERNATE ADDRESS IF YOU DO NOT HAVE ACCESS TO E-MAIL.

Address/City/State/Zip _____

E-mail _____

Fax Number: _____

Name of Requester: _____

Address/City/State/Zip _____

Telephone/Fax Number: _____ / _____

E-mail _____

Name of Agency: _____

Address/City/State/Zip _____

Telephone/Fax Number: _____ / _____

E-mail _____

Record at issue: _____

I have a direct interest in the record(s) at issue as (check all that apply):

- An employee of the agency
- The owner of a record containing confidential or proprietary information or trademarked records
- A contractor or vendor
- Other: (attach additional pages if necessary) _____

I have attached a copy of all evidence and arguments I wish to submit in support of my position.

Respectfully submitted, _____ (must be signed)

Please submit this form to the Appeals Officer assigned to the appeal. Remember to copy all parties on this correspondence. The Office of Open Records will not consider direct interest filings submitted after a Final Determination has been issued in the appeal.



pennsylvania

OFFICE OF OPEN RECORDS

APPEALS OFFICER:

Kathleen Higgins, Esquire

CONTACT INFORMATION:

Commonwealth of Pennsylvania
Office of Open Records
Commonwealth Keystone Building
400 North Street, 4th Floor
Harrisburg, PA 17120-0225

PHONE:

(717) 346-9903

FACSIMILE:

(717) 425-5343

E-MAIL:

KaHiggins@pa.gov

**Preferred method of contact
and submission of information:**

EMAIL

Please direct submissions and correspondence related to this appeal to the above Appeals Officer. Please include the case name and docket number on all submissions.

You must copy the other party on everything you submit to the OOR.

The OOR website, <http://openrecords.pa.gov>, is searchable and both parties are encouraged to review prior final determinations involving similar records and fees that may impact this appeal.

Exhibit C

Exhibit C

1

RECEIVED

MAR 29 2016



pennsylvania
OFFICE OF OPEN RECORDS

OFFICE OF OPEN RECORDS

RIGHT-TO-KNOW LAW ("RTKL")
APPEAL OF DENIAL, PARTIAL DENIAL, OR DEEMED DENIAL

Office of Open Records ("OOR")

Email: openrecords@pa.gov

Fax: (717) 425-5343

Commonwealth Keystone Building

400 North St., 4th Floor

Harrisburg, PA 17120-0225

Today's Date: March 29, 2016

Requester Name(s): Kendra L. Smith, Esq.

Address/City/State/Zip: 125 Technology Drive, Suite 202, Bailey Center I, Canonsburg, PA 15317

Email: klsmith@smithbutzlaw.com Phone/Fax: 724-745-5121 / 724-745-5125

Request Submitted to Agency Via: Email Mail Fax In-Person (*check only one*)

Date of Request: February 1, 2016 Date of Response: March 9, 2016 Check if no response

Name of Agency: Pennsylvania Department of Environmental Protection - Northcentral Region

Address/City/State/Zip: 208 West Third Street, Suite 101, Williamsport, PA 17701

Email: N.A Phone/Fax: 570-327-3695 / 570-327-3565

Name & Title of Person Who Denied Request (*if any*): Lisa A. Forney, Compliance Specialist, Radiation Protection Program

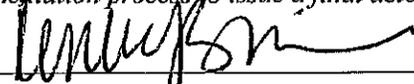
I was denied access to the following records (**REQUIRED**. Use additional pages if necessary): ten emails
and a Notice of Violation Response dated February 8, 2010 were withheld and the records provided were redacted.

The Position Statement attached hereto outlines the denial in greater detail.

I requested the listed records from the Agency named above. By signing below, I am appealing the Agency's denial, partial denial, or deemed denial because the requested records are public records in the possession, custody or control of the Agency; the records do not qualify for any exemptions under § 708 of the RTKL, are not protected by a privilege, and are not exempt under any Federal or State law or regulation; and the request was sufficiently specific.

I am also appealing for the following reasons (*Optional*. Use additional pages if necessary): See the
attached Position Statement.

- I have attached a copy of my request for records. (**REQUIRED**)
- I have attached a copy of all responses from the Agency regarding my request. (**REQUIRED**)
- I have attached any letters or notices extending the Agency's time to respond to my request.
- I hereby agree to permit the OOR an additional 30 days to issue a final order.
- I am interested in resolving this issue through OOR mediation. *This stays the initial OOR deadline for the issuance of a final determination. If mediation is unsuccessful, the OOR has 30 days from the conclusion of the mediation process to issue a final determination.*

Respectfully submitted,  (**SIGNATURE REQUIRED**)

You should provide the Agency with a copy of this form and any documents you submit to the OOR.

DEP Right-to-Know Law Record Request Form

Business Hours: 8:00 am - 4:30 pm (RTK requests received after 4:30 pm are considered received the next business day)
Mail to: DEP Open Records Officer ("AORO"), DEP/BOS, PO Box 8473, Harrisburg, PA 17105-8473.
Or Fax to: 717-705-8023
Or Email to: EP-DEP-RTK@pa.gov *Request sent to any other email will not be deemed a RTKL request.
Contact: 717-787-2043

Name of Requestor (or Anonymous): Kendra L. Smith, Esq.
Name of Company (or N/A): Smith Butz, LLC
Requestor's Street Address: 125 Technology Drive, Suite 202, Bailey Center I
Requestor's City/State/Zip Code: Canonsburg, PA 15317
Requestor's Telephone Number: (724) 745-5121
Requestor's Email Address: ksmith@smithbutzlaw.com

Records being requested (please sufficiently describe the record(s) requested so that they are identifiable to Department staff.):

Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP
 Name of Individual / Company for records being requested (including former names)

Yeager Drill Site

Facility Name for requested records (if different than Company Name)

McAdams Road, Washington, PA 15301
 Street Address (including zip code)

Washington
 County(ies)

Amwell
 Municipality(ies)

Additional information to assist with search and retrieval of responsive records (e.g. permit no.(s); dates or timeframe of records requested; programs of interest, geographic area):

Please see, "Attachment 1," attached hereto.

FORM OF RECORD PRODUCTION – check appropriate response:

REQUESTING FILE REVIEW ACCESS:

Seeking access, review and self copying of records is at a reduced cost of \$.15 per page. YES NO

REQUESTING DUPLICATION AND MAILING RECORDS:

Agency copying of records is at a cost of \$.25 per page YES NO

REQUESTING CERTIFICATION OF RECORDS:

I WANT DEP TO CERTIFY RECORDS (AT A COST OF \$5.00 PER REQUEST): YES

PENNSYLVANIA – OFFICE OF OPEN RECORDS
RIGHT-TO-KNOW REQUEST

“ATTACHMENT 1”

Any and all approvals, permits, licenses/licensures, applications for permits and/or licenses, reciprocity letters, reciprocity licenses, reciprocity agreements and/or reciprocity arrangements, including, but not limited to all licenses issued by the Pennsylvania Department of Environmental Protection (“PA DEP”) to Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP (hereinafter, “Protechnics”) for use, storage and possession of radioactive materials and/or other licensed material. Additionally, this request seeks any and all investigation reports, Notices of Violation(s), Consent Order and Agreement(s) issued to Protechnics by the PA DEP and/or between Protechnics and the PA DEP for any and all work or services performed by Protechnics at any natural gas well site in the Commonwealth of Pennsylvania. Included in this request is a request for copies of all Notices of Violation issued by the PA DEP to Protechnics, including but not limited to Notices of Violation dated 06/15/10, 01/28/10, 11/26/13, 09/13/13 and 10/14/13, Violation Numbers 677913, 677915, 677914, 682834, 682833, 682829, 682835 and all corresponding inspection reports, field notes and other related writings. Further, this request seeks any and all Consent Order and Agreements between the PA DEP and Protechnics, including, but not limited to, Consent Orders and Agreements dated November 2, 2013 and November 2, 2010.

Additionally, this request includes a request for copies of all enforcement activity taken by the PA DEP against Protechnics, including but not limited to Enforcement ID Number 305057, 259202 and 263973, as well as all inspection reports completed by the PA DEP regarding Protechnics, including, but not limited to, Inspection ID Numbers 1891418, 1919964, 2147772, 2204156 and 2221258.

This request further seeks any and all Radioactive Tracer Well Site Agreements made between Protechnics and any well site operator(s) for each and every well traced in the Commonwealth of Pennsylvania that is or was submitted to the PA DEP, including, but not limited to, the April 7, 2013 Radioactive Tracer Well Site Agreement between Protechnics and a well operator.

In addition to the above, this request seeks any and all notifications submitted to the PA DEP by Protechnics or the associated operator or subcontractor regarding Protechnics confirmation that licensed material, including, but not limited to, radioactive material, was returned to the surface at any well site in which Protechnics operated/performed work or services in the Commonwealth of Pennsylvania.

Additionally, this request seeks any and all documents, correspondence, e-mails and any other communication(s) between Protechnics and the PA DEP and/or Range Resources and the PA DEP regarding Protechnics and any and all work/services performed in the Commonwealth of Pennsylvania by Protechnics.

Further, this request seeks any and all MSDS/SDS (material data safety sheets and safety data sheets) in the possession of the PA DEP regarding any and all products utilized by Protechnics at

any well site in Pennsylvania, including, but not limited to, all MSDS/SDS for Protechnics Radioactive Tracer Products, as well as any and all Chemical Frac Tracer ("CFT") products, including, but not limited to, CFT 1000, CFT 1100, CFT 1200, CFT 1300, CFT 2000, CFT 2100, CFT 1900, CFT 1700.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

March 9, 2016

Certified Mail Number 7014 1820 0002 3638 0353

Kendra L. Smith, Esquire
Smith Butz, LLC
125 Technology Drive, Suite 202, Bailey Center 1
Canonsburg, PA 15317

Re: Right-to-Know Request Numbers: 1400-16-071 (CO), 4100-16-0027 (SE), 4200-16-023 (NE), 4300-16-019 (SC), **4400-16-010 (NC)**, 4500-16-018 (SW), 4600-16-029 (NW)

Dear Attorney Smith:

On February 1, 2016, the open-records officer of the Department of Environmental Protection (Department) received your written request for records and assigned it the tracking numbers listed above. The subject of your request required its assignment to the Department's Central Office (CO) and the Southeast (SE), Northeast (NE), Southcentral (SC), Northcentral (NC), Southwest (SW), and Northwest (NW) Regional Offices. The Department's NC Regional Office is responding on behalf of itself under the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-67.3104 (RTKL). You will receive final correspondence from the other offices under separate cover.

You requested the following records for Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP, located at the Yeager Drill Site, McAdams Road, Washington, Pennsylvania:

- Any and all approvals, permits, licenses/licensures, applications for permits and/or licenses, reciprocity letters, reciprocity licenses, reciprocity agreements and/or reciprocity arrangements, including, but not limited to all licenses issued by the Department to Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP (hereinafter, "Protechnics") for use, storage and possession of radioactive materials and/or other licensed material. Additionally, this request seeks any and all investigation reports, Notices of Violation(s), Consent Order and Agreement(s) issued to Protechnics by the Department and/or between Protechnics and the Department for any and all work or services performed by Protechnics at any natural gas well site in the Commonwealth of Pennsylvania. Included in this request is a request for copies of all Notices of Violation issued by the Department to Protechnics, including but not limited to Notices of Violation dated June 15, 2010, January 28, 2010, November 26, 2013, September 13, 2013, and October 14, 2013, Violation Numbers 677913, 677915, 677914, 682834, 682833, 682829, 682835 and all corresponding inspection reports, field notes and other related writings. Further, this request seeks any and all Consent Order and Agreements between the Department and Protechnics, including, but not limited to, Consent Orders and Agreements dated November 2, 2013, and November 2, 2010.

- Copies of all enforcement activity taken by the Department against Protechnics, including but not limited to Enforcement ID Numbers 305057, 259202 and 263973, as well as all inspection reports completed by the Department regarding Protechnics, including, but not limited to, Inspection ID Numbers 1891418, 1919964, 2147772, 2204156 and 2221258.
- Any and all Radioactive Tracer Well Site Agreements made between Protechnics and any well site operator(s) for each and every well traced in the Commonwealth of Pennsylvania that is or was submitted to the Department, including, but not limited to, the April 7, 2013, Radioactive Tracer Well Site Agreement between Protechnics and a well operator.
- Any and all notifications submitted to the Department by Protechnics or the associated operator or subcontractor regarding Protechnics confirmation that licensed material, including, but not limited to, radioactive material, was returned to the surface at any well site in which Protechnics operated/performed work or services in the Commonwealth of Pennsylvania.
- Any and all documents, correspondence, e-mails and any other communication(s) between Protechnics and the Department and/or Range Resources and the Department regarding Protechnics and any and all work/services performed in the Commonwealth of Pennsylvania by Protechnics.
- Any and all MSDS/SDS (material data safety sheets and safety data sheets) in the possession of the Department regarding any and all products utilized by Protechnics at any well site in Pennsylvania, including, but not limited to, all MSDS/SDS for Protechnics Radioactive Tracer Products, as well as any and all Chemical Frac Tracer ("CFT") products, including, but not limited to, CFT 1000, CFT 1100, CFT 1200, CFT 1300, CFT 2000, CFT 2100, CFT 1900, CFT 1700.

By your email on February 3, 2016, to Department Legal Counsel, Edward Stokan, of the Department's SW Regional Office, you amended your RTKL request to the following:

- All drill sites in the Commonwealth, including but not limited to the Yeager Drill site as indicated in attachment 1 of the original request.

An initial response to your request was due on or before February 8, 2016. On that date, you were notified you that the Department required an additional thirty days, until March 9, 2016, to respond to your request.

Your request is granted in part and denied in part with respect to records located in the Department's NC Regional Office. The records enclosed with this response consist of a two page Notice of Violation, (NOV), which has been redacted for the reasons that follow. No fee has been charged in accordance with agency policy, as our fee waiver applies due to the small number of records produced.

However, your request is denied in part, and some produced records were redacted. The Department redacted portions of the January 28, 2010, NOV.

Additionally, ten emails and an NOV Response dated February 8, 2010, are being withheld for the following legally permissible reasons:

Public Safety and Security. Records containing information about radioactive materials cannot be released to the public for public safety and security reasons. A radioactive materials license, related complaint, incident report, inspection report, and any notice of violation regarding radioactive materials is exempt from disclosure under multiple provisions of the RTKL. Disclosing the contents of these records would reveal specific information pertaining to the nature and location of radioactive materials.

Pursuant to Section 708(b)(2) of the RTKL, 65 P.S. § 67.708(b)(2), a record is exempt from access by a requester if the record is "maintained by an agency in connection with the military, homeland security, national defense, law enforcement or other public safety activity that if disclosed would be reasonably likely to jeopardize or threaten public safety or preparedness or public protection activity"

Furthermore, Section 708(b)(3) of the RTKL, 65 P.S. § 67.708(b)(3), provides that a record is exempt from access by a requester if disclosure of the record "creates a reasonable likelihood of endangering the safety or the physical security of a building, public utility, resource, [or] infrastructure"

The disclosure of a license's contents, incident report, and any inspection report could reasonably lead to public safety risks. The license and reports provide detailed information about the specific location and the security measures taken to protect radioactive materials. Moreover, radioactive materials files generally contain information identifying radioactive source possessed, the quantity or type of source, activity of the source, location of the source, identity of individuals authorized to have access to or use of the source, and similar sensitive information. Information contained within these files would give a determined adversary the means to actually do harm to others.

An individual could utilize the information in the license and reports to unlawfully obtain the radioactive materials for illicit purposes thus creating a major security and health breach. If an individual with criminal intent obtained these materials or should an individual re-publish the information contained within a license and reports which was subsequently obtained by someone with criminal intent, the public's health and safety could be severely compromised.

The NC Regional Office has redacted an NOV and withheld 12 pages of records that would otherwise be responsive to your request. The information of concern within these records specifically includes the license number, licensees' names, physical addresses, employee identities or information, types of sources, quantities of sources, locations of sources, names of authorized users, contact names at the site, inspection reports, Department staff who have knowledge of the sources, and documentation of security controls implemented at the site to prevent unauthorized access to the sources.

Noncriminal Investigation. To the extent that your request for records relates to the Department's non-criminal investigations, it is denied. The noncriminal investigation exceptions of 65 P.S. §§ 708(b)(17)(i) and(ii) exempts from disclosure: (i) Complaints submitted to an agency; and (ii) investigative materials, notes, correspondence and reports. Section 708(b)(17)(vi)(A) through (E) further exempts records, that, if disclosed, would do one or more of the following:

- (A) Reveal the institution, progress or result of an agency investigation, except the imposition of a fine or civil penalty, the suspension, modification or revocation of a license, permit, registration, certification or similar authorization issued by an agency or an executed settlement agreement unless the agreement is determined to be confidential by a court.
- (B) Deprive a person of the right to an impartial adjudication.
- (C) Constitute an unwarranted invasion of privacy.
- (D) Hinder an agency's ability to secure an administrative or civil sanction.
- (E) Endanger the life or physical safety of an individual.

65 P.S. §§ 67.708(b)(17)(vi)(A-E).

Section 305(a) of the Radiation Protection Act states:

The department or its duly authorized representatives shall have the power to enter at all reasonable times with sufficient probable cause upon any public or private property, building, premise or place, for the purposes of determining compliance with this act, any license conditions or any rules, regulations or orders issued under this act. In the conduct of an investigation, the department or its duly authorized representatives shall have the authority to conduct tests,

inspections or examination of any radiation source, or of any book, record, document or other physical evidence related to the use of a radiation source.

35 P.S. § 7110.305(a).

Section 215.12 of the Radiation Regulations states:

- (a) *Maintenance of records.* Licensees and registrants shall maintain records under this article and have these records available for inspection by the Department at permanent sites or facilities of use identified in a license or registration issued under this article.
- (b) *Rights of the Department.* The Department and its agents and employees will:
 - (1) Have access to, and require the production of, books, papers, documents and other records and physical evidence pertinent to a matter under investigation.
 - (2) Require a registrant or licensee to make reports and furnish information as the Department may prescribe.
 - (3) Enter the premises of a licensee or registrant for the purpose of making an investigation or inspection of radiation sources and the premises and facilities where radiation sources are used or stored, necessary to ascertain the compliance or noncompliance with the act and this chapter and to protect health, safety and the environment.
- (c) *Inspections and investigations by the Department.* The Department, its employees and agents may conduct inspections and investigations of the facilities and regulated activities of registrants of radiation-producing machines and licensees of radioactive material necessary to demonstrate compliance with the act or this article.
- (d) *Additional inspections and investigations.* The Department, its employees and agents may conduct additional follow-up inspections and investigations if violations of the act or regulations promulgated thereunder were noted at the time of the original inspection, or if a person presents information, or circumstances arise which give the Department reason to believe that the health and safety of a person is threatened or that the act or this article are being violated."

25 Pa. Code § 215.12

To substantiate the RTKL noncriminal investigation exception at 65 P.S. § 67.708(b)(17), an agency must demonstrate that "a systematic or searching inquiry, a detailed examination, or an official probe was conducted regarding a noncriminal matter." *Sherry v. Radnor Twp. Sch. Dist.*, 20 A.3d 515 (Pa. Cmwlth. 2011), quoting *Dept. of Health v. OOR*, 4 A.3d 803 (Pa. Cmwlth. 2010) (internal quotation marks omitted). See also *O'Brien v. Pennsylvania State Police*, Dkt. AP 2011-1051. Information that is created by the Department or gathered from outside sources

and used by an agency as part of its investigation is exempt from disclosure. *John v. DEP*, OOR Dkt. AP 2011-0657; *Dept. of Health*, 4 A.3d 803, 810-11; *Coulter v. Pennsylvania Department of Public Welfare*, OOR Dkt. AP 2011-0699; *Slaby v. Northumberland County*, OOR Dkt. AP 2011-0331. *Heavens v. Pennsylvania Department of Environmental Protection*, 65 A.3d 1069 (Pa. Cmwlth. 2013).

The records that are being withheld as described above were created as a result of a probing inquiry into the Department's official noncriminal investigation into the disposal of radioactive waste related to gas drilling activity. To release these records would reveal the institution, progress, or result of the Department's investigation. 65 P.S. § 708(b)(17)(vi)(A).

Internal, Predecisional Deliberation Exception. The Department denies your request to records that reflect its predecisional, internal deliberations, because such records are exempt from production under the RTKL. 65 P.S. § 67.708(b)(10). Section 708(b)(10)(i)(A) of the RTKL states that a Commonwealth agency can withhold records that reflect, "The internal, pre-decisional deliberations of an agency, its members, employees or officials or pre-decisional deliberations between agency members, employees or officials and members, employees or officials of another agency..., contemplated or proposed policy or course of action of any research, memos or other documents used in the predecisional deliberations." 65 P.S. § 67.708(b)(10)(i)(A). According to the language of Section 708(b)(10)(i), protected records must be internal, predecisional, and deliberative. *McGowan v. Dep't of Env'tl. Protection*, 103 A.3d 374 (Pa. Cmwlth. 2014).

In addition to protecting records that are internal, predecisional deliberations, Section 708(b)(10)(i)(A) also protects records that "reflect" deliberations. Although "reflect" is not expressly defined in the RTKL, it was discussed at length by the Commonwealth Court in *Office of the Governor v. Scolforo*, 65 A.3d 1095 (Pa. Cmwlth. 2013) (*en banc*) (*Scolforo*). The Court stated:

[W]e recognize that the General Assembly utilized the specific term "reflect," 65 P.S. § 67.708(b)(10) (*emphasis added*), and did not use the term "reveal." The term *reflect* means "mirror" or "show," while the term *reveal* means "to make publicly or generally known" or, in other words, "disclose." *Webster's Third New International Dictionary* 1908, 1942 (2002). Given the broad meaning of the term *reflect*, as opposed to *reveal*, and the fact that the General Assembly chose the term *reflect* when providing for the predecisional deliberative exception, we must interpret the exception as written.

Scolforo, 65 A.3d at 1101-1102.

Accordingly, the General Assembly's specific use of the word "reflect" in the internal, predecisional deliberation exception of the RTKL signifies that there is no requirement that the

deliberated course of action be detailed, set forth, or summarized in a record in order to confer this protection. 65 P.S. § 67.708(b)(10)(i)(A). A record is protected from disclosure even if it reflects the agency's deliberations.

Consequently, approximately 5 pages that consist of 10 emails are exempted from disclosure because these records are or reflect the Department's internal, predecisional deliberative records or were relied upon by the Department as part of its internal, predecisional deliberative process. The records withheld pertain to internal correspondence among Department employees reflecting the decision making process regarding enforcement actions, draft letters, draft notices of violations and meeting notes. These records are internal, prior to any final decision, and do not reflect the final determination of the Department.

Personal Identification Information. The RTKL exempts personal identification information from disclosure. 65 P.S. § 67.708(b)(6). Personal identification information includes, but is not limited to a person's Social Security number, driver's license number, personal financial information, home, cellular or personal telephone numbers, personal e-mail addresses, employee number, or other confidential personal identification number.

The NC Regional Office has withheld approximately 1 record page that would otherwise be responsive to your request. The information of concern are Department employees' internal telephone numbers. These records are the records previously accounted for and also withheld under the "regulatory preclusion" and noncriminal investigation exception contained within this response.

Section 708(b)(6)(a) of the RTKL, 65 P.S. § 67.708(b)(6)(a), lists what constitutes personal identification information. Based on the types of information listed, it clearly means information that is unique to a particular individual or which may be used to identify or isolate an individual from the general population. It is information which is specific to the individual, not shared in common with others, and which makes an individual distinguishable from another. *Delaware County v. Schaefer*, 45 A.3d 1149, 1153 (Pa. Cmwlth. 2011).

This rationale of telephone numbers being specific to an individual and thus being deemed personal extends to government-issued "personal" cellular telephones as well as assigned personal telephone extensions. The fact that government business may be discussed over an employee's government-issued personal cellular telephone does not make that telephone any less "personal" within the meaning of the RTKL. *Office of the Governor v. Raffle*, 65 A.3d 1105, 1111 (Pa. Cmwlth. 2013). Personal does not mean that it has to involve a public official's "personal affairs" but that it is personal to that official in carrying out public responsibilities. *City of Philadelphia v. Philadelphia Inquirer*, 52 A.3d 456, 461 (Pa. Cmwlth. 2012).

Both government issued telephone numbers and direct desk telephone extensions are clearly personal to that official for carrying out the duties of Commonwealth employment. The same analysis applies to government issued personal email messages. Consequently, as personal identification information, it is appropriate for the Department to withhold these records. See also *Dep't of Public Welfare v. Cloftne*, 2014 WL 688127 (Pa. Cmwlth. February 20, 2014).

Kendra Smith, Esquire

8

March 9, 2016

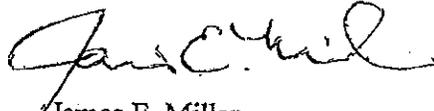
You have a right to appeal this response in writing to Executive Director, Office of Open Records, Commonwealth Keystone Building, 400 North Street, 4th Floor, Harrisburg, Pennsylvania 17120. If you choose to file an appeal you must do so within 15 business days of the mailing date of this response and send to the OOR:

- 1) all Department responses;
- 2) your request; and
- 3) the reason(s) you believe the Department erred in its response.

Also, the OOR has an appeal form available on the OOR website at:

<http://www.openrecords.pa.gov/Using-the-TKL/Pages/RTKLForms.aspx#.VpOKEBwo7X6>

Sincerely,



James E. Miller
Assistant Regional Director

Enclosure



Pennsylvania Department of Environmental Protection

909 Elmerton Avenue
Harrisburg, PA 17110-8200
January 28, 2010

Southcentral Regional Office

717-705-4703
FAX - 717-705-4890

NOTICE OF VIOLATION

PRIORITY MAIL DELIVERY CONFIRMATION NO.

Citrus Energy Corporation

Dear _____

It is the Department's understanding that _____ contracted Core Laboratories, L.P. - ProTechnics Division (ProTechnics) to conduct a radioactive tracer study at the _____, located along _____.

On December 10, 2009, ProTechnics injected a gel solution that was comprised of water, sand and _____ under Pennsylvania Reciprocity License No. _____. After the injection of _____, the ProTechnics' field representative left the well site.

Following ProTechnics' departure from the well site, _____ pumped sand and water, which were contaminated with _____ to the surface and contacted _____ to remove the radioactive residual waste from an on-site tank.

On December 21, 2009, _____ emptied the on-site tank and transported the radioactive residual waste to _____.

On December 22, 2009, _____ transported a roll-off container, which included the radioactive residual waste to Modern Landfill for disposal. Upon entering the scale at Modern Landfill, a radiation monitor was alarmed and Modern Landfill notified the Department of this event.

The following violation is noted:

- 25 Pa. Code § 287.54(a)(1) requires the performance of a detailed analysis to fully characterize the physical properties and chemical composition of each type of waste generated.

January 28, 2010

On December 10, 2009, Citrus Energy failed to conduct a proper waste analysis of the radioactive residual waste prior to contacting _____ to remove the waste.

You are hereby notified of the existence of a violation as well as the need to provide prompt corrective action. Failure to correct the violation may result in legal proceedings under the Radiation Protection Act and the Solid Waste Management Act. Under each Act, each day of violation is considered a distinct and separate offense and will be handled accordingly.

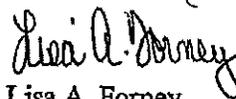
Be advised that the violation described above constitutes a public nuisance under Section 309 of the Radiation Protection Act, 35 P.S. § 7110.309, as well as Section 610 of the Solid Waste Management Act, 35 P.S. § 6018.601. This may subject you, under Section 308(e) of the Radiation Protection Act, 35 P.S. § 7110.308(e) and Section 605 of the Solid Waste Management Act, 35 P.S. § 6018.605 to civil penalty liability of up to (\$25,000) for each violation. Additionally, under the Radiation Protection Act, penalties may be assessed up to (\$5,000) per day for each continuing day of violation.

The Department requests that a written response be sent within 14 days of the receipt of this Notice of Violation. The response should include, but not be limited to a typed letter that provides a detailed description of the actions taken to avoid any future occurrences.

This Notice of Violation is neither an order nor any other final action of the Department. It neither imposes nor waives any enforcement action available to the Department under any of its statutes.

Thank you for your cooperation. If you have any questions, please call me at 717-705-4898.

Sincerely,



Lisa A. Forney
Compliance Specialist
Radiation Protection Program



DEP Right-to-Know Law Record Request Form

Business Hours: 8:00 am - 4:30 pm (RTK requests received after 4:30 pm are considered received the next business day)
Mail to: DEP Open Records Officer ("AORO"), DEP/BOS, PO Box 8473, Harrisburg, PA 17105-8473.
Or Fax to: 717-705-8023
Or Email to: EP-DEP-RTK@pa.gov *Request sent to any other email will not be deemed a RTKL request.
Contact: 717-787-2043

Name of Requestor (or Anonymous): Kendra L. Smith, Esq.
Name of Company (or N/A): Smith Butz, LLC
Requestor's Street Address: 125 Technology Drive, Suite 202, Bailey Center I
Requestor's City/State/Zip Code: Canonsburg, PA 15317
Requestor's Telephone Number: (724) 745-5121
Requestor's Email Address: ksmith@smithbutzlaw.com

Records being requested (please sufficiently describe the record(s) requested so that they are identifiable to Department staff.):

Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP

Name of Individual / Company for records being requested (including former names)

Yeager Drill Site

Facility Name for requested records (if different than Company Name)

McAdams Road, Washington, PA 15301

Street Address (including zip code)

Washington

County(ies)

Arnwell

Municipality(ies)

Additional information to assist with search and retrieval of responsive records (e.g. permit no.(s); dates or timeframe of records requested; programs of interest, geographic area):

Please see, "Attachment 1," attached hereto.

FORM OF RECORD PRODUCTION – check appropriate response:

REQUESTING FILE REVIEW ACCESS:

Seeking access, review and self copying of records is at a reduced cost of \$.15 per page. YES NO

REQUESTING DUPLICATION AND MAILING RECORDS:

Agency copying of records is at a cost of \$.25 per page YES NO

REQUESTING CERTIFICATION OF RECORDS:

I WANT DEP TO CERTIFY RECORDS (AT A COST OF \$5.00 PER REQUEST): YES

PENNSYLVANIA – OFFICE OF OPEN RECORDS
RIGHT-TO-KNOW REQUEST

“ATTACHMENT 1”

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From: Kendra L. Smith [mailto:klsmith@smithbutzlaw.com]
Sent: Wednesday, February 03, 2016 2:50 PM
To: Stokan, Edward
Subject: RE: February 1, 2016 RTKL Request re ProTechnics

It is for all drill sites in the Commonwealth including but not limited to the Yeager Drill site as indicated in attachment 1. Thank you.

Kendra L. Smith, Esq.
Smith Butz, LLC
Attorneys at Law
125 Technology Drive, Suite 202
Bailey Center I, Southpointe
Canonsburg, PA 15317
Phone: (724) 745-5121
Fax: (724) 745-5125
Email: klsmith@smithbutzlaw.com
Web: www.smithbutzlaw.com

CONFIDENTIALITY NOTICE: The information in this email may be confidential and/or privileged. This email is intended to be reviewed by only the individual or organization named above. If you are not the intended recipient or an authorized representative of the intended recipient, you are hereby notified that any review, dissemination or copying of this email and its attachments, if any, or the information contained herein is prohibited. If you have received this email in error, please notify the sender by return email and delete this email from your system. Thank you.

----- Original Message -----

Subject: February 1, 2016 RTKL Request re ProTechnics
From: "Stokan, Edward" <estokan@pa.gov>
Date: Wed, February 03, 2016 2:46 pm
To: "klsmith@smithbutzlaw.com" <klsmith@smithbutzlaw.com>

Your February 1, 2016 Right-to-Know Law request indicates that the "Facility name for requested records" is the "Yeager Drill Site."

However, your Attachment 1 indicates that you are seeking responsive records as to any natural gas well site in the Commonwealth.

Can you please confirm whether you seek records pertaining only to the Yeager Drill Site or pertaining to all gas well sites throughout the Commonwealth?

Edward S. Stokan | Assistant Counsel
Department of Environmental Protection | Office of Chief Counsel
Southwest Regional Office
400 Waterfront Drive | Pittsburgh, PA 15222.
Phone: 412.442.4262 | Direct Phone: 412.442.4249 | Fax: 412.442.4274
www.depweb.state.pa.us

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ATTORNEY WORK PRODUCT

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pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

March 24, 2016

Certified Mail Number 7014 1820 0002 3638 0391

Kendra L. Smith, Esquire
Smith Butz, LLC
125 Technology Drive, Suite 202, Bailey Center 1
Canonsburg, PA 15317

Re: Right-to-Know Request Numbers: 1400-16-071 (CO), 4100-16-0027 (SE), 4200-16-023 (NE), 4300-16-019 (SC), ~~4400-16-010~~ (NC), 4500-16-018 (SW), 4600-16-029 (NW)

Dear Attorney Smith:

On February 1, 2016, the open-records officer of the Department of Environmental Protection (Department) received your written request for records and assigned it the tracking numbers listed above. On March 9, 2016, the Department's Northcentral, (NC), Regional Office sent a final response to your request granting it in part and denying it in part. This letter is intended to correct the NC Regional Office's final response.

You requested the following records for Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP, located at the Yeager Drill Site, McAdams Road, Washington, Pennsylvania:

- Any and all approvals, permits, licenses/licensures, applications for permits and/or licenses, reciprocity letters, reciprocity licenses, reciprocity agreements and/or reciprocity arrangements, including, but not limited to all licenses issued by the Department to Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP (hereinafter, "Protechnics") for use, storage and possession of radioactive materials and/or other licensed material. Additionally, this request seeks any and all investigation reports, Notices of Violation(s), Consent Order and Agreement(s) issued to Protechnics by the Department and/or between Protechnics and the Department for any and all work or services performed by Protechnics at any natural gas well site in the Commonwealth of Pennsylvania. Included in this request is a request for copies of all Notices of Violation issued by the Department to Protechnics, including but not limited to Notices of Violation dated June 15, 2010, January 28, 2010, November 26, 2013, September 13, 2013 and October 14, 2013, Violation Numbers 677913, 677915, 677914, 682834, 682833, 682829, 682835 and all corresponding inspection reports, field notes and other related writings. Further, this request seeks any and all Consent Order and Agreements between the Department and Protechnics, including, but not limited to, Consent Orders and Agreements dated November 2, 2013 and November 2, 2010.
- Copies of all enforcement activity taken by the Department against Protechnics, including but not limited to Enforcement ID Numbers 305057, 259202 and 263973, as well as all inspection reports completed by the Department regarding Protechnics, including, but not limited to, Inspection ID Numbers 1891418, 1919964, 2147772, 2204156 and 2221258.

Northcentral Regional Office
208 West Third Street, Suite 101 | Williamsport, PA 17701-6448 | 570.327.3695 | F 570.327.3565
www.depweb.state.pa.us

- Any and all Radioactive Tracer Well Site Agreements made between Protechnics and any well site operator(s) for each and every well traced in the Commonwealth of Pennsylvania that is or was submitted to the Department, including, but not limited to, the April 7, 2013, Radioactive Tracer Well Site Agreement between Protechnics and a well operator.
- Any and all notifications submitted to the Department by Protechnics or the associated operator or subcontractor regarding Protechnics confirmation that licensed material, including, but not limited to, radioactive material, was returned to the surface at any well site in which Protechnics operated/performed work or services in the Commonwealth of Pennsylvania.
- Any and all documents, correspondence, e-mails and any other communication(s) between Protechnics and the Department and/or Range Resources and the Department regarding Protechnics and any and all work/services performed in the Commonwealth of Pennsylvania by Protechnics.
- Any and all MSDS/SDS (material data safety sheets and safety data sheets) in the possession of the Department regarding any and all products utilized by Protechnics at any well site in Pennsylvania, including, but not limited to, all MSDS/SDS for Protechnics Radioactive Tracer Products, as well as any and all Chemical Frac Tracer ("CFT") products, including, but not limited to, CFT 1000, CFT 1100, CFT 1200, CFT 1300, CFT 2000, CFT 2100, CFT 1900, CFT 1700.

By your email on February 3, 2016, to Department Legal Counsel, Edward Stokan, of the Department's SW Regional Office, you amended your RTKL request to the following:

- All drill sites in the Commonwealth, including but not limited to the Yeager Drill site as indicated in attachment 1 of the original request.

Your request specifically relates to various records involving ProTechnics. The records referenced in the NC Regional Office's final response on March 9, 2016, were not responsive to your request because the NOV sent to you was issued to Citrus Energy Corporation, who was contracted by ProTechnics to conduct a radioactive tracer study. The internal emails withheld were related to those issues and unrelated to your request.

Therefore, the NC Regional Office's final response to your request should have indicated that it did not have responsive records in its custody, control, or possession.

Pursuant to the Office of Open Records' Final Decision in *Jenkins v. Pa. Dep't of State*, No. AP-2009-0065 (Pa. O.O.R.D. April 2, 2009), "It is not a denial of access when an agency does not possess records and [there is no] legal obligation to obtain them (see, e.g. section 67.506 (d)(1))."

Kendra Smith, Esquire

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March 24, 2016

Further, an agency is not required "to create which does not currently exist or to compile, maintain, format or organize a record in a manner in which the agency does not currently compile, maintain, format or organize the record." 65 P.S. § 67.705.

I apologize for any confusion that this error may have caused. This letter is intended to clarify and supersede the final response issued by the NC Regional Office on March 9, 2016.

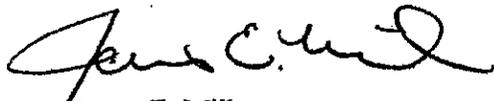
You have a right to appeal this response in writing to Executive Director, Office of Open Records, Commonwealth Keystone Building, 400 North Street, 4th Floor, Harrisburg, Pennsylvania 17120. If you choose to file an appeal you must do so within 15 business days of the mailing date of this response and send to the OOR:

- 1) all Department responses;
- 2) your request; and
- 3) the reason(s) you believe the Department erred in its response.

Also, the OOR has an appeal form available on the OOR website at:

<http://www.openrecords.pa.gov/Using-the-TKL/Pages/RTKLForms.aspx#.VpQKEBwo7X6>

Sincerely,



James E. Miller
Assistant Regional Director

Enclosure



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

February 8, 2016

VIA EMAIL

Kendra L. Smith, Esquire
Smith Butz, LLC
125 Technology Drive, Suite 202, Bailey Center 1
Canonsburg, PA 15317
klsmith@smithbutzlaw.com

Re: Right-to-Know Request Numbers: 1400-16-071 (CO), 4100-16-0027 (SE), 4200-16-023 (NE), 4300-16-019 (SC), 4400-16-010 (NC), 4500-16-018 (SW), 4600-16-029 (NW)

Dear Attorney Smith:

On February 1, 2016, the open-records officer of the Department of Environmental Protection (Department) received your written request for records and assigned it the tracking numbers listed above. The subject of your request requires its assignment to the Department's Central Office (CO) and the Southeast (SE), Northeast (NE), Southcentral (SC), Northcentral (NC), Southwest (SW), and Northwest (NW) Regional Offices. Each office has its own tracking number and may respond separately to your request for records in their possession. For purposes of this letter, the Department's CO is initially responding on behalf of all assigned offices under the Pennsylvania Right-to-Know Law, 65 P.S. §§ 67.101-67.3104 (RTKL).

You requested records for Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP located at the Yeager Drill Site, McAdams Road, Washington, Pennsylvania. You are seeking:

- Any and all approvals, permits, licenses/licensures, applications for permits and/or licenses, reciprocity letters, reciprocity licenses, reciprocity agreements and/or reciprocity arrangements, including, but not limited to all licenses issued by the Department to Core Laboratories d/b/a Protechnics, Division of Core Laboratories, LP (hereinafter, "Protechnics") for use, storage and possession of radioactive materials and/or other licensed material. Additionally, this request seeks any and all investigation reports, Notices of Violation(s), Consent Order and Agreement(s) issued to Protechnics by the Department and/or between Protechnics and the Department for any and all work or services performed by Protechnics at any natural gas well site in the Commonwealth of Pennsylvania. Included in this request is a request for copies of all Notices of Violation issued by the Department to Protechnics, including but not limited to Notices of Violation dated June 15, 2010, January 28, 2010, November 26, 2013, September 13, 2013 and October 14, 2013, Violation Numbers 677913, 677915, 677914, 682834, 682833, 682829, 682835 and all corresponding inspection reports, field notes and other related writings. Further, this request seeks any and all Consent Order and Agreements between the Department and Protechnics, including, but not limited to, Consent Orders and Agreements dated November 2, 2013 and November 2, 2010.

- Copies of all enforcement activity taken by the Department against Protechnics, including but not limited to Enforcement ID Numbers 305057, 259202 and 263973, as well as all inspection reports completed by the Department regarding Protechnics, including, but not limited to, Inspection ID Numbers 1891418, 1919964, 2147772, 2204156 and 2221258.
- Any and all Radioactive Tracer Well Site Agreements made between Protechnics and any well site operator(s) for each and every well traced in the Commonwealth of Pennsylvania that is or was submitted to the Department, including, but not limited to, the April 7, 2013, Radioactive Tracer Well Site Agreement between Protechnics and a well operator.
- Any and all notifications submitted to the Department by Protechnics or the associated operator or subcontractor regarding Protechnics confirmation that licensed material, including, but not limited to, radioactive material, was returned to the surface at any well site in which Protechnics operated/performed work or services in the Commonwealth of Pennsylvania.
- Any and all documents, correspondence, e-mails and any other communication(s) between Protechnics and the Department and/or Range Resources and the Department regarding Protechnics and any and all work/services performed in the Commonwealth of Pennsylvania by Protechnics.
- Any and all MSDS/SDS (material data safety sheets and safety data sheets) in the possession of the Department regarding any and all products utilized by Protechnics at any well site in Pennsylvania, including, but not limited to, all MSDS/SDS for Protechnics Radioactive Tracer Products, as well as any and all Chemical Frac Tracer ("CFT") products, including, but not limited to, CFT 1000, CFT 1100, CFT 1200, CFT 1300, CFT 2000, CFT 2100, CFT 1900, CFT 1700.

By your email on February 1, 2016, to Department Legal Counsel, Edward Stokan, you amended your RTKL request to the following:

- All drill sites in the Commonwealth, including but not limited to the Yeager Drill site as indicated in attachment 1 of the original request.

Under the RTKL, a written response to your request is due on or before February 8, 2016.

This is an interim response. Under the provisions of 65 P.S. §67.902(b)(2), you are hereby notified that your request is being reviewed for the reasons listed below and the Department will require up to an additional 30 days, until March 9, 2016, to issue a final response to your request.

- Compliance with your request may require the redaction of certain information that is not subject to access under RTKL.
- Your request is under legal review to determine whether a requested record is a "public record" for purposes of the RTKL.

- The extent or nature of the request precludes a response within the required time period.

If you have requested an estimate of cost, the Department will only advise of prepayment costs if record production exceeds \$100.00. 65 P.S. § 1307(h). Otherwise, requested records will be produced and billed accordingly. If you are concerned about copying costs, you may wish to withdraw this request and conduct an informal file review. An informal file review allows self-copying at the reduced rate of \$.15 per page for standard size pages and provides you the opportunity to review and copy only those records you desire rather than all records the Department deems responsive to your request.

Further information about informal files reviews can be found at: <http://www.dep.pa.gov/Citizens/PublicRecords/Pages/Informal-File-Review.aspx#VpAasxwo7X4>. An informal file review does not preclude you from filing a RTKL request at a later date.

Lastly, if you elected to have records copied and mailed to you, the estimated or actual total for any fees owed when the record becomes available will be included in the Department's subsequent response. Prepayment is required before providing access when the estimated cost to fulfill a request exceeds \$100.00. 65 P.S. § 67.1307(h).

If you have any questions regarding this letter, please contact me.

Sincerely,



Dawn Schaefer
Agency Open Records Officer

cc: RTK CO Legal via email
RTK CO COM, OG, RP via email
RTK SE NE SC NC SW NW via email

[Print](#) | [Close Window](#)

Subject: FW: New Right-to-Know Law Record Request Received - Kendra L. Smith, Esq. (565)
From: "EP, Right-to-Know" <EP-DEP-RTK@pa.gov>
Date: Mon, Feb 01, 2016 10:53 am
To: "klsmith@smithbutzlaw.com" <klsmith@smithbutzlaw.com>
Cc: "EP, Right-to-Know" <EP-DEP-RTK@pa.gov>
Attach: RTKPDF.565.pdf

Attorney Smith-
Your attachment was not attached to your RTKL request. Please reply back to this email with your attachment. Thank you.

Agency Open Records Office
Department of Environmental Protection | Bureau of Office Services
Rachel Carson State Office Building
400 Market St | Hbg PA 17101
Phone: 717.787.2043 | Fax: 717.705.8023
www.dep.pa.gov

—Original Message—
From: ep-dep-rtk@pa.gov (mailto:ep-dep-rtk@pa.gov)
Sent: Monday, February 01, 2016 10:28 AM
To: EP, Right-to-Know
Subject: New Right-to-Know Law Record Request Received - Kendra L. Smith, Esq. (565)

A new Right-to-Know Law Record Request has been Received. A copy of the request has been attached to this e-mail.

Subject: Your Right-to-Know Law Request Has Been Received by DEP
From: ep-dep-rtk@pa.gov
Date: Mon, Feb 01, 2016 10:28 am
To: klsmith@smithbutzlaw.com
Attach: RTKPDF.565.pdf

Thank you for your Right-to-Know Law submission that will be forwarded to the Agency Open Records Officer (AORO) for processing.

If you wish to modify a pending Right-to-Know Law request, do not complete another online form. A second online submittal will not modify your original request. Instead, please send an e-mail to ep-dep-rtk@pa.gov and we will assist you with modifying your original request.

- Please note that your request is deemed received on the Department's next business day if:
- Your request was submitted after 4:30 p.m. Monday-Friday,
 - Your request was submitted during a weekend,
 - Your request was submitted on a holiday observance recognized by the Commonwealth, or
 - Your request was submitted any time Executive Offices are closed as a result of weather or any other emergency.

The Department will contact you no later than five business days from the receipt of your request as to its status. If you have any further questions on this process, please visit the Department's webpage at:
http://www.portal.state.pa.us/portal/server.pt/community/public_records/19207

Thank you.

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**POSITION STATEMENT IN SUPPORT OF APPEAL TO DENIAL OF RTKL
REQUEST 4100-16-010 (NC)**

Kendra L. Smith, Esquire (the "Requester") submits this Position Statement in support of this Appeal of the Department of Environmental Protection's ("Department") March 9, 2016 denial of Right to Know Request 4400-16-010 (NC).

GENERAL BACKGROUND

On February 1, 2016, the Requester submitted a Right to Know Request ("Request") to the Department seeking records related to activities of Core Laboratories d/b/a ProTechnics, Division of Core Laboratories at the Yeager Drill site in Amwell Township, Washington County, Pennsylvania where ProTechnics was hired to inject radioactive tracers and to perform radioactive tracing associated with hydraulic fracturing. It appears that the Department transmitted this Request to its regional offices, each of which transmitted a response to the Requester. These responses were substantially the same but, because they were assigned separate Request Numbers by the Department, they will be appealed separately. This appeal relates only to the Department's Northcentral office response, identified by the Northcentral office as No. 4400-16-010 (NC).

DEPARTMENT RESPONSE TO REQUEST

The Department's Northcentral office initially responded to the Request through a March 9, 2016 determination letter (the "Initial Response") which granted the Request in part and denied the Request in part. The Northcentral Office's Initial Response provided redacted records associated with a January 28, 2010 Notice of Violation, but asserted that ten e-mails and a Notice of Violation Response, dated February 8, 2010 were being withheld based on a variety of RKTL exemptions.

Public Safety & Security

In its Initial Response, the Department identified that ten (10) emails and a NOV Response dated February 8, 2010 (responsive to the Request) were withheld based on the Department's contention that these records were exempt from disclosure pursuant to Section 708(b)(2) of the RTKL and Section 708(b)(3) of the RTKL, which the Department categorized under the heading "Public Safety and Security." The Department's claim that these records are exempt from disclosure under these sections of the RTKL and the rationale asserted by the Department in support of this is grossly deficient.

In order for an agency to properly assert an exemption under Section 708(b)(2) of the RTKL, the agency bears the burden to demonstrate that "the disclosure of the records would be reasonably likely to jeopardize or threaten public safety or preparedness or public protection activity." Carey v. Pennsylvania Department of Corrections, 61 A.3d 367, 374 (Pa. Commw. Ct. 2013). Evaluation of the "reasonably likely" test involves analysis of "the likelihood that disclosure would cause the alleged harm, requiring more than speculation." Id. at 375. The Department's assertion of this exemption under Section 708(b)(2) is mere unfounded speculation, which is made readily apparent by both the content of the Department's Response and the fact that other state and federal government agencies have published the same type of information on their websites that is nearly identical to what was sought in the instant Request and what is presumably being withheld by the Department.

With these "Public Safety and Security" exemptions, the Department engages in baseless fear-mongering to direct attention away from the deficiency of its Response. Amongst the doomsday scenarios presented by the Department in its Response are its contentions that:

- disclosure of licensure information could allow an individual to “utilize the information contained in the license and reports to unlawfully obtain the radioactive materials for illicit purposes thus creating a major security and health breach.” [Department Response at p. 4].
- “Disclosing the contents of these records would reveal specific information pertaining to the nature and location of radioactive materials.” [Department Response at p. 4].
- “Information contained within these files would give a determined adversary the means to actually do harm to others.” [Department Response at p. 4].

Essentially, the Department would have one believe that if it provided the records in its possession that are responsive to this Request, that cities across the Commonwealth would suddenly become black market weapons bazaars full of unsavory characters purchasing radioactive materials. These “scare tactics” are preposterous and are nothing more than ill-fated attempt to direct attention away from the fact the Department has not and cannot demonstrate, beyond mere conjecture, that it is reasonably likely that the disclosure of these records will jeopardize or threaten public safety, as is required by law. Carey, 61 A.3d at 374, 75. In fact, beyond using “buzzwords”, the Department’s Response does not even rise to mere speculation of potential harm to “Public Safety and Security.” A cursory examination of the Department’s assertion of this exemption, in concert with records that the Department provided *and* general background information, reveals the absurdity of the Department’s position that the “Public Safety and Security” exemption applies.

The most egregious example of the Department’s misuse of the “Public Safety and Security” exemption to withhold responsive records from the Requester is the Department’s decision not to disclose the address of ProTechnics. In its Response, the Department identifies that among the withheld records, there is information about “. . . physical addresses.” [Response p. 4]. In the documents that the Department produced, the mailing address of ProTechnics is redacted. From a threshold perspective, it is unclear how the Department could conclude that

disclosure of the business address of a company where correspondence is directed would endanger the "Public Safety and Security." ProTechnics' office is not a secret military facility where national security could be compromised by disclosure of its mailing address: it is an office building in suburban Houston. A visit to the ProTechnics website includes a page where one can obtain the address and telephone number for every ProTechnics location: (<http://www.corelab.com/ProTechnics/locations>). A copy of this webpage is attached hereto as **Attachment 1**. In fact, on that website, ProTechnics lists its headquarters address and phone numbers and invites people to make contact with the company:

A screenshot of a website's contact page for ProTechnics. The page has a dark header with the text "Contact ProTechnics" in white. Below the header, there is a section titled "Email Us" with a dark button that says "Send us a request". Underneath that is the "Headquarters" section, which lists the address: "6510 W. Sam Houston Pkwy. N. Houston, TX 77041". The "Call Us" section lists phone numbers for USA (1-713-328-2320), Canada (1-403-571-1685), and International (1-713-328-2323). At the bottom of the screenshot is the "Locations" section.

Contact ProTechnics

Email Us

Send us a request

Headquarters
6510 W. Sam Houston Pkwy. N.
Houston, TX 77041

Call Us
USA: 1-713-328-2320
Canada: 1-403-571-1685
International: 1-713-328-2323
Technical: 1-713-328-2340

Locations

See, Attachment 2. Presumably, if ProTechnics was concerned about the "Public Safety and Security" ramifications of the disclosure of its address, it would not maintain this information on its own website. Since ProTechnics has disclosed its headquarters address and its other numerous business locations on its own website, the unidentified "determined adversary" that the Department cites in its Response would not have to work too hard to acquire this information. In light of these

facts, the Department's redaction of ProTechnics' address and its withholding of documents with ProTechnics' name and address on them is not justified by its asserted "Public Safety and Security" exemption claims.

The Department's refusal to provide records containing ProTechnics' mailing address is but the tip of the iceberg in the Department's puzzling and improper redaction of records and withholding of records based on its "Public Safety and Security" exemption. If one reasonably interprets the Department's Response, one reaches the conclusion that the Department will neither confirm nor deny that ProTechnics has a radioactive materials license in the Commonwealth, as the Department asserts that it withheld records that include "... licensees' names, license numbers. . ." [Response at p. 4]. The records that the Department did produce, however, clearly indicate that ProTechnics had or has a radioactive materials license that the Department was referencing, either by way of a general license, a reciprocal license or a Pennsylvania radioactive materials license. This is exemplified in the January 28, 2010 "Notice of Violation" directed to Citrus Energy Corporation. Obviously, ProTechnics had a radioactive materials license number, or this information would not have been redacted from the January 28, 2010 Notice of Violation. Quite clearly, the Department's resistance to any disclosure of information relative to ProTechnics possessing such license is undermined by the records that were produced.

In addition, among the information that the Department has withheld or redacted is information regarding locations where ProTechnics products were used. The Department's claim that disclosure of this information would jeopardize "Public Safety and Security" is wholly undermined by the records that the Department produced. In the records that the Department produced, the Department redacted the well sites where ProTechnics radioactive tracer products were injected into gas wells. However, in a puzzling decision, the Department did not redact the

names of landfills where these ProTechnics radioactive tracers that flowed-back from the well were taken for disposal. Reason would dictate that *if* the Department was concerned that its disclosure of locations where ProTechnics products were injected into the ground could “give a determined adversary the means to actually do harm to others,” the Department would more vigorously guard the location of the landfill where the recovered radioactive flowback was disposed-of.¹ As discussed below, the federal Nuclear Regulatory Commission makes this information available on its own website, further undermining the Department’s position. More to this point, it is odd that the Department would redact the names of the companies that hired ProTechnics in the records that the Department produced, while disclosing the names of the names of the companies where these tracers were disposed-of. Even then, the Department’s redactions were incomplete, defeating the purpose of the exercise, as, for example, the Southcentral regional office disclosed a Notice of Violation directed to Citrus Energy Corporation. *See*, Notice of Violation directed to Citrus Energy attached hereto as **Attachment 2**.

Along similar lines, the Department’s contention that revealing “inspection reports” and “documentation of security controls” would undermine the “Public Safety and Welfare” is frustrated by other information that the Department has provided pursuant to other Right-to-Know Requests. For example, the Department’s Northwest Regional Office provided the minutes of a June 16, 2010 Program Managers’ Conference Call in response to the Request. *See*, June 16, 2010 Program Managers’ Conference Call minutes attached hereto as **Attachment 3**. This document identifies that the Rustick Landfill had a radiation alert for Iridium-192, in waste generated from a gas well where ProTechnics utilized Iridium-192 tracer beads. The letter then continues that

¹ To this end, it seems implausible for the Department to contend that, with respect to the matters referenced in its Notices of Violation, that disclosure of the locations where Protechnics tracers were used several years ago jeopardizes any public safety.

“ProTechnics is currently the only company utilizing this technology in PA.” Quite clearly, information about “security controls” and the results of incidents have been provided by the Department. In light of this, the Department cannot credibly refuse to produce documents responsive to the Request by asserting an exemption that the Department itself has already ignored.

Also unclear is how the Department’s redaction of the names of individuals employed by or representing ProTechnics is an appropriate “Public Safety and Security” exemption under the RTKL. For example, in the records that the Central Office of the Department has produced, it has partially redacted the identity of the employee at ProTechnics that correspondence was directed to and the Department also redacted the names of attorneys for ProTechnics that signed a Consent Assessment of Civil Penalty on behalf of ProTechnics. There is absolutely no reason why the identity of ProTechnics’ legal counsel should be redacted from documents. The redaction of such information is also suspect and improper when the Department already provided such information from its other offices.² Moreover, the Department’s redaction was sloppy, at best, because while the Department redacted the name of the addressee from the address, it did not redact the names of “Mr. Hampton” and “Mr. Flecker” from the salutations. *See*, January 28, 2010 Notice of Violation transmitted to “Mr. Hampton” and December 23, 2013 correspondence to “Mr. Flecker” appended hereto as **Attachment 4**. Additionally, where the Department has redacted the names of individuals at ProTechnics, the Department did not redact the names and addresses of other parties involved in matters subject to the Request, such as the August 3, 2010 Consent Assessment of Civil Penalty involving Elk Waste Services, Inc. of 134 Sara Road, Saint Marys, PA 15857, which was signed by Chester L. Cheatle, the President of Elk Waste Services. *See*,

² Moreover, documents available on the Nuclear Regulatory Commission website contain the names of ProTechnics employees. *See*, Attachment 9. If the Nuclear Regulatory Commission does not find it to be contrary to the public safety or, indeed, individuals’ personal safety to place this information on its website, the Department cannot credibly assert such exemption.

August 3, 2010 Consent Assessment of Civil Penalty attached hereto as **Attachment 5**. The Department even produced a check from Elk Waste Services bearing the company's bank account number. *See*, Attachment 8. There can be no doubt that the Department's selective redaction and non-disclosure of even basic information is arbitrary.

While these examples indicate that specific parts of the Department's withholding of responsive records based on "Public Safety and Security" are nonsensical, a more global view of the Department's "Public Safety and Security" exemption claim reveals that its fundamental premise is fatally flawed. At the heart of the Department's "Public Safety and Security" claim is that disclosure of information related to radioactive licenses, complaints and violations would somehow jeopardize the public welfare. This contradicts the practice of the United States Nuclear Regulatory Commission ("NRC"), the federal agency entrusted with nuclear regulation and safety. Whereas information such as radioactivity license numbers, corporate addresses, types of radioactive sources, locations of use, etc. are guarded by the Department for fear of falling into the hands of unidentified miscreants, the NRC makes all of this information available on its website. Also puzzling is that the Department's Northwest regional office produced, in response to the Request, an internal e-mail, dated November 16, 2010, wherein Department employees noted concerns of radiation exposure to Department inspectors associated with the use of radioactive tracers. *See*, November 16, 2010 Department e-mail attached hereto as **Attachment 6**.

On the front page of the NRC website, there is a "Search" feature where, if one enters "ProTechnics", five (5) pages of results are populated, with hyperlinks to a variety of documents. Searching through these free, publicly available files on the NRC website reveals a plethora of information about ProTechnics. For example, one entry on the NRC website involved an April 2014 event in Colorado involving ProTechnics:

Agreement State	Event Number: 50065
Rep Org: COLORADO DEPT OF HEALTH Licensee: PROTECHNICS Region: 4 City: FRUITA State: CO County: License #: CO 545-01 Agreement: Y Docket: NRC Notified By: JAMES JARVIS HQ OPS Officer: DONALD NORWOOD	Notification Date: 04/28/2014 Notification Time: 16:15 [ET] Event Date: 04/04/2014 Event Time: 14:30 [MDT] Last Update Date: 04/28/2014
Emergency Class: NON EMERGENCY 10 CFR Section: AGREEMENT STATE	Person (Organization): MARK HAIRE (R4DO) FSME EVENTS RESOURCE (EMAI)

Event Text

AGREEMENT STATE REPORT - SCRAP FACILITY GATE ALARM

"On 04/04/14 at approximately 1430 MDT, the Colorado Radiation Program received phone notification of a scrap load that had been rejected at a recycling facility in Englewood, CO due to a gate radiation alarm. Scrap facility personnel performed surveys around the container using hand held survey instruments. Surveys indicated readings up to a maximum of 120 microrem/hour (Ludlum Model 3). Recycling facility staff indicated that the load would not be returned to the shipper until the following week and that the load/roll-off container was segregated onsite. The Colorado Radiation Program issued a DOT special permit and the scrap metal was returned to the originator, Baker-Hughes (Colorado License No. 678-01; 285 County Road 27, Brighton, CO 80603) on or about 04/11/14.

"Preliminary communications with Baker-Hughes personnel indicated that it performed well fracking work in mid-March 2014 and worked with another Colorado licensee - well logging tracer company, ProTechnics (Colorado License No. 545-01; 703 Greenway Drive, Fruita, CO 81521). Baker-Hughes is not authorized for tracer material use. Baker-Hughes requested that ProTechnics perform surveys on the rejected scrap load to determine whether the contamination was naturally occurring radioactive material, or tracer material. ProTechnics performed radiological surveys on or about 04/15/14 at the Baker-Hughes facility and determined that a small amount of tracer material remained in one component (a manifold removed from the pumping truck) of the scrap load. ProTechnics identified the tracer material as Iridium-192. The tracer material combined with approximately 10 lbs. of fracking sand was removed/decontaminated from the scrap component and was packaged by ProTechnics and returned to their facility in Fruita, CO for decay in storage. ProTechnics estimated the activity of Ir-192 tracer material in the component to be approximately 0.015 mCi. After receiving a preliminary written report from ProTechnics on 04/16/14, Colorado Radiation Program staff performed phone interviews of Baker-Hughes personnel and ProTechnics personnel.

"Colorado Radiation Program staff performed on-site verification surveys of the scrap load (post-decontamination) on 04/21/14. Surveys indicated that no radiation levels above instrument background were detected on the remaining decontaminated scrap.

"The Colorado Radiation Program is continuing to investigate the incident to determine further actions."

Readily apparent is the ProTechnics Colorado radioactive materials licensure number, the exact time and date of the incident, the type of incident, and the specific radiation source, an IR-192 tracer as well as the names of individuals reporting the incident. There are many other entries on the NRC website with similar specificity as to the identity of where, what and how specific radioactive tracers were used and mishandled. *See*, Attachment 4.

When one examines the information that the NRC makes available on its own website, it is readily apparent that the scope of the Request is fairly encompassed within these documents. The Department cannot credibly claim that it withholds information for “Public Safety and Security” reasons when its federal counterpart makes this same information available, without even any need for a Freedom of Information Act inquiry. Still further, it is disingenuous of the Department to claim that the type of radioactive material utilized by ProTechnics somehow is in need of protection given that the types of radioactive tracers used by ProTechnics is publically available in ProTechnics’ own patent application material, as well as an article published in a national journal regarding its product. *See*, Protechnics’ Patent Application Material and Study and Application of ZeroWash Tracer fracture monitoring, attached hereto as **Attachment 7**. And the way in which radioactive material is used and its amount was testified to in open court by the president of ProTechnics. *See*, Transcript of Proceedings, attached hereto as **Attachment 8**. In the Department’s case, it is difficult to imagine what risk to the public wellbeing would arise by the disclosure of information about where decaying radioactive tracers were injected into gas wells a half-decade ago.

Simply put, the Department redacted the January 28, 2010 NOV and withheld 12 pages of records based on “Public Safety and Security” exemptions and redacted information in other records based on these same exemptions that are inappropriate under the RTKL.

Internal Predecisional Deliberation Exemption

The Department next asserts that it is withholding approximately 5 pages of responsive records based on the “Internal, Predecisional Deliberation Exception” found in Section 708(b)(1)(i)(A) of the RTKL. To satisfy the Predecisional Deliberation exemption, the Department must demonstrate that the withheld records are “(1) internal; (2) prior to agency decision or course of action; and (3) deliberative in character.” Worcester v. Office of Open Records, 129 A.3d 44, 61 (Pa. Commw. Ct. 2016). Factual information is not deliberative in character. Id. Only the information “that constitutes confidential deliberations of law or policymaking, reflecting opinions, recommendations or advice is protected as deliberative.” Pennsylvania Department of Education v. Bagwell, 114 A.3d 1113, 1122-23 (Pa. Commw. Ct. 2015) (internal citations omitted). Further, “each of the three elements must be established by the underlying facts, as the absence of any of the elements precludes protection under the exception.” Id. at 1123.

The Department does not provide evidence that the “approximately 5 pages” of “10 emails” are, in fact, deliberative, such that they would fall within this exemption. For example, the Department’s Northwest region produced a November 16, 2010 internal e-mail communication among Department employees *and* the meeting minutes of a June 16, 2010 Department meeting as well as the internal e-mail of the Department’s Northwest regional office expressing concern over oil and gas inspectors’ radiation exposure at these well sites. *See*, Attachments 6 & 10. Here, the Department’s Northcentral office claims that it is withholding the same type of documents produced by the Northwest regional office. Quite clearly, the Department has not met the threshold required to withhold such records pursuant to this exemption and thus must be compelled to produce the withheld records.

Personal Identification Information

The Department claims an exemption pursuant to the "Personal Identification Information" exception in Section 708(b)(6) of the RTKL with respect to 1 record page that contains employees' internal telephone numbers. Protection of employees' internal telephone numbers makes little sense, as Department directories are available on the internet and reaching representatives by phone is as easy as calling the Department's switchboard and asking for a particular representative.

Northcentral Region's Supplemental Response

On March 24, 2016, the Northcentral office substantially altered its determination by way of correspondence to the Requester. In its March 24, 2016 letter, the Northcentral office retracted its *prior* "final response", contending that the records produced were "not responsive to your request." Thus, the Northcentral Office attempted to amend its "final response" to state that "it did not have responsive records in its custody, control or possession." This makes no sense.

Essentially, the Northcentral Office produced records in response to the Request, contended that other responsive records were exempted from production, and then changed its mind that it did not actually have any responsive records. One cannot accept the Department's contention that it possesses no responsive records when it clearly does, as illustrated by the fact that it produced responsive records. The Department's attempted explanation further erodes confidence in the expectation that it responded to the Request in good faith.

The Department wrote, in its March 24, 2016 letter, that:

The records referenced in the NC Regional Office's final response on March 9, 2016, were not responsive to your request because the NOV sent to you was issued to Citrus Energy Corporation, who was contracted by ProTechnics to conduct a radioactive tracer study. The

internal emails withheld were related to those issues and unrelated to your request.

However, as the Northcentral Office originally concluded, these records were within the scope of the Request. From the outset, the Department's March 24, 2016 correspondence appears to be inaccurate because ProTechnics is not in the business of developing natural gas and oil wells. Instead, ProTechnics business is radioactive/chemical tracing. Likewise, Citrus Energy Corporation is not in the radioactive/chemical tracing business, but rather is in the business of developing natural oil and gas wells. Thus, contrary to the Department's explanation, Citrus Energy Corporation would have hired, and did in fact hire, ProTechnics to conduct a radioactive tracer study, as evidenced by the Notice of Violation issued to Citrus Energy Corporation which states, "Citrus Energy Corporation contracted Core Laboratories, L. P. -ProTechnics Division (ProTechnics) to conduct a radioactive tracer study at _____." Clearly, ProTechnics did not contract Citrus Energy Corporation to perform radioactive tracing. Either the Department deliberately miscast the relationship between ProTechnics and Citrus Energy and which entity was actually performing the radioactive tracing or the Department was inaccurate and lacks a basic and important understanding of what the companies it is charged with regulating in the oil and gas industry actually do. Moreover, the Department's "amended" final response is simply not supported by the facts already discussed by the Department. In a production of documents responsive to the Right to Know Request by the Northwest region office, a memorandum from the Department clearly indicates that ProTechnics is the only company that conducts radioactive tracing in the Commonwealth of Pennsylvania. *See*, Program Mangers' Conference Call Minutes, attached hereto as **Attachment 9**. As such, the Department's amended response is at odds with the factual information produced by another region of the Department regarding which entity performs radioactive tracing in the Commonwealth of Pennsylvania.

As the Department admitted through the records that it presented in its initial “final response”, Notices of Violation were issued by the Northcentral Office related to ProTechnics. The Request sought “all . . . Notice(s) of Violation(s) . . . issued to Protechnics by the Department and/or between Protechnics and the Department for any and all work or services performed by Protechnics at any natural as well site in the Commonwealth of Pennsylvania.” Quite obviously, since the Department provided records related to a Notice of Violation involving a wellpad where ProTechnics was operating, the Department possesses responsive records.

The Department cannot and should not be able to change its “final response” after the fact, particularly where its prior disclosure included responsive records and the Department’s amended response lacks support of any accurate fact. The Department has not met its burden to demonstrate that its Northcentral Office does not possess any records where it clearly possess the records.



Core Laboratories

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Contact ProTechnics

Email Us

Send us a request

Headquarters

6510 W. Sam Houston Pkwy. N.
Houston, TX 77041

Call Us

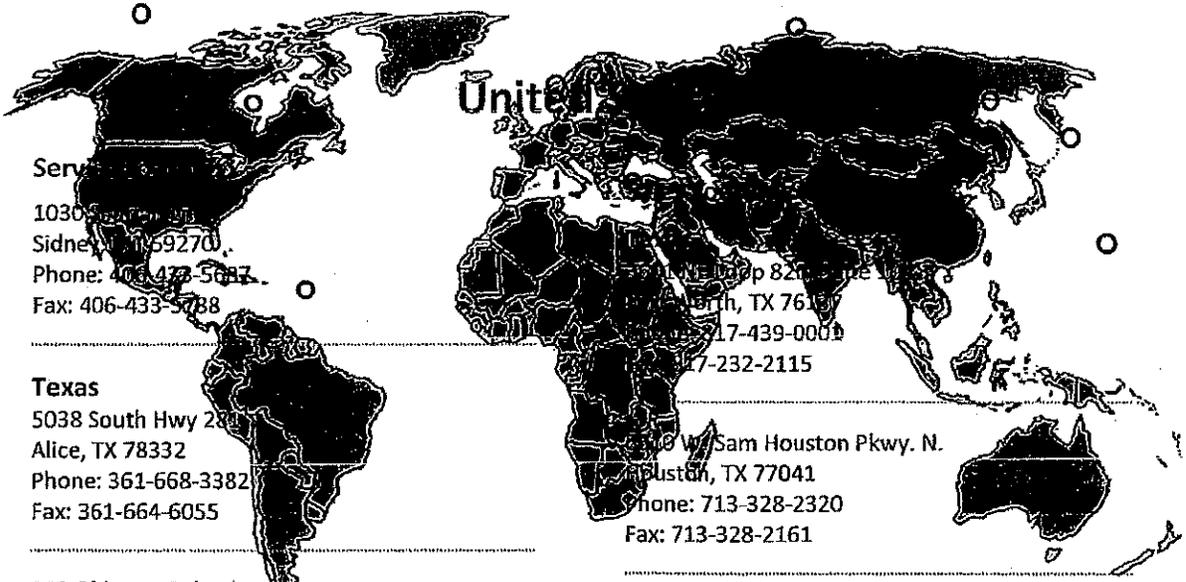
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Canada: 1-403-571-1685
International: 1-713-328-2323
Technical: 1-713-328-2340

Locations

Locations

Click on a region for location information.





Serv
1030
Sidney, TX 75927
Phone: 406-433-5887
Fax: 406-433-5788

Texas
5038 South Hwy 28
Alice, TX 78332
Phone: 361-668-3382
Fax: 361-664-6055

183 Old Post Oak Rd.
Kilgore, TX 75662
Phone: 903-984-4223
Fax: 903-983-3287

2001 Commerce
Midland, TX 79703
Phone: 432-563-5879
Fax: 432-699-1182

Louisiana
1004 Albertson Pkwy
Broussard, LA 70518
Phone: 337-330-2822
Fax: 337-330-2872

New Mexico
2080 A Afton Place
Farmington, NM 87401
Phone: 505-326-7133
Fax: 505-326-1879

Wyoming
570 Jonah Dr.
Rock Springs, WY 82901
Phone: 307-362-2030
Fax: 307-382-0315

Colorado
703 Greenway Drive
Fruita, CO 81521
Phone: 970-858-1778
Fax: 970-858-1779

1000 W Loop 820
North, TX 76107
Phone: 717-439-0001
Fax: 717-232-2115

100 W Sam Houston Pkwy. N.
Houston, TX 77041
Phone: 713-328-2320
Fax: 713-328-2161

705 W. Wadley Ave.
Suite 250
Midland, TX 79705
Phone: 432-687-5797
Fax: 432-687-5862

1901 Rickety Ln.
Suite 112
Tyler, TX 75703
Phone: 903-581-4598
Fax: 903-581-1794

California
3437 Landco Drive
Bakersfield, CA 93308
Phone: 661-325-1979
Fax: 661-325-5808

Pennsylvania
375 Southpointe Blvd
Suite 330
Canonsburg, PA 15317
Phone: 724-743-7040
Fax: 724-743-7042

Oklahoma
3030 NW Expressway
Suite 1416
Oklahoma City, OK 73112
Phone: 405-418-2110
Fax: 405-562-1187

403 S. Cheyenne Ave.
Suite 506

California

3437 Landco Drive
Bakersfield, CA 93308
Phone: 661-325-1979
Fax: 661-325-5808

Tulsa, OK 74103
Phone: 918-742-0590
Fax: 918-622-4121

Oklahoma

4300 SW 33rd St.
Oklahoma City, OK 73119
Phone: 405-680-5560
Fax: 405-680-5568

Colorado

621 17th Street
Suite 1740
Denver, CO 80293
Phone: 303-586-5236 or
or 303-586-5237
Fax: 303-297-7723

Utah

1348 S 1500 E
Vernal, UT 84078
Phone: 435-789-6621
Fax: 435-789-6676

West Virginia

1701 St. Mary Pike
Parkersburg, WV 26104
Phone: 304-422-2144
Fax: 304-422-2166

150 W. Airport Industrial Park Rd.
Lot# 27
Parkersburg, WV 26104
Phone: 304-464-4290
Back Office: 304-464-4291
Fax: 304-464-4292

ProTechnics' global reach spans over more than 21 countries and we are growing every day. ProTechnics not only has the global reach, but the technology and expertise to provide exceptional service to engineers in virtually every major producing basin of the world.



Pennsylvania Department of Environmental Protection

909 Elmerton Avenue
Harrisburg, PA 17110-8200
January 28, 2010

Southcentral Regional Office

717-705-4703
FAX - 717-705-4890

NOTICE OF VIOLATION

PRIORITY MAIL DELIVERY CONFIRMATION NO. [REDACTED]

[REDACTED]
Operations Manager
Citrus Energy Corporation
[REDACTED]

Dear Mr. Searfoss:

It is the Department's understanding that Citrus Energy Corporation (Citrus Energy) contracted Core Laboratories, L.P. - ProTechnics Division (ProTechnics) to conduct a radioactive tracer study at [REDACTED] (well site), located along [REDACTED] (Site). On December 10, 2009, ProTechnics injected a gel solution that was comprised of water, sand and [REDACTED] under Pennsylvania Reciprocity License No. [REDACTED] and Texas License [REDACTED]. After the injection of [REDACTED] the ProTechnics' field representative left the well site.

Following ProTechnics' departure from the well site, Citrus Energy pumped sand and water, which were contaminated with [REDACTED] (radioactive residual waste), to the surface and contacted Clean Harbors Environmental Services, Inc. (Clean Harbors) to remove the radioactive residual waste from an on-site tank.

On December 21, 2009, Clean Harbors emptied the on-site tank and transported the radioactive residual waste to the Lancaster Oil Company (d/b/a Environmental Recovery Corporation of PA (ERC)).

On December 22, 2009, ERC transported a roll-off container, which included the radioactive residual waste to Modern Landfill for disposal. Upon entering the scale at Modern Landfill, a radiation monitor was alarmed and Modern Landfill notified the Department of this event.

The following violation is noted:

- 25 Pa. Code § 287.54(a)(1) requires the performance of a detailed analysis to fully characterize the physical properties and chemical composition of each type of waste generated.



January 28, 2010

On December 10, 2009, Citrus Energy failed to conduct a proper waste analysis of the radioactive residual waste prior to contacting Clean Harbors to remove the waste.

You are hereby notified of the existence of a violation as well as the need to provide prompt corrective action. Failure to correct the violation may result in legal proceedings under the Radiation Protection Act and the Solid Waste Management Act. Under each Act, each day of violation is considered a distinct and separate offense and will be handled accordingly.

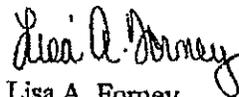
Be advised that the violation described above constitutes a public nuisance under Section 309 of the Radiation Protection Act, 35 P.S. § 7110.309, as well as Section 610 of the Solid Waste Management Act, 35 P.S. § 6018.601. This may subject you, under Section 308(e) of the Radiation Protection Act, 35 P.S. § 7110.308(e) and Section 605 of the Solid Waste Management Act, 35 P.S. § 6018.605 to civil penalty liability of up to (\$25,000) for each violation. Additionally, under the Radiation Protection Act, penalties may be assessed up to (\$5,000) per day for each continuing day of violation.

The Department requests that a written response be sent within 14 days of the receipt of this Notice of Violation. The response should include, but not be limited to a typed letter that provides a detailed description of the actions taken to avoid any future occurrences.

This Notice of Violation is neither an order nor any other final action of the Department. It neither imposes nor waives any enforcement action available to the Department under any of its statutes.

Thank you for your cooperation. If you have any questions, please call me at 717-705-4898.

Sincerely,



Lisa A. Forney
Compliance Specialist
Radiation Protection Program

bcc: CO File
SCRO File
S. Acker
L. Forney

Program Managers' Conference Call

Wednesday, June 16, 2010

9:30 – 11:30 am

MINUTES

Participants

- CO: Steve Socash, Laura Henry, Joe Sieber, Renee Bartholomew (BWM)
Dave Allard, Jim Barnhart (BRP)
- SE: Joe Feola, Jim Wentzel
- NE: Bill Tomayko, Tracey McGurk
- SC: John Oren, John Spang
- NC: Pat Brennan
- SW: Mike Forbeck, Diane McDaniel
- NW: Todd Carlson, Joel Fair

Topics Discussed

- o **Next meeting:** Thursday, September 9, 2010, RCSOB 14th floor Large Conference Room; face-to-face meeting directly after the SWANA/PWIA Conference
- o **Iridium-192 at Rustick LF & NORM/TENORM Issues** (see associated e-mail)
Dave Allard discussed this case and additional NORM/TENORM issues associated with disposal of frac fluid at MWLF's. Rustick had a hit of Iridium-192 in waste generated at an Oil & Gas well in which the drilling was traced by ProTechnics, a company out of Texas that utilizes Iridium-192 beads for tracing the efficiency of a well fracture. ProTechnics is currently the only company utilizing this technology in PA, and the Department has come across some compliance issues concerning disposal of the resulting waste. ProTechnics' license allows for in-situ decay on site with subsequent disposal at a LF; however, it has been discovered that drill cuttings may have been improperly managed. RP is currently seeking to take enforcement action against ProTechnics, and recent WM inspections will probably result in enforcement action by that program as well.

In general, Radium has been an issue; it has also been found in the solid component of the frac waste. It is OK for a MWLF to dispose of this material under a BRP exemption, and Regional WM staff has the ability to approve its disposal. BRP requirements include maintenance of a spreadsheet of loads containing TENORM for tracking purposes. It is important that WM and RP continue to coordinate with each other on these issues (enforcement actions, handling for disposal, etc.) and that WM keeps RP in the loop when it sees new sources of TENORM coming in for disposal.





pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION
RADIATION PROTECTION PROGRAM

December 23, 2013

PRIORITY MAIL DELIVERY CONFIRMATION NO.:

ProTechnics Division of Core Laboratories LP

Re: License No. [REDACTED]
November 2, 2010 Consent Order and Agreement

Dear Mr. Flecker:

Thank you for participating in the December 18, 2013 conference and for clarifying the events that resulted in the issuance of the November 26, 2013 Notice of Violation. As you know, the Department was represented by: Ms. Lynn E. Langer, Mr. Robert M. Zaccaro, Mr. Joseph H. DeMan, Mr. Richard F. Croll, Ms. Jennifer N. Noll and myself. Mr. Will Williams and Mr. Craig Konieczny were present on behalf of ProTechnics Division of Core Laboratories, LP (ProTechnics). In addition to you, Mr. Larry Stephenson and Mr. Ron Blush participated via telephone.

As a result of the discussions, the following action items were developed and agreed upon by ProTechnics and the Department:

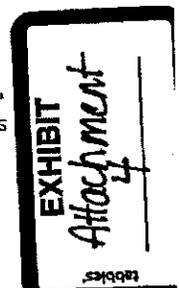
- As a result of violations of the November 2, 2010 Consent Order and Agreement (COA), stipulated civil penalties totaling \$75,000 are due by January 15, 2014. Acceptable forms of payment include cashier's check, certified check and money order. Payment will need to be payable to the "Commonwealth of Pennsylvania, Radiation Protection Fund" and mailed to my attention.
- It is the Department's understanding that the language of the Radioactive Tracer Well Site Agreement (Well Site Agreement) has created many questions from Well Owner/Operators and that revision may be warranted. Please draft revisions to the Radioactive Tracer Well Site Agreement in Attachment A and submit them by January 15, 2014.
- The Department will review any suggested revisions and schedule a conference call in the event that additional discussion is necessary.
- Upon final approval of the Well Site Agreement, the Department will draft an Addendum to the COA, which will then be executed by both parties.

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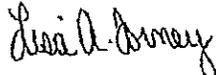


December 23, 2013

- The Addendum will require ProTechnics to submit a License Amendment request within 14 days of the execution of the Addendum. The amendment will request a License Condition requiring the submission of the newly revised Well Site Agreement as specified in the COA.
- The Addendum will also require an annual meeting between representatives of ProTechnics and the Department. The annual meeting will be initiated by ProTechnics and will occur in May of each year.

Thank you for your cooperation. If you have any questions, please feel free to contact me at 717.705.4898.

Sincerely,



Lisa A. Forney, MEPC
Compliance Specialist
Radiation Protection Program

Enclosures

cc: General Counsel



December 23, 2013

[REDACTED]

bcc: SCRO – License No. [REDACTED] - File Via L. Forney
CO File – Via Electronic Filing
L. Forney
R. Zaccano
J. DeMan
S.K. Portman
J. Chippo
J. Melnic
D. Allard
R. Croil - SERO
J.N. Noll - SERO

General Counsel
[REDACTED]

Please send email to [REDACTED] & [REDACTED] with the note:

Enclosed please find a courtesy copy of Department correspondence being sent today. Any questions regarding this document or its contents should be directed to Lisa Forney at 717.705.4898 or lforney@pa.gov.



Pennsylvania Department of Environmental Protection

909 Elmerton Avenue
Harrisburg, PA 17110-8200
January 28, 2010

Southcentral Regional Office

717-705-4703
FAX - 717-705-4890

NOTICE OF VIOLATION

PRIORITY MAIL DELIVERY CONFIRMATION NO. [REDACTED]

[REDACTED]
Core Laboratories, L.P. - ProTechnics Division
[REDACTED]

Re: License No. [REDACTED]

Dear Mr. Hampton:

The Department is aware that the services of Core Laboratories, L.P. - ProTechnics Division (ProTechnics) were enlisted by [REDACTED] in order to conduct a radioactive tracer study at the [REDACTED] (well site), located along [REDACTED]. On December 10, 2009, ProTechnics injected a gel solution, which was comprised of water, sand and [REDACTED] under Pennsylvania Reciprocity License No. [REDACTED] and Texas License No. [REDACTED]. After the injection of [REDACTED] the ProTechnics' field technician left the well site.

Following ProTechnics' departure from the well site, Citrus Energy pumped sand and water, which were contaminated with [REDACTED] to the surface. Clean Harbors Environmental Services, Inc. (Clean Harbors) removed the radioactive material from an on-site tank on December 21, 2009 and transported the radioactive material to the [REDACTED]. [REDACTED] in turn, transported a roll-off container, which included the radioactive material to Modern Landfill for disposal on December 22, 2009. Upon entering the scale at Modern Landfill, a radiation monitor was alarmed and Modern Landfill notified the Department of this event.

The following violation is noted:

- 25 Pa. Code § 217.1(a) requires that a person may not receive, possess, use, transfer, own or acquire radioactive material except as authorized under a specific license. Specifically, Texas Radioactive Material License [REDACTED] Conditions [REDACTED] and [REDACTED] require that the released radioactive material be possessed, handled and/or disposed in a manner outlined in the procedures submitted with the license application.

ProTechnics failed to ensure proper handling and disposal of the radioactive material after it had been pumped to the surface and sent for disposal at an off-site location.

January 28, 2010

The Department is in receipt of an incident report, which described the corrective actions taken. Be advised that no additional response is necessary at this time.

This Notice of Violation is neither an order nor any other final action of the Department. It neither imposes nor waives any enforcement action available to the Department under any of its statutes.

Thank you for your cooperation. If you have any questions, please call me at 717-705-4898.

Sincerely,



Lisa A. Forney
Compliance Specialist
Radiation Protection Program

cc: [REDACTED] Radiation Safety Officer, Core Laboratories, L.P. - Protechnics Division

January 28, 2010

bcc: CO File
SCRO File
S. Acker
L. Forney



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

APC
Anita Jones
Godd TC

August 4, 2010

Mr. Chester Cheattle
Elk Waste Services, Inc.
134 Sara Road
Saint Marys, PA 15857

Re: Consent Assessment of Civil Penalty

Dear Mr. Cheattle:

Please find enclosed a copy of the executed Consent Assessment of Civil Penalty (CACP) for your records.

Thank you for your cooperation in this matter.

If you have any questions concerning the CACP or any waste related issue please feel free to contact me at 814.332.6829.

Sincerely,

John R. Crow
Solid Waste Supervisor
Waste Management

Enclosure

cc: NWRO
Enf. File

JRC:jb



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of:

Elk Waste Services, Inc. : Solid Waste management Act
134 Sara Road :
Saint Marys, PA 15857 :

CONSENT ASSESSMENT OF CIVIL PENALTY

This Consent Assessment of Civil Penalty is entered into this 3rd day of August 2010, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and Elk Waste Services, Inc. ("Elk Waste Services").

The Department has found and determined the following:

- A. The Department is the agency with the duty and authority to administer and enforce the Solid Waste Management Act, Act of July 7, 1980, P.L. 380, *as amended*, 35 P.S. §§6018.101-6018.1003 ("Solid Waste Management Act"); Section 1917-A of the Administrative Code of 1929, Act of April 9, 1929, P.L. 177, *as amended*, 71 P.S. §§510-17 ("Administrative Code"); and the rules and regulations promulgated thereunder ("Regulations").
- B. Elk Waste Services is a "person," as that term is defined in Section 103 of the Solid Waste Management Act, 35 P.S. §6018.103, and is engaged in the collection and/or transportation of Solid Waste within the Commonwealth of Pennsylvania.
- C. On May 21, 2010, Elk Waste Services transported contaminated liner material and other cleanup waste from a gas well drilling site in Shippen Township, Cameron County to McKean County Landfill in Sergeant Township, McKean County, Pennsylvania.
- D. The contaminated liner material and other cleanup waste ("Waste") noted in Paragraph C, above, is "solid waste" and "residual waste" as those terms are defined in Section 103 of the Solid Waste Management Act, 35 P.S. §6018.103, and 25 Pa. Code §287.1.

E. On May 21, 2010, Elk Waste Services transported the Waste to McKean County Landfill for disposal in a vehicle that did not have a contingency plan to minimize and abate a discharge of residual waste in violation of 25 Pa. Code §299.216(d), and the vehicle did not have a daily operational record in violation of 25 Pa. Code §299.219(a).

F. On May 21, 2010, Elk Waste Services transported the Waste to McKean County Landfill without McKean County Landfill having a permit or written approval from the Department that expressly allowed the disposal of the Waste in violation of Section 303(a) of the Solid Waste Management Act, 35 P.S. §6018.303(a), and 25 Pa. Code §299.215(b).

G. On June 14, 2010, the Department issued Elk Waste Services a Notice of Violation for the violations identified in Paragraphs E, and F, above.

H. The violations described in Paragraphs E, and F, above, constitute unlawful conduct under Section 610(4) of the Solid Waste Management Act, 35 P.S. §6018.610(4); and subjects Elk Waste Services to a claim of civil penalties under Section 605 of the Solid Waste Management Act, 35 P.S. §6018.605.

I. As of the date of this Consent Assessment of Civil Penalty, Elk Waste Services has corrected all of the violations identified in Paragraphs E, and F, above.

After full and complete negotiation of all matters set forth in this Consent Assessment of Civil Penalty and upon mutual exchange of the covenants herein, the Parties desiring to avoid litigation and intending to be legally bound, it is hereby ASSESSED by the Department and AGREED to by Elk Waste Services as follows:

1. *Assessment.* In resolution of the Department's claim for civil penalties, which the Department is authorized to pursue under Section 605 of the Solid Waste Management Act, 35 P.S. §6018.605, the Department hereby assesses a civil penalty of \$500, which Elk Waste Services hereby agrees to pay.

2. *Civil Penalty Settlement.* Upon signing this Consent Assessment of Civil Penalty, Elk Waste Services shall pay the civil penalty assessed in Paragraph 1. The payment is in settlement of the Department's claim for civil penalties for the violations set forth in Paragraphs E, and F, above, for the date set forth in Paragraphs E, and F, above. The payment shall be by corporate check or the like, made payable to Commonwealth of Pennsylvania and sent to John Crow, Solid Waste Supervisor, 230 Chestnut Street, Meadville, PA 16335.

3. *Findings.*

(a) Elk Waste Services agrees that the Findings in Paragraphs A through I are true and correct and, in any matter or proceeding involving Elk Waste Services and the Department, Elk Waste Services shall not challenge the accuracy or validity of these Findings.

(b) The Parties do not authorize any other persons to use the Findings in this Consent Assessment of Civil Penalty in any matter or proceeding.

4. *Reservation of Rights.* The Department reserves all other rights with respect to any matter addressed by this Consent Assessment of Civil Penalty, including the right to require abatement of any conditions resulting from the events described in the Findings. Elk Waste Services reserves the right to challenge any action which the Department may take, but waives the right to challenge the content or validity of this Consent Assessment of Civil Penalty.

IN WITNESS WHEREOF, the Parties have caused this Consent Assessment of Civil Penalty to be executed by their duly authorized representatives. The undersigned representative of Elk Waste Services certifies, under penalty of law, as provided by 18 Pa.C.S.A. §4904, that they are authorized to execute this Consent Assessment of Civil Penalty on behalf of Elk Waste Services, that Elk Waste Services consents to the entry of this Consent Assessment of Civil Penalty as an ASSESSMENT of the Department; that Elk Waste Services hereby knowingly waives any right to a hearing under the statutes referenced in this Consent Assessment of Civil Penalty; and that Elk Waste Services

· knowingly waives their right to appeal this Consent Assessment of Civil Penalty, and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. §7514; the Administrative Agency Law, 2 Pa.C.S.A. §103(a) and Chapters 5A and 7A; or any other provision of law. Signature by Elk Waste Services's attorney certifies only that the assessment has been signed after consulting with counsel.

FOR ELK WASTE SERVICES, INC.:

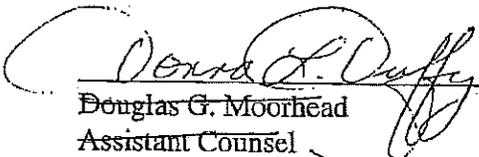

Name Chester L Cheattle
Title PRESIDENT

Name
Attorney For Elk Waste Services, Inc.

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION:



Todd Carlson
Regional Manager
Waste Management Program
Northwest Region



Douglas G. Moorhead
Assistant Counsel

DONNA L. DUFFY
Regional Counsel

cc: John Crow

Anita M
Jack

Commonwealth of Pennsylvania
230 Chestnut Street
Meadville PA 16335

DATE: July 30, 2010

SUBJECT: Transmittal of Settlement

TO: Jeremy Preston
Regional Business Manager

FROM: Anita Stainbrook
Operations Manager
Waste Management

PENALTY AMOUNT: \$500.00

FUND(S): Solid Waste Abatement Fund: Penalty Amount \$ 500.00

AND/OR

Waste Transportation Safety Account: Penalty Amount \$

VIOLATOR: Elk Waste Services, Inc.

ADDRESS: 134 Sara Road

CITY/STATE/ZIP: Saint Marys, PA 15857

ELK WASTE SERVICES, INC.

C/O CHESTER CHEATLE
134 SARA ROAD
ST. MARYS, PA 15857
(814) 834-6771

FIRST Commonwealth
First Commonwealth Bank
Central Office: Indiana, PA 15701-0400

16876

DATE

Jul 27, 2010

60-682/433

AMOUNT

\$ *****\$500:00

Memo:

PAY Five Hundred and 00/100 Dollars

TO THE
ORDER
OF:

Commonwealth of Pennsylvania
John Crow, Solid Waste Supervi
230 Chestnut St
Meadville, PA 16335

Chester Cheattle
AUTHORIZED SIGNATURE

ED Security features. Details on back.

⑈016876⑈ ⑆043306826⑆ 0901 450863⑈

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USPTO PATENT FULL-TEXT AND IMAGE DATABASE

(1 of 1)

United States Patent
Bandy, et al.

5,182,051
January 26, 1993

Radioactive tracing with particles

Abstract

There is provided radioactive particles having a ceramic matrix and an element which can be bombarded with neutrons to produce a gamma ray-emitting isotope. The particles are manufactured by mixing the ceramic components and the element, forming particles, sintering the particles, and the particles are subsequently made radioactive by bombardment with neutrons. Particles injected into wells or flow apparatus are traced by adding the radioactive particles and detecting the radioactive particles with gamma ray-sensitive instruments. Particles containing different elements are detected by spectral analysis of gamma rays.

Inventors: Bandy; Thomas R. (Katy, TX), Read; Donna A. (Houston, TX), Wallace; Edward S. (Englewood, CO)

Assignee: ProTechnics International, Inc. (Houston, TX)

Family ID: 27041585

Appl. No.: 07/666,044

Filed: March 7, 1991

Related U.S. Patent Documents

<u>Application Number</u>	<u>Filing Date</u>	<u>Patent Number</u>	<u>Issue Date</u>
466238	Jan 17, 1990		

Current U.S. Class: 252/645; 250/260; 252/965; 376/162; 501/152; 501/55; 501/68; 850/63

Current CPC Class: C09K 8/80 (20130101); E21B 43/267 (20130101); E21B 47/1015 (20130101); G21G 4/04 (20130101); E21B 47/0005 (20130101); Y10S 252/965 (20130101)



**Current International
Class:**

C09K 8/60 (20060101); C09K 8/80 (20060101); E21B
43/25 (20060101); E21B 47/10 (20060101); E21B
43/267 (20060101); E21B 47/00 (20060101); G21G 4/00 (20060101);
G21G 4/04 (20060101); G21G 004/04 ()

Field of Search:

;252/644,645,965 ;250/260,303,308,356.2 ;501/55,68,152 ;376/162

References Cited [Referenced By]

U.S. Patent Documents

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<u>3340202</u>	September 1967	Olombel et al.
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<u>5011677</u>	April 1991	Day et al.

Other References

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 Article "Tracer Technology Finds Expanding Applications". .
 Brochure "Macrolite Ceramic Spheres". .
 Article "Tracers Can Improve Hydraulic Fracturing". .
 Article "Improved Evaluation Techniques for Multiple Radioactive Tracer Applications"..

Primary Examiner: Walsh; Donald P.
Assistant Examiner: Mai; Ngoclan T.
Attorney, Agent or Firm: Pravel, Gambrell, Hewitt, Kimball & Krieger

Parent Case Text

SPECIFICATION

This is a continuation-in-part of U.S. Ser. No. 7/466,238, filed Jan. 17, 1990, now abandoned.

Claims

What we claim is:

1. A non-radioactive particle comprising a sintered ceramic material having embedded therein a target element wherein the target element is either iridium or scandium.
2. The non-radioactive particle of claim 1 wherein the target element is present in the particle at a concentration in the range of about 0.2 per cent to about 4.0 per cent by weight.
3. The non-radioactive particle of claim 1 wherein the target element is present in the particle at a concentration in the range of about 0.2 per cent to about 0.5 per cent by weight.
4. A radioactive particle comprising a sintered ceramic material having embedded therein a target element, said target element being made radioactive by bombardment with neutrons.
5. The particle of claim 4 wherein the sintered ceramic material has a size less than about 25 microns before sintering.
6. The particle of claim 4 wherein the ceramic material comprises a mixture of silica and alumina.
7. The particle of claim 4 wherein the ceramic material comprises at least 30 per cent by weight alumina.
8. The particle of claim 4 wherein the target element is selected from the group of elements consisting of gold, iodine, iridium, scandium, antimony, silver, hafnium, zirconium, rubidium, chromium, iron, strontium, cobalt and zinc.
9. The particle of claim 4 wherein the target element is either iridium or scandium.
10. The particle of claim 4 wherein the target element is present as an oxide or salt compound.
11. The particle of claim 4 wherein the target element is present in the particle at a concentration in the range from a detectable amount to about 5 per cent by weight.
12. The particle of claim 4 wherein the target element is present in the particle at a concentration in the range from a detectable amount to about 0.5 per cent by weight.
13. The particle of claim 4 wherein the particle is in the size range from about 8 mesh to about 400 mesh.
14. The particle of claim 4 wherein the specific gravity is in the range from about 0.5 gm/cc to about 3.9 gm/cc.

15. The particle of claim 4 wherein the target element is present in the particle at a concentration in the range from a detectable amount to the concentration which results in an ineffective amount of strength of the particle.

16. The particle of claim 4 wherein the target element is present in the particle at a concentration in the range from a detectable amount to the concentration which results in an ineffective value of specific gravity of the particle.

17. A non-radioactive particle comprising a sintered ceramic material having embedded therein a target element wherein the target element is selected from the group consisting of antimony, silver, hafnium, chromium and gold.

18. The particle of claim 4 wherein the target element is selected from the group consisting of antimony, silver, hafnium, chromium and gold.

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to radioactive isotope tracers and methods for their use and manufacture. In one aspect, sintered ceramic particles containing an element having the capability to be made radioactive are provided. In another aspect, radioactive sintered ceramic particles are provided. In still another aspect, a method of manufacturing radioactive particles is provided. In still another aspect, a method of using radioactive particles to locate particles in a wellbore or other piping system with negligible contamination of the system with radioactivity is disclosed.

2. Description of Related Art

Radioactive elements are commonly used for tracing the flow of liquids and solids in flow streams. The elements can be present as a soluble compound in a liquid, as insoluble or slightly soluble particles of the element or a compound of the element suspended in the flow stream, or as a soluble or insoluble compound attached to particles of other material which are suspended in a liquid or gas.

Slurries of particles are pumped into wells drilled through subterranean formations for several reasons. One reason is in connection with hydraulic fracturing of wells. The particles are called "proppant," and such particles function to fill the fracture created in the earth around a well and thereby to allow greater fluid flow rate into or out of the well. It is desirable to know after a well has been fractured the vertical extent of the proppant particles that have been placed around the well—particularly, whether the proppant is located in a zone of the well containing hydrocarbons or whether the proppant has been transported to another zone above or below the hydrocarbon-containing zone. It is common for radioactive particles to be added to the proppant as it is injected into the well. After the fracturing operation is complete, a logging tool is run into the well and the location of the proppant-radioactive particle mixture is located.

Slurries are also used in a well for cementing the casing in the well. The cement slurry is pumped into the well through the casing and flows upward outside the casing. It is important to know where the cement is located outside the casing in the well after it sets. Radioactive tracers are sometimes added to the cement slurry as it is pumped into a well. After the cement has set, a logging tool which measures gamma ray radiation is run into the well and the level of radiation is measured at different depths in the casing of the well. Different radioisotopes may be added to different portions of the cement slurry and the logging tool may be used to measure the location of the different tracers outside the casing. A spectral log may be used to indicate the distance of the tracer from the wellbore.

Another use of slurries in wells is in the process of gravel packing of wells. In this process particles, called "gravel," are placed near the wellbore and in the wellbore outside a screen to prevent formation solids from entering the wellbore or plugging the screen. It is important to know whether the gravel pack is continuous and how far it extends vertically in the well. Radioactive particles are added to the gravel as it is pumped into the well and a logging tool is run into the well after the gravel packing operations are complete to determine the location of the gravel.

Radioactive tracers are used in many other flow systems for measuring flow rates, flow patterns and other phenomena associated with movement of fluids or solids in industry or science. In many of these applications the radioactive tracers are placed directly in a liquid. There is often difficulty from the radioactive material plating on to surfaces or being disseminated through the flow system to contaminate the system with radioactivity.

U.S. Pat. No. 3,492,147 discloses a process for production of resin-coated solids, the resin coating incorporating radioactive materials. U.S. Pat. No. 4,731,531 discloses the use of particulate material which is non-radioactive until it is irradiated by neutrons at the surface of a well immediately before it is injected into the well or after it has been deposited in the formation around the well. The non-radioactive isotope is contained in an infusible resin coated on the surface of the particles. Radioactive particles having an infusible resin on the surface were sold by Halliburton Company under the trademark RAYFRAC.RTM.. Other radioactive particles sold for use in the oil industry are believed to be manufactured by simply immersing sand particles in a radioactive solution and drying the particles, the radioactivity then being trapped within natural cracks existing in the sand particles.

Techniques for detecting and measuring radioactivity are well known. A device such as a Geiger Counter will measure total radioactivity. Techniques for measuring the amount of radiation as a function of the energy of the gamma ray are also well known. Each radioactive isotope emits a characteristic spectrum of energies of radiation. Spectral analysis of the gamma rays from a radioactive isotope of an element used in the laboratory and surface facilities is well-known. In recent years, tools have been developed and made available for measuring the spectral analysis of gamma rays in wells. Spectral analysis makes possible use of multiple radioactive tracers in a flow system or well at the same time. In addition, technology has been developed to determine the relative distance from the detecting tool of different tracers, based on the phenomenon of Compton scattering of the gamma rays. One system for use in wells is sold by Halliburton Logging Services, Inc. under the trademark TRACERSCAN. This same detection technology could be used in other flow systems. The spectral log in a well makes possible both the vertical and radial distribution of tracers used in evaluating the effectiveness of hydraulic fracturing, cementing, and gravel packing operations. The article "Tracer Technology Finds Expanding Applications," *Petroleum Engineer International*, Jun., 1989, pp. 31-36, and references cited therein describe the new spectral analysis technology and its application to wells.

In the application of radiotracers in wells, preferably no tracers are left inside the casing, since only tagged material outside the casing contributes useful information regarding material placement within the formation. A severe limitation in using prior art radioactive particles which are initially radioactive or which are made radioactive by neutron bombardment before injection into a well or piping system is that radioactive material washes off particles or is abraded or is broken from the surface of the particles as they are pumped in a flow stream. This loss of radioactivity from the particles creates a background radiation at certain locations or throughout the well or piping system. The extraneous source of radiation can be a severe limitation in subsequent radioactive logging of wells and greatly diminishes the accuracy of measurements intended to be indicative of conditions outside the wellbore. In piping systems on the surface of the earth, radioactive contamination can be hazardous and can interfere with other operations.

Therefore, there is a great need for particles that can be made radioactive and particles that are radioactive which can be pumped into wells or other flow streams without loss of radioactivity and contamination of the flow stream. Further, a method of manufacturing such particles which allows incorporation of a variety of elements which can produce distinctive radioactive spectra is needed, and a method of employing these particles to locate slurries which have been injected into wells or other piping systems is needed.

SUMMARY OF THE INVENTION

In one embodiment of this invention, sintered ceramic particles which are a precursor to radioactive particles, comprising an element which can be bombarded with neutrons to form an isotope which emits gamma rays, are provided. In another embodiment, radioactive particles are provided. In another embodiment, a method of manufacturing particles specially suited for tracing flow in a fluid or slurry is disclosed. The manufacturing process comprises the steps of mixing in powder form ceramic components and an element which, when bombarded by neutrons forms a radioactive isotope, forming the powder mixture into particles, sintering the particles to produce an effective amount of strength and irradiating the sintered particles with neutrons.

In yet another embodiment, sintered radioactive particles produced by mixing ceramic components and an isotope which can be made radioactive by neutron radiation, which are irradiated by neutrons before use, are added to a non-radioactive slurry as it is pumped into a well. The well is then logged with an instrument which measures the level of radioactivity from the gamma ray emission of the particles. Gamma ray spectra are measured to differentiate tracers when particles containing different elements are injected into the stream at different times. In still another embodiment, particles in surface piping systems are traced using radioactivity measurements. In another embodiment, the precursor particles are bombarded with neutrons after their injection into a well or other flow system.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The particles which can be made radioactive of the present invention are particles which contain a target element which is embedded in a sintered ceramic matrix.

The radioactive isotope particles of the present invention are ceramic particles that emit gamma rays to allow their detection by instruments. The particles are made of sintered ceramic components and an element which has been bombarded with neutrons to become a gamma ray-emitting isotope.

The ceramic components are common oxides, normally silica or alumina, but other oxides used in the

ceramic art may be used. In the mixtures comprising predominantly silica and alumina, a range of mixtures from pure alumina to predominantly silica can be used. Mixed crystalline materials of silica and alumina such as mullite may be used. The ceramic components are first finely divided or powdered and mixed with the target element. By this technique, the target element can be uniformly distributed through the particle. The structure of the powdered starting materials may still be present in the finished particles, but the particles will have an effective amount of strength resulting from bonding of the original powder of ceramic components which has occurred during the sintering process. Other components may be added to aid sintering and to substantially lower the sintering temperature, such components being well known in the ceramics art.

The sintered matrix of the particles should have sufficient strength to resist breaking when the particles are pumped in a stream of fluid. The amount of strength needed will depend upon their application. If the particles are to be pumped at high flow rates in a slurry, such as in hydraulic fracturing treatments in wells, the particles should be strong enough to prevent breaking at high stress, substantially like the ceramic particles now provided as proppant for this application. For added strength, particles having an alumina content above 30 percent by weight are preferred. Also, sintered particles made from very finely divided powder are higher in strength. Powder less than 25 microns in size is preferred. If the radioactive particles are to be incorporated into a flow stream moving at a low speed and without abrasive conditions, much lower strength ceramic particles are acceptable, although high strength will not be a disadvantage. In addition to strength, density and size may be important properties of the ceramic particles to be considered in each application.

The target element added to emit gamma rays is embedded in the matrix of the ceramic materials before sintering. The element is selected based upon several variables. One of the important characteristics is the half-life of the radioactive isotope produced by neutron bombardment. This property is selected based on the measurements to be made and does not limit this invention. Half-lives of from about two days to about 250 days are commonly used. The energies of the gamma rays emitted by the isotope are also an important factor in selecting the element. This is especially true when two or more radioactive isotopes are to be used in the same flow stream, when it is desirable that the energy spectra of the different isotopes not excessively overlap. It is preferred that the energy spectrum of the gamma rays of the different isotopes not overlap such that the intensity of the gamma rays from each element can be more accurately measured. Thereby, the concentration of each individual isotope can be measured by spectral analysis of the gamma rays.

The cost and availability of the target element embedded in the ceramic particles is one consideration in the selection of which element to use in a particle. Target elements suitable for use in the particles of this invention include gold, iodine, iridium, scandium, antimony, silver, hafnium, zirconium, rubidium, chromium, iron, strontium, cobalt, and zinc. Preferred target elements are antimony, iridium, scandium, silver, and hafnium. Most preferred are iridium and scandium.

The target element may be present in its elemental form or as a compound. Compounds of elements useful in this invention are commonly salts or oxides. Iridium oxide is available as a black powder known as "iridium black." Hafnium oxide is available in pure form. Antimony bromide is available in very pure form as crystals. Other compounds of the element may be used, but oxides and salts are readily available. The compound should be stable at the high temperature of processing of the ceramic particle, such that sublimation does not deplete the particles of the compound. The temperature of sintering the particles will normally be above the melting point of the compound of the element.

The concentration of the element in the ceramic particle will depend on the application of the

particles, but an effective amount will be less than 5 per cent of the weight of the particle, preferably less than 1 per cent and most preferably less than 0.5 per cent by weight.

Sizes of the particles will normally range from about 8 mesh to about 400 mesh. Particles of a wide range of sizes can be separated into desired sizes by sieving or other particle size separation techniques.

Specific gravity of the particles will range from about 0.5 gm/cc to about 3.9 gm/cc. Particles of different densities can be made and separated by density using well known particle separation techniques.

Radioactive ceramic particles may be manufactured by methods known in the ceramic industry for manufacturing proppants for use in hydraulic fracturing of wells or for manufacturing synthetic gravel for use in gravel packing of wells. Such ceramic particles for proppants are manufactured and used for their strength, their density and their sphericity. U.S. Pat. 4,668,645 discloses a particle for use as a proppant and a method of manufacturing such particles. U.S. Pat. No. 4,068,718 discloses the use of high strength and high density bauxite-containing particles for use as a proppant in wells and describes the methods of manufacture of such particles. The two aforesaid U.S. patents are incorporated herein for all purposes.

Other methods for manufacturing sintered ceramic particles from powder, employing a variety of grinding, mixing, pelletizing and sintering techniques can be used. Ceramic particles of various densities and strengths can be made by mixtures of the oxides of aluminum, silicon, iron, magnesium and other minerals. Ceramic particles made for use as proppants or in gravel packing are manufactured by grinding the ceramic components to fine particle sizes, preferably less than 25 micron particle size, forming a paste of the finely ground material, forming the paste into rounded particles with pelletizing equipment and then sintering the particles. Such particles are sold by Norton Alcoa Proppants of Dallas, TX and by Carbo Ceramics Company of Dallas, TX. We have discovered that the ceramic components of such particles can be mixed with an element which, when bombarded with neutrons, forms a gamma ray emitting isotope, to produce a radioactive particle which has essentially the properties of the ceramic particle not containing the element. Such particles have high strength and resistance to crushing, and can be pumped into a variety of fluid streams without loss of radioactive material to the fluid stream and the conduits for the stream.

MACROLITE.RTM. ceramic spheres sold by 3M Company of St. Paul, MN are made from a ceramic powder to have void spaces and specific gravities as low as about 0.58 gm/cc. The particles of this invention can be manufactured by incorporating a target element into the ceramic materials of MACROLITE.RTM. ceramic spheres before they are formed.

It is advantageous to use elements which are not radioactive during formation of the particles, so that health hazards from radioactive materials are avoided during manufacture of the particles. This is an important feature of our invention.

After the particles to be made radioactive, i.e. the precursor radioactive particles, are formed and sintered, the particles may be injected into a flow system or the particles may be transported to a nuclear reactor and radiated with neutrons such that the element present forms a radioactive isotope of that element. The equation given below describes the level of activity resulting from neutron radiation:

where:

A.times.Activity in millicuries

N.sub.L .times.6.022.times.10.sup.23

h=Isotopic Abundance

X.sub.sect =Neutron Capture Cross Section

g=Target element mass in grams

t.sub.1/2 =Half life of produced nuclide in seconds

N.sub.f =Neutron flux (neutron cm sec

M=Target nuclide atomic weight in grams

t=Neutron bombardment time in seconds.

Activity produced is directly proportional to neutron bombardment time, neutron flux and target element mass. Once an element has been selected for its half-life of radioactivity and its desirable gamma ray spectrum, the concentration of the element needed to seed the particles and the neutron bombardment time can be calculated for a certain location in a certain nuclear reactor having a known neutron flux rate at different locations. The costs of the element and the neutron irradiation are selected to minimize the total cost of producing particles having an effective level of radioactivity.

The selected amount of the target element is added to a suitable amount of ceramic powder which is to be formed into particles, such that the amount of powder to be irradiated, stored and injected into a stream is convenient for the irradiation facility, storage facilities and pumping equipment available for injecting the radioactive powder.

Twenty millicuries of radioactivity is a common amount of radioactivity to transport in one batch. Therefore, this amount of radioactivity will be used as an example. Other amounts, for example 40 millicuries, are often used and the same principles are applicable. The equation above shows, for example, that if 20 millicuries of radioactivity from iridium-192 is to be produced, and the nuclear reactor produces a flux in the cans to be used in the reactor of 5×10^{12} neutrons $\text{cm}^{-2} \text{sec}^{-1}$, 11.5 milligrams of iridium is needed for a bombardment time of 96 hours. This amount of iridium in the form of iridium black is added to a measured amount of ceramic powder, thoroughly mixed and blended, and formed into particles which are then sintered in accord with known techniques for producing sintered particles. The equation shows that if the amount of target element is doubled the amount of bombardment time can be halved. Therefore, the cost of producing particles having differing amounts of target elements can readily be determined, depending on the cost of the element and the cost of irradiation time. For many elements to be made radioactive, the lowest cost of radioactivity will be obtained with the largest amount of the target element in the ceramic particles. Then the highest limiting concentration of the element is determined by that concentration which changes the physical properties of strength or specific gravity of the ceramic particles into an unacceptable range of the property. Tests should be performed to determine the maximum acceptable concentration of target element by mixing various concentrations of element and ceramic

components, sintering the particles and measuring the desired property. Specific gravity of particles may be measured by well known methods. Strength may be measured by crush tests of packed beds of particles or by individual particles strength tests which are well known for testing proppant particles.

For some applications, only a small amount of particles is needed to contain 20 millicuries of radioactivity. But, it is possible to vary the concentration of target element in the ceramic over a wide range of concentrations. The lowest practical level of concentration will normally be determined by the volume available in the reactor used for irradiation or by the pump used to meter the particles into the stream where they will be used. For particles to be used in hydraulic fracturing, 20 millicuries of activity will preferably be contained in a volume of particles in the range from about 5 milliliters to about 100 milliliters of particles. Much larger amounts of particles could be used to contain the radioactivity, but the minimum concentration of target element in the ceramic will usually be determined by the pumping apparatus used to add the particles to a stream and the volume limitations of the reactor used for irradiation of the particles. Small volumes of particles can be used when accurate means are available for metering small amounts of particles into a stream. Radioactivity levels in the range from about 0.02 to about 20.0 millicuries per milliliter of particles are suitable. Preferably, the radioactivity level is in the range from about 0.2 to about 4.0 millicuries per milliliter of particles.

After the particles are radiated with neutrons, their manufacture is complete. The particles must then be handled as radioactive sources. Well known techniques are used for protecting personnel from exposure to gamma rays emitted from the particles.

Radioactive particles are added to a fluid which is being pumped into a well or are added to a fluid passing through surface piping or equipment for other applications by first mixing the radioactive particles with fluid to form a concentrated slurry. The liquid of the slurry may be viscosified by polymers. The slurry of radioactive particles is stored in a small closed radioactive materials reservoir. The reservoir may contain an agitator to keep the radioactive particles in suspension. The slurry is pumped from the reservoir into the low-pressure section of the flow stream to be traced. With a low pressure pump such as a peristaltic pump. A high-pressure positive displacement pump can be used when the particles are injected into a high-pressure stream. The concentration of radioactive particles in the concentrated slurry or radioactive particles is usually in the range of about 10 grams to about 1000 grams per gallon of slurry.

For most applications in wells, the slurry of radioactive particles is pumped out of the reservoir and into the stream at a rate such that 20 millicuries is used to trace from about 10,000 to about 100,000 pounds of solid particles or about 10,000 to about 100,000 gallons of fluid. The activity level may vary in the range from about 0.1 to about 10 millicuries per thousand gallons of fluid or thousand pounds of solids. This amount of radioactivity is preferably contained in a volume of particles from about 5 cc to about 100 cc, but much larger volumes of particles may be used with a suitable pump for pumping the slurry of radioactive particles. If this amount of radioactivity is contained in a larger volume of particles, the radioactive particles will either contain a proportionately lower concentration of target element or the particles will be irradiated with neutrons for a proportionately smaller time.

Preferably, the radioactive particles have about the same size and specific gravity as the non-radioactive particles in the flow stream when applied to tracing the particles in hydraulic fracturing and gravel packing operations. The particles should be small enough to produce low settling rates when used in cement slurries. For other types of fluids, the size and specific gravity will be selected to accomplish the purpose of the tracing application. For example, particles less than a certain size may

be sieved from a mixture of sizes and added to a flow stream to determine the size of constrictions in the flow stream. Other applications dependent on size and specific gravity will be obvious to users of the particles.

Specific gravity of the particles can be varied to be compatible with the application. The ceramic particles produced for hydraulic fracturing of wells vary in specific gravity from about 2.6 gm/cc to about 3.8 gm/cc. The density of these particles will not be significantly changed when the element to be made radioactive is embedded into the particles. Preferably, radioactive particles will be made to have approximately the same density as the non-radioactive particles with which they are used. Particles sold by 3M Company under the trademark MACROLITE.RTM. may have a specific gravity as low as 0.58 gm/cc. Again, preferably the radioactive particles will be made to approximately match the density of the non-radioactive particles. Strength of the particles will also vary with specific gravity, but even the relatively low strength of these low specific gravity particles will be adequate for gravel packing applications. Other applications not requiring high-strength can also use the low specific gravity particles. To avoid breaking and abrasion of particles, which can lead to loss of radioactivity from the particles, strength is preferably as high as consistent with other properties of the particles.

After the radioactive particles are pumped into a well and out of the casing of the well so that they are no longer in the wellbore, a logging instrument is lowered into the well which is capable of detecting the gamma rays emitted by the isotope of the element. The gamma rays are capable of penetrating at least several inches of the earth surrounding the well and of penetrating the casing in the well. The gamma rays specific to the isotope of the element may be detected by performing an analysis of the energy of the gamma rays detected by the logging tool. A spectrum of energy of gamma rays characteristic of each radioactive element present is obtained. Techniques are used for determining, based on differing attenuation by Compton scattering of gamma rays having differing energy levels, the amount of gamma radiation coming from inside the wellbore, which would result from radioactive material lost from the particles during flow down the wellbore.

Ceramic particles containing different target elements may be used at the same time or at different times in the pumping operation, may have different specific gravity or may have different size. The locations of the particles having different target elements are then determined with the gamma ray detector.

In gravel packing operations, the radioactive particles may be inside the casing and outside a screen or other type filter in the wellbore. In this application, also, the logging tool is surrounded by the radioactive particles.

In a flow stream or other surface apparatus, the gamma ray detection instrument is located in the vicinity of the radioactive particles to detect the gamma rays. Particle location of particles containing different target elements, which may also have different sizes and specific gravities, can be determined by spectral analysis of the gamma rays.

The applications described above assumed that the particles had been irradiated by neutrons before injection into the well or flow stream. It should be understood that the precursor particles, obtained after sintering and before irradiation with neutrons, can be used in all applications if a neutron source is applied to the particles after they are in the flow stream or well. The particles of this invention will be stable to their environment of use, and can be irradiated or re-irradiated long after the time they are injected into a flow stream or well.

EXAMPLE

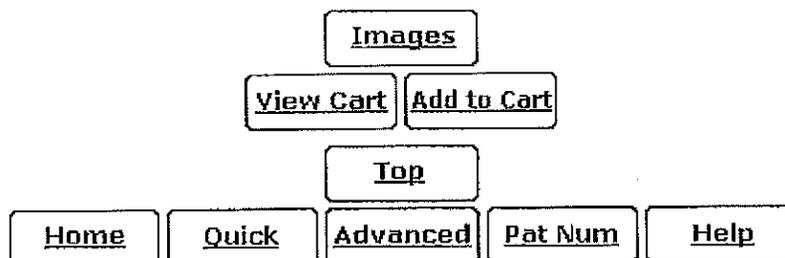
Ceramic particles containing iridium were manufactured. The procedures normally used for manufacturing a ceramic proppant particle containing primarily alumina and silica and smaller amounts of other oxide minerals were used. The ceramic materials were finely ground. About 20 grams of iridium black, available from Aldrich Chemical Company, was thoroughly mixed with 30,418 grams of the ceramic powder. The powdered mixture was then formed into a paste containing chemical binders. The paste was formed into approximately spherical particles. The ceramic materials are said to be "green" at this stage. The green ceramic particles were then sintered by firing in an oven at a temperature in the range of about 1400.degree. to 1500.degree. C. The particles containing the iridium were essentially the same density and crush resistance as the particles of high strength ceramic material without the iridium. The size range of the particles was from about 20 mesh to about 40 mesh.

A portion of the particles containing iridium was then placed in a nuclear reactor for a period of 42 hours. A volume of 15 milliliters of particles was irradiated at a neutron flux of $9=10^{sup.12}$ neutrons $cm.sup.-2$ $sec.sup.-1$. At the end of irradiation, the activity of the particles was measured to be about 20 millicuries. The activity calculated from the above equation was 20.7 millicuries.

The radioactive particles was transported to a well where hydraulic fracturing operations was performed. Fracturing fluid is pumped down the casing of the well and through perforations. Sand in the size range 20-40 mesh is used as proppant. Radioactive ceramic particles manufactured according to the methods described herein are added to the fluid along with the sand at an appropriate time. The ceramic radioactive particles have about the density of sand and are 20-40 mesh size. After these fracturing operations are complete, the well is logged with the TRACERSCAN system. Results of the log show that gamma ray radiation from iridium is present only near the perforations. The very low level of radioactivity in the wellbore above the perforations shows that loss of radioactive iridium material from the particles during the operations is negligible.

The invention has been described with reference to its preferred embodiments. Those of ordinary skill in the art may, upon reading this disclosure, appreciate changes or modifications which do not depart from the scope and spirit of the invention as described above or claimed hereafter.

* * * * *





Research Article

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Study and application of ZeroWash tracer fracture monitoring

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³Oil & Gas Technology Research Institute, Changqing Oilfield Company, Xi'an, China

ABSTRACT

Hydraulic fracturing is an effective technique for increasing the productivity of wells producing from low permeability formations. Tracer fracture monitoring technique is near-wellbore zone fractures direct test method that can monitor the height and width of hydraulic fractures in the near-wellbore section. ZeroWash Tracer uses a medium strength ceramic proppant which is mainly used in fracturing process. It can make three different energy levels of tracer into the fracturing fluid and pump into formation, to monitor wellbore proppant distribution and identify fracture height. The application of ZeroWash Tracer in Changqing oilfield has been a great success. ZeroWash Tracer is used to monitor wellbore proppant distribution and evaluate fracturing effects in Hydraulic Fracturing.

Keywords: Tracer; low permeability; fracture monitoring technique; ZeroWash Tracer; hydraulic fracturing.

INTRODUCTION

The oilfield tracer technology has been carried out since 1950s, and it has experienced four stages of development, i.e. Chemical tracer, radioactive isotope tracer, non-radioactive isotope tracer and micro-matter tracer[1].

Currently/Generally the chemical tracers used in oilfield tests were sodium bromide, potassium iodide, isopropyl alcohol, etc; The main disadvantages of them were large amount, high cost and significant detection-error. Radioactive isotope tracer, which mainly is tritiated compounds, can be used as tracers of water, oil tracer gas tracer or tracers water allocation, and it is commonly used in oilfield tests[2,3]. Non-radioactive isotope tracer are those that no radioactive isotope tracer, such as ¹²C, ¹³C, ¹⁵N, ¹⁸O, etc. Compared to the former, the latter has no high temperature conversion, no radioactive hazard, less dosage, convenient operation, and high measurement precision, etc[4]. Micro-matter tracer technology is to inject tracer into the well according to the rule to sampling[5], and then using inductively coupled plasma mass spectrometry to analyze the sample, and draw out the production curve of each well. Reservoir parameters are analyzed by the characteristics of production curve. Finally, the study of reservoir heterogeneity and distribution was studied through a comprehensive analysis of mathematical models and interpretation.

ZeroWash Tracer technology is an advanced technology developed by American Corelab company, and it is mainly used in fracturing process. It can join three different energy levels of tracer to the fracturing fluid and pumped into formation, to monitor wellbore proppant distribution and identify fracture height, in order to evaluate fracturing effects.

EXPERIMENTAL SECTION

2.1. Principle and Characteristic

ZeroWash Tracer using a medium strength ceramic proppant, and in the production of the proppant, non-radioactive heavy metal (such as antimony oxide or iridium, or scandium oxide) will be injected. Standard hybrid technology are used to mix metal salt and clay, add water in the mixture made spherical as figure 1, and then baked in the kiln, cooled and sieved, graded according to size, cleaned and polished to remove traces of dust. After sieving again, using neutron bombardment to active the heavy metal material, it can be put into application after packaging.

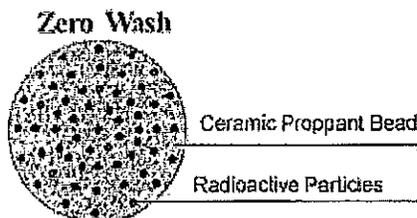


Fig. 1. Zero Wash Coating tracer structure diagram

NaI scintillation detector is used by Tracer imaging technology to detect gamma radiation, and electron multiplier photo tube to measure gamma and to send it to the download multiband analyzer, which can store and sort according to different energy level. According to tracer particles distance and isotope infusion concentration, the amount of proppant can be determined within the scope of detecting. According to the theory of cylindrical around wellbore and the number of proppant and size of cylinder, the assuming proppant is limited to a certain crack, and fracture proppant concentration inside can be calculated. The dimension of the theory cylinder was determined by the vertical resolution of test-tool and depth of detection. Detection of the depth was in proportion to isotope radiation energy level.

In the fracturing process, prepad fluid and carrying fluid are pumped in the first half and second half, with three different kinds of tracers to pump into the formation. After fracturing and flowback, in order to determine the fracture height and width, test system of monitoring tools are used to measure tracer radioactivity.

2.2. ZeroWash Tracer Fracture Monitoring design

ZeroWash Tracer fracture monitoring technology use low pressure creep displacement pump to inject, the principle and characteristics are as follows: using the roller axial of low pressure creep displacement pump to move along the pipe and drive the fluid in the tube. The main advantage of this pump is the fluid could not contact the pump body, and the pump would not be polluted, and there is no risk of dismantling the pump, time delay and cost waste when pump components are needed to be replaced. What's more, low pressure injection can eliminate various danger of high pressure injection during injection, it can be more flexible to change or increase the tracer.

In the fracturing process, three different radioactive tracers are pumped in three different stages, and different tracers are marked with different colors on the logging map, Sb-124 in blue, Sc-46 in yellow, Ir-192 in red. The injection procedure design is as table 1 showed.

Table 1. The tracer injection procedure design

Stage	Liquid type	Output value m ³ /min	Liquid volume m ³	Concentration of proppant kg/m ³	tracer	Concentration of tracer mCi	Cumulative time Min:Sec
prepad fluid	stickwater	0.3-0.5	6.2				
Packer	stickwater	0.5-1.6	1.5				
Slurry fluid	Crosslinked guar gum	1.6	16.0		Sb-124	5	10:13
	Crosslinked guar gum	1.6	8.0	243	Sc-46	5	15:42
	Crosslinked guar gum	1.6	12.0	405	Sc-46	5	24:25
	Crosslinked guar gum	1.8	23.0	486	Ir-192	15	39:41
	Crosslinked guar gum	1.8	14.0	567	Ir-192	10	49:14
	Crosslinked guar gum	1.8	10.0	648	Ir-192	10	56:14
Displacement fluid	guar gum based fluid	1.6	6.0				59:59

RESULTS AND DISCUSSION

3.1. Test Results

The well is a production well located in a structure of Changqing Oilfield. The fractured layer is CL3, and its thickness is 9.0 m. The reservoir porosity is 8%, and the permeability is 0.04 mD. Sand fracturing technology was

applied in this well. The perforation interval was from 2017.0m to 2020.0 m, and 40m³ quartz sand was pumped into the well with a pump rate of 2.4 m³/min. Fig.2 shows the result of tracer fracture monitoring technique used in this well. Different colours represent different gamma values of the tracers. The tracer which was pumped at the end of the injection always exists in the near wellbore place. As a result, there may be one, two or three tracer curves, and it depends on how many kinds of tracers were used in this well. The picture in the left shows the logging date, perforation interval, formation, and tracer profiles along the wellbore. The right one is a mirror symmetry picture showing a double wings fracture system. The fracture height is about 11m from the monitoring result.

3.2. Discussion

Analysis of fracturing tracer test result as following:

- (1)The mud shale from 2010m to 2015m makes the fracture cannot be further extended upward.
- (2)The radioactivity of tracers in pad fluid between 2016m and 2019m is very strong. It means that large number of fracturing fluid leaked into the formation or the fracture near wellbore distorted.
- (3)The distribution of proppant changes over time shows that the placement of proppant in early time is the same as that in late time.
- (4)The fracture height: from 2015m to 2026m.
- (5)At 2030 m, the fracture extends down only at the preflush stage. It indicates that cement channeling occurred in that place.
- (6)In general, the perforated layer has been fully fractured.

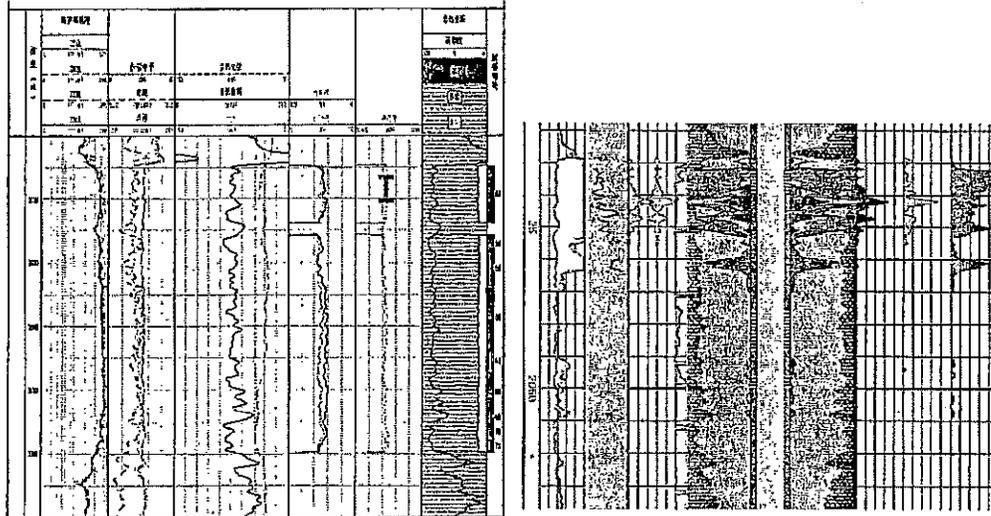


Fig.2. Integrated logging curve and diagnostic chart of tracer tests

CONCLUSION

- (1) ZeroWash Tracer is helpful to recognize the fracture geometry and distribution, and to identify the scale of fracturing. It is benefit to optimize the fracturing design and fracturing process improvement.
- (2) ZeroWash Tracer diagnostics is helpful to optimize reservoir parameters and to build a stimulation model. It is the foundation to improve the effectiveness of fracturing.
- (3) Field application proved that ZeroWash Tracer technology was an effective diagnostic technique for well fracturing.

Acknowledgements

The support of Ph.D. Programs Foundation of Ministry of Education of China (No. 20114220110001) and the National Natural Science Foundation of China (No. 61170031) are gratefully acknowledged.

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- [4] WANG Zuoying, ZHANG Peixin, and GAO Yuan, *Journal of Isotopes*, 2000, Vol.13, No.1, 18-21
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1 A. Everything we had on this job, we produced.

2 Q. Okay. And what about with respect to
3 correspondence with Range?

4 A. Yeah.

5 Q. Did you look for correspondence with Range?

6 A. We looked and provided the correspondence
7 associated with this well.

8 Q. Okay. You talked about the chemical tracers.
9 I want to focus now on the proppant tracer. And can
10 you explain what the product description was that was
11 produced, and why, you know, it had this data about
12 half-life, that kind of thing?

13 A. Yeah. Basically, those are the isotopes that
14 were pumped on this job. I think our report that was
15 provided shows how much on each stage and what type was
16 pumped. That is a brief description that we hand out
17 sometimes to provide people with an understanding of
18 what it is that we're pumping.

19 In this case, we had -- I mean, it kind of
20 describes in detail how we manufacture the bead. Where
21 it's a ceramic bead that looks like a sand grain. It's
22 like the proppant.

23 Typically, it's higher strength than sand, so
24 when the formation closes down, it can't get crushed.
25 It's -- even with sand that's propping it open is

1 weaker than the ceramic bead that we're using. So it's
2 a high strength ceramic bead that's typically used for
3 propping formations.

4 But what we've done with the patent several
5 years ago is we introduced small amounts of scandium
6 metal and iridium metal and antimony metal. And those
7 unique three metals, then, are taken to, let's say,
8 Texas A&M. Their reactor put downhole. They are
9 irradiated, and then they have a short half-life.
10 Sixty- to ninety-day half-life.

11 And we then inject that at very small
12 concentrations into the stream of proppant. Typically,
13 about 10 ccs per 50,000 pounds. So that's -- if you
14 look at a dual-axle dump truck, those hold
15 25,000 pounds of sand. So two dual-axle dump trucks.

16 And we'll have a little vial, about this
17 size, of these beads that we mix in fluid, and we pump
18 it in like an IV. We're just dripping it into the
19 stream. Marking all that 50,000 pounds of proppant
20 with a small amount.

21 We then -- and that's basically what that is.
22 That ceramic bead, because it's contained in the metals
23 inside of the ceramic matrix, the crystalline
24 structure, we labeled it, marketing-wise, as Zero Wash.
25 Because you can wash it with temperature, with acid.

1 The isotope stays internal to the ceramic bead. Stays
2 in place. So that as you produce the well, it's still
3 there. We can run an imaging log and identify where
4 the frac went.

5 So it's significant in that it's -- it goes
6 with the proppant, stays with the proppant, doesn't
7 move with production, and allows us to image where
8 things went.

9 Q. That being --

10 A. Kind of like a medical diagnostic.

11 Q. Translation, if the proppant, that ceramic
12 bead that's irradiated, if that is in the frac, the --
13 let's say, the crack under the ground --

14 A. In the proppant -- or in the fracture. In
15 the fracture.

16 Q. It's staying in the fracture; right?

17 A. Correct.

18 Q. Okay. And on the jobsite survey, were the
19 various isotopes actually listed on the jobsite survey
20 that was produced?

21 A. Yeah. The isotope and the amount.

22 Q. And that's like, for example, Ir-192?

23 A. Iridium-192.

24 Q. Yeah. And was there a radiation survey done
25 before and after to know --

1 A. Correct.

2 Q. -- whether or not there were increased
3 radiation levels?

4 A. Correct. We measure the natural radiation
5 background for the area that we're in. It would vary
6 whether you're in the mountains or at the beach or
7 whatever.

8 So we first get a baseline of what that
9 natural background radiation is. And then before we
10 leave, we go back and survey everything and verify that
11 we're at natural background. That's just part of our
12 licensed procedures.

13 Q. Okay. Going back to that master service
14 agreement, do you remember that there was a request
15 from Plaintiffs where they were asking about whether we
16 had any work orders?

17 A. Correct.

18 Q. Do you remember that?

19 A. Yes.

20 Q. Did you ask your guys whether or not there
21 were any work orders?

22 A. I asked the two individuals that would be
23 closest to it. The contact with the client salesman
24 and operations. Both of them together, at the same
25 time, and they both looked at me like, what are you

1 talking about?

2 So my thought is work orders are not
3 something that we do. Our work order for ourselves,
4 probably, would be -- and because our client doesn't
5 design the job and say, here's what I want you to do.
6 Our client gives us data. Our engineers design the
7 job. We put a proposal out that says, this is what we
8 should do. Provide them with that. And then the
9 engineer would say, yeah, that sounds good.

10 And then, at that point, our normal mode is,
11 we get a call to our district. Because we'll provide
12 them with the information about how to contact us, or
13 they already know. They call our operations group to
14 go out and do the job.

15 So it's kind of verbal, I guess, is the way
16 we --

17 Q. Verbal.

18 MR. ARNOLD: Your Honor, I have no further
19 questions at this time for Mr. Flecker.

20 THE COURT: Okay. Thank you.

21 Mr. Smith? Ms. Smith?

22 MS. SMITH: Thank you, Your Honor.
23
24
25

Program Managers' Conference Call

Wednesday, June 16, 2010

9:30 – 11:30 am

MINUTES

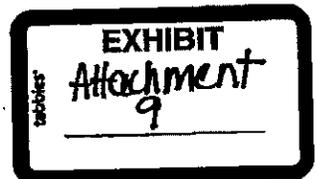
Participants

- CO: Steve Socash, Laura Henry, Joe Sieber, Renee Bartholomew (BWM)
Dave Allard, Jim Barnhart (BRP)
- SE: Joe Feola, Jim Wentzel
- NE: Bill Tomayko, Tracey McGurk
- SC: John Oren, John Spang
- NC: Pat Brennan
- SW: Mike Forbeck, Diane McDaniel
- NW: Todd Carlson, Joel Fair

Topics Discussed

- o **Next meeting:** Thursday, September 9, 2010, RCSOB 14th floor Large Conference Room; face-to-face meeting directly after the SWANA/PWIA Conference
- o **Iridium-192 at Rustick LF & NORM/TENORM Issues** (see associated e-mail)
Dave Allard discussed this case and additional NORM/TENORM issues associated with disposal of frac fluid at MWLF's. Rustick had a hit of Iridium-192 in waste generated at an Oil & Gas well in which the drilling was traced by ProTechnics, a company out of Texas that utilizes Iridium-192 beads for tracing the efficiency of a well fracture. ProTechnics is currently the only company utilizing this technology in PA, and the Department has come across some compliance issues concerning disposal of the resulting waste. ProTechnics' license allows for in-situ decay on site with subsequent disposal at a LF; however, it has been discovered that drill cuttings may have been improperly managed. RP is currently seeking to take enforcement action against ProTechnics, and recent WM inspections will probably result in enforcement action by that program as well.

In general, Radium has been an issue; it has also been found in the solid component of the frac waste. It is OK for a MWLF to dispose of this material under a BRP exemption, and Regional WM staff has the ability to approve its disposal. BRP requirements include maintenance of a spreadsheet of loads containing TENORM for tracking purposes. It is important that WM and RP continue to coordinate with each other on these issues (enforcement actions, handling for disposal, etc.) and that WM keeps RP in the loop when it sees new sources of TENORM coming in for disposal.



Sostar, Janelle K

From: Kendra L. Smith <klsmith@smithbutzlaw.com>
Sent: Tuesday, March 29, 2016 4:37 PM
To: DC, OpenRecords
Subject: Right to Know Law Appeal 4400-16-010 (NC)
Attachments: Appeal of Denial of RTK 4400-16-010 (NC).PDF

Dear Sir/Madame,

Please find attached a Right to Know Law Appeal of Denial for request 4400-16-010 (NC). Please contact me if you have any questions.

Thank you

Kendra L. Smith, Esq.
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Exhibit C

2



March 30, 2016

Via E-Mail only:

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Canonsburg, PA 15317
klsmith@smithbutzlaw.com

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PA Dept. of Environmental Protection
Rachel Carson State Office Bldg.
PO Box 8473
Harrisburg, PA 17105
EP-DEP-RTK@pa.gov

RE: OFFICIAL NOTICE OF APPEAL – DOCKET #AP 2016-0603

Dear Parties:

Please review this information carefully as it affects your legal rights.

The Office of Open Records (“OOR”) received this appeal under the Right-to-Know Law (“RTKL”), 65 P.S. §§ 67.101, *et seq.* on March 29, 2016. This letter describes the appeal process. A binding Final Determination will be issued pursuant to the timeline required by the RTKL. In most cases, that means within 30 calendar days.

OOR Mediation: This is a voluntary, informal process to help parties reach a mutually agreeable settlement on records disputes before the OOR. To participate in mediation, both parties must agree in writing. If mediation is unsuccessful, both parties will be able to make submissions to the OOR, and the OOR will have 30 calendar days from the conclusion of the mediation process to issue a Final Determination.

Note to Parties: Statements of fact must be supported by an affidavit or attestation made under penalty of perjury by a person with actual knowledge. Any factual statements or allegations submitted without an affidavit will not be considered. The agency has the burden of proving that records are exempt from public access (*see* 65 P.S. § 67.708(a)(1)). **To meet this burden, the agency must provide evidence to the OOR.** The law requires the agency position to be supported by sufficient facts *and* citation to all relevant sections of the RTKL, case law, and OOR Final Determinations. An affidavit or attestation is required to show that records do not exist. Blank sample affidavits are available on the OOR’s website.

Submissions to OOR: Both parties may submit information and legal argument to support their positions by **11:59:59 p.m. seven (7) business days from the date of this letter.** *Submissions sent via postal mail and received after 5:00 p.m. will be treated as having been received the next business day.* The agency may assert exemptions on appeal even if it did not assert them when the request was denied (*Levy v. Senate of Pa.*, 65 A.3d 361 (Pa. 2013)).

Include the docket number above on all submissions related to this appeal. Also, any information you provide to the OOR must be provided to all parties involved in this appeal. Information shared with the OOR that is not also shared with all parties will not be considered.

Agency Must Notify Third Parties: If records affect a legal or security interest of an employee of the agency; contain confidential, proprietary or trademarked records of a person or business entity; or are held by a contractor or vendor, **the agency must notify such parties of this appeal immediately and provide proof of that notice to the OOR within seven (7) business days from the date on this letter.** Such notice must be made by (1) providing a copy of all documents included with this letter; and (2) advising that interested persons may request to participate in this appeal (*see* 65 P.S. § 67.1101(c)).

Commonwealth Court has held that “the burden [is] on third-party contractors ... to prove by a preponderance of the evidence that the [requested] records are exempt.” (*Allegheny County Dep’t of Admin. Servs. v. A Second Chance, Inc.*, 13 A.3d 1025, 1042 (Pa. Commw. Ct. 2011)). **Failure of a third-party contractor to participate in an appeal before the OOR may be construed as a waiver of objections regarding release of the requested records.**

Law Enforcement Records of Local Agencies: District Attorneys must appoint Appeals Officers to hear appeals regarding criminal investigative records in the possession of a local law enforcement agency. If access to records was denied in part on that basis, the Requester should consider filing a concurrent appeal with the District Attorney of the relevant county.

If you have any questions about the appeal process, please contact the assigned Appeals Officer (contact information is enclosed) – and be sure to provide a copy of any correspondence to all other parties involved in this appeal.

Sincerely,



Erik Arneson
Executive Director

Enc.: Assigned Appeals Officer contact information
Entire appeal as filed with OOR

REQUEST TO PARTICIPATE BEFORE THE OOR

Please accept this as a Request to Participate in a currently pending appeal before the Office of Open Records. The statements made herein and in any attachments are true and correct to the best of my knowledge, information and belief. I understand this statement is made subject to the penalties of 18 Pa.C.S. § 4904, relating to unsworn falsifications to authorities.

NOTE: The requester filing the appeal with the OOR is a named party in the proceeding and is NOT required to complete this form.

OOR Docket No: _____

Today's date: _____

Name: _____

IF YOU ARE OBJECTING TO THE DISCLOSURE OF YOUR HOME ADDRESS, DO NOT PROVIDE THE OFFICE OF OPEN RECORDS WITH YOUR HOME ADDRESS. PROVIDE AN ALTERNATE ADDRESS IF YOU DO NOT HAVE ACCESS TO E-MAIL.

Address/City/State/Zip _____

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Telephone/Fax Number: _____ / _____

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Name of Agency: _____

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Telephone/Fax Number: _____ / _____

E-mail _____

Record at issue: _____

I have a direct interest in the record(s) at issue as (check all that apply):

- An employee of the agency
- The owner of a record containing confidential or proprietary information or trademarked records
- A contractor or vendor
- Other: (attach additional pages if necessary) _____

I have attached a copy of all evidence and arguments I wish to submit in support of my position.

Respectfully submitted, _____ (must be signed)

Please submit this form to the Appeals Officer assigned to the appeal. Remember to copy all parties on this correspondence. The Office of Open Records will not consider direct interest filings submitted after a Final Determination has been issued in the appeal.



pennsylvania

OFFICE OF OPEN RECORDS

APPEALS OFFICER:

Joshua T. Young, Esquire

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and submission of information:**

EMAIL

**Please direct submissions and correspondence related
to this appeal to the above Appeals Officer. Please include the case
name and docket number on all submissions.**

**You must copy the other party on everything you submit
to the OOR.**

The OOR website, <http://openrecords.pa.gov>, is searchable and both parties
are encouraged to review prior final determinations involving similar records
and fees that may impact this appeal.