

Tab 1		SB 532 by Galvano (CO-INTRODUCERS) Stewart, Benacquisto, Rouson, Book, Young; (Similar to H 01065) Public Notification of Pollution				
453416	A	S	RCS	EP, Galvano	Delete L.45:	03/09 09:32 AM
477632	A	S	WD	EP, Latvala	Delete L.61 - 141:	03/09 09:32 AM
883586	A	S	RCS	EP, Galvano	Delete L.61 - 141:	03/09 09:32 AM

Tab 2		SB 442 by Young (CO-INTRODUCERS) Perry, Farmer, Latvala, Stewart, Rader, Flores, Mayfield, Steube, Rodriguez, Torres, Bracy, Campbell, Rouson, Book, Montford; (Identical to H 00451) Advanced Well Stimulation Treatment				
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The Florida Senate
COMMITTEE MEETING EXPANDED AGENDA
ENVIRONMENTAL PRESERVATION AND CONSERVATION
Senator Book, Chair
Senator Bradley, Vice Chair

MEETING DATE: Tuesday, March 7, 2017
TIME: 4:00—6:00 p.m.
PLACE: *Mallory Horne Committee Room, 37 Senate Office Building*

MEMBERS: Senator Book, Chair; Senator Bradley, Vice Chair; Senators Farmer, Hutson, Latvala, Simmons, and Stewart

TAB	BILL NO. and INTRODUCER	BILL DESCRIPTION and SENATE COMMITTEE ACTIONS	COMMITTEE ACTION
1	SB 532 Galvano (Similar H 1065)	Public Notification of Pollution; Creating the "Public Notice of Pollution Act"; specifying authority of the Department of Environmental Protection; specifying that the act does not alter or affect the emergency management responsibilities of certain other governmental entities; requiring the department to establish and publish the types and amounts of a substance that, if released, would constitute a reportable release; specifying that providing a notice does not constitute an admission of liability or harm, etc. EP 03/07/2017 Fav/CS AEN AP	Fav/CS Yeas 5 Nays 0
2	SB 442 Young (Similar S 98, Identical H 451, Compare H 35, SJR 108)	Advanced Well Stimulation Treatment; Prohibiting the performance of advanced well stimulation treatments; clarifying that permits for drilling or operating a well do not authorize the performance of advanced well stimulation treatments, etc. EP 03/07/2017 Favorable AEN AP	Favorable Yeas 5 Nays 0

Other Related Meeting Documents

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Environmental Preservation and Conservation

BILL: CS/SB 532

INTRODUCER: Environmental Preservation and Conservation Committee and Senator Galvano and others

SUBJECT: Public Notification of Pollution

DATE: March 7, 2017

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Mitchell</u>	<u>Rogers</u>	<u>EP</u>	<u>Fav/CS</u>
2.	_____	_____	<u>AEN</u>	_____
3.	_____	_____	<u>AP</u>	_____

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Substantial Changes

I. Summary:

CS/SB 532 creates the Public Notice of Pollution Act. The bill defines a reportable pollution release as a release to the air, land, or water that is discovered by the owner or operator of an installation, is not authorized by law, and is:

- Reportable to the State Watch Office;
- Reportable to the Department of Environmental Protection (DEP) or a contracted county pursuant to rules governing storage tank systems;
- Reportable to DEP pursuant to rules governing underground injection control systems;
- A hazardous substance; or
- An extremely hazardous substance.

The owner or operator of any installation where a reportable pollution release occurs must provide a notice of the release to DEP. The notice must be submitted to DEP within 24 hours after discovery of the reportable pollution release and must contain detailed information described in the bill about the installation, the substance, and the circumstances surrounding the release. The bill also requires additional notice to DEP if a release migrates outside the property boundaries of the installation.

The bill requires DEP to publish each notice to the Internet within 24 hours after DEP receives it. DEP must also create a system for electronic mailing that allows interested parties to subscribe to and receive direct announcements of notices received by DEP. DEP must establish an email

address and an online form so that installation owners and operators are able to submit a notice of a reportable pollution release electronically. The bill provides that submitting a notice of a reportable pollution release does not constitute an admission of liability or harm. Finally, the bill provides for \$10,000 per day in civil penalties for violations of these notice requirements and authorizes DEP to adopt rules to administer these provisions.

II. Present Situation:

Public Notice

Many commercial, industrial, agricultural, and utility operations and entities are required to report various releases, discharges, or emissions as a condition of permitted operations or pursuant to law or rule. Under state law, to the extent notification is required, it typically must be made to the Department of Environmental Protection (DEP).¹ In some cases, notice to DEP is provided to the State Watch Office, an emergency communications center in the Division of Emergency Management. The State Watch Office, also known as the State Warning Point, serves as Florida's primary point of contact for a wide variety of both natural and man-made emergencies. It serves as the contact point in Florida for communications between local governments and emergency agencies of both the state and federal governments and also provides emergency information to newspapers and radio and television stations.² Examples of notification to the State Watch Office include DEP rule requirements for notification of petroleum discharges,³ wastewater discharges,⁴ and releases of hazardous substances,⁵ and a DEP statutory and rule requirement for notification of a discharge of drycleaning solvents.⁶ Requirements to notify the State Watch Office may also appear in DEP orders, permits, or variances, if required or authorized.

Notifications directly to DEP or a county under contract with DEP to perform compliance verification activities are required for certain releases or discharges of pollutants, including petroleum products, pesticides, ammonia, chlorine, hazardous substances, and specified mineral acids from underground or aboveground storage tanks.⁷ Notification is also required to be made to DEP of any noncompliance with an underground injection control permit that may endanger health or the environment.⁸ Requirements for notifications of the release of hazardous substances in DEP rule define "hazardous substance" and "extremely hazardous substance" by referencing definitions in federal regulations.⁹ Those federal regulations contain extensive lists of substances defined as hazardous substances and extremely hazardous substances.¹⁰ In certain circumstances,

¹ See, e.g., ss. 377.371(2), 376.30702, 403.862(1)(b), and 403.93345(5), F.S.; Fla. Admin. Code R. 62S-6.022.

² Division of Emergency Management, *Florida State Watch Office*, <http://www.floridadisaster.org/Response/Operations/swp.htm> (last visited February 28, 2017); see, e.g., Fla. Admin. Code R. 27P-14.011.

³ Fla. Admin. Code R. 62-780.210(1) and Fla. Admin. Code R. 62S-6.022.

⁴ Fla. Admin. Code R. 62-620.610 and Fla. Admin. Code R. 62-604.550

⁵ Fla. Admin. Code R. 62-150.300.

⁶ Section 376.3078(9)(c) and Fla Admin. Code R. 62-780.210(2).

⁷ Sections 376.303 and 376.322, F.S., Fla. Admin. Code R. 62-761.440, Fla. Admin. Code R. 62-762.441.

⁸ Fla. Admin. Code R. 62-528.307(1)(x).

⁹ Fla. Admin. Code R. 62-150.200 and Fla. Admin. Code R. 62-150.300.

¹⁰ 40 C.F.R. s. 302.4 and 40 C.F.R. part 355, Appendices A and B.

statutes and rules require the owner or operator of an installation to directly notify a local government or the public of actions taken or conditions or occurrences at installations.¹¹

At present, there is no comprehensive notice requirement that all releases of substances be reported under state law. There is also no requirement in current law that all such reporting be accessible to the public.

Public Notice Rule

In response to recent pollution incidents, DEP initiated rulemaking in 2016 to establish a requirement for notification of releases of pollution from installations throughout the state. On September 27, 2016, DEP published an emergency rule. The following day, DEP published a notice of proposed rule with the same language. The emergency rule was in effect during the development of the proposed rule. The proposed rule would have:

- Required owners and operators of installations¹² to provide a notification of pollution within 24 hours of the incident resulting in the pollution or the discovery of the pollution to:
 - DEP;
 - Local government officials; and
 - The general public.¹³ Notification to the general public under the proposed rule would have required an owner or operator to provide notice of the pollution to local broadcast television affiliates and a newspaper of general circulation in the area of the contamination.
- Required further notifications by owners and operators of installations on the status of the pollution.
- Provided that failure to give a notification of pollution subjected an owner or operator to statutory penalties of up to \$10,000 per day.¹⁴

Following publication of the proposed rule, DEP received three written proposals for a lower cost regulatory alternative (LCRA) to the rule. DEP prepared a statement of estimated regulatory costs (SERC) for the rule in response to the proposed LCRAs, as required by s. 120.541(1), F.S.¹⁵ In the SERC, DEP estimated regulatory costs of \$182,000 per year, a calculation based on the number of notifications made under the newly-minted emergency rule. The LCRAs proposed that the rule be altered to require DEP to provide notification to local government officials and the general public and that notification requirements under the rule be loosened. DEP rejected the proposals because it determined that installations in compliance with law would have no costs under the rule and other proposals were inconsistent with the intent of the rule.¹⁶

¹¹ See, e.g., s. 376.707(11), F.S., Fla. Admin. Code R. 62-550.828, Fla. Admin. Code R. 62-560.410(1)(a), Fla. Admin. Code R. 62-761.405(3) and (4), Fla. Admin. Code R. 62-761.430, Fla. Admin. Code R. 62-761.440, Fla. Admin. Code R. 62-762.411, Fla. Admin. Code R. 62-762.431, Fla. Admin. Code R. 62-762.441, Fla. Admin. Code R. 62-560.400, Fla. Admin. Code R. 62-560.410, Fla. Admin. Code R. 62-560.430.

¹² An installation is defined in s. 403.031(4), F.S., as “any structure, equipment, or facility, or appurtenances thereto, or operation which may emit air or water contaminants in quantities prohibited by rules of the department.”

¹³ Proposed Rule 62-4.161, Florida Administrative Register Vol. 42/No. 189.

¹⁴ *Id.*

¹⁵ Statement of Estimated Regulatory Costs, Proposed Rule 62-4.161, available at <http://dep.state.fl.us/pollutionnotice/SERC%20for%20Rule%2062-4.161%20w%20attachments.pdf>.

¹⁶ *Id.*

A notice of change for the proposed rule was published on November 15, 2016. In the change notice, DEP altered the proposed rule by expanding and clarifying the operation of the notice requirement. DEP added the following:

- An intent section.
- A reportable release as the trigger for the requirement to provide notice; reportable release defined in the rule as a release of a substance not authorized by law which is discovered by an owner or operator after the effective date of the rule and which is:
 - Reportable to the State Watch Office or to DEP or a county administering a DEP program under certain rules; or
 - A hazardous or extremely hazardous substance at or above quantities established in certain federal regulations.
- Specific information that must be contained in the notice and the manner the notice must be submitted to various parties.
- Language providing that as long as one party provides notice in compliance with the rule, then other parties are not required to provide notice for the same reportable release.¹⁷

Rule Challenge

On November 18, 2016, several commercial associations filed an administrative challenge to the proposed rule in *Associated Industries of Florida, Inc. et al. v. Department of Environmental Protection*.¹⁸ The petitioners argued that the rule violated statutory requirements and was invalid on four grounds:

- DEP materially failed to follow the applicable rulemaking procedures and requirements;
- DEP exceeded its grant of rulemaking authority;
- The proposed rule enlarges, modifies, or contravenes the specific provisions of law implemented; and
- The proposed rule imposes regulatory costs on the regulated person, county, or city which could be reduced by the adoption of less costly alternatives that substantially accomplish the statutory objectives.¹⁹

On December 30, 2016, the administrative law judge (ALJ) entered a final order, holding that DEP lacked the rulemaking authority for the proposed rule. The final order concluded that the authorities cited by DEP as providing it with the statutory authority to adopt the rule are general grants of authority and not specific enough to authorize DEP to require that owners and operators of installations provide notices to local governments, the general public, and broadcast media.²⁰ The ALJ also found that the proposed rule enlarges the provisions of law implemented because the statutory provisions cited by DEP did not contain specific language regarding reporting requirements for the release of contaminants. The ALJ concluded that the proposed rule was an invalid exercise of delegated legislative authority, affirming the petitioners' grounds for

¹⁷ Notice of Change for Proposed Rule 62-4.161, Florida Administrative Register Vol. 42/No. 222.

¹⁸ Case No. 16-6889RP (Fla. DOAH 2016).

¹⁹ Section 120.52(8), F.S.

²⁰ Final Order, *Associated Industries of Florida, Inc. et al. v. Department of Environmental Protection*, Case No. 16-6889RP (Fla. DOAH 2016), 13, 16, available at <https://www.doah.state.fl.us/ROS/2016/16006889.pdf>.

challenging the rule.²¹ The ALJ did not evaluate the issue of whether the LCRAAs were properly rejected by DEP because he deemed the rule invalid on other grounds.²²

DEP has not appealed the final order. The rule, therefore, is invalid because there is insufficient statutory authority for DEP to adopt this notice of pollution requirement by rule. Immediately following the invalidation of DEP's proposed rule, the department began providing links on its website regarding notices of releases it receives from permitted and non-permitted facilities throughout the state.²³ DEP continues to maintain an email list for those who want to subscribe to notices of pollution releases.²⁴ Upon its receipt of a notice of pollution from an installation, DEP sends it to email list subscribers, local governments, and media outlets,²⁵ fulfilling the function the proposed rule had required of owners and operators of installations for the subset of all releases that are required to be reported to DEP under current law.

III. Effect of Proposed Changes:

CS/SB 532 creates the Public Notice of Pollution Act.

The bill sets forth goals and findings related to notifying the public about reportable releases. It defines a reportable pollution release as a release to the air, land, or water that is discovered by the owner or operator of an installation, is not authorized by law, and is:

- Reportable to the State Watch Office pursuant to DEP rule, permit, order, or variance;
- Reportable to DEP or a contracted county pursuant to rules governing storage tank systems;
- Reportable to DEP pursuant to rules requiring notice for noncompliance from underground injection control systems where such noncompliance:
 - May endanger public health or the environment; and
 - Has the potential to contaminate potable water wells outside the property boundaries of the installation;
- A hazardous substance as defined in statute at or above quantities established in Federal Regulations; or
- An extremely hazardous substance as defined in Federal Regulations.

The bill requires the owner or operator of an installation at which a reportable pollution release occurs to provide a notice to DEP within 24 hours after discovery of a reportable pollution release. The notice must include:

- The name and address of the installation where the reportable pollution release occurred.
- The name and title of the reporting person and the nature of his or her relationship to the installation.
- The identification number for any active DEP permits, variances, registrations, or orders that are relevant to the reportable pollution release.
- The name and telephone number of a contact person for further information.

²¹ *Id.* at 16.

²² *Id.* at 18.

²³ DEP, *Notice of an Incident or Discovery of Pollution*, <http://dep.state.fl.us/pollutionnotice/> (last visited March 5, 2017).

²⁴ DEP, *Notice of an Incident or Discovery of Pollution*, <http://lists.dep.state.fl.us/mailman/listinfo/pollution.notice> (last visited March 5, 2017).

²⁵ DEP, *Notice of an Incident or Discovery of Pollution*, <http://lists.dep.state.fl.us/pipermail/pollution.notice/> (last visited March 5, 2017).

- The substance released.
- The estimated quantity of the substance released and, if applicable, the estimated quantity that has since been recovered.
- The cause of the release.
- The source of the release.
- The location of the release.
- The date, time, and duration of the release.
- The medium into which the substance was released, such as, but not limited to, the outdoor air, land, groundwater, aquifer, or specified waters or wetlands.
- Whether the released substance has migrated to land or waters of the state outside the property boundaries of the installation and the location of such migration.
- To the extent available, toxicological information associated with the substance released as specified on a safety data sheet or comparable source published by the Occupational Safety and Health Administration or the Centers for Disease Control and Prevention, or their successor agencies.
- Other information to assist in the protection of the public health, safety, and welfare, at the discretion of the owner or operator.

The bill also requires that an additional notice be provided to DEP if, after submitting the initial notice, the owner or operator determines that a release has migrated outside the property boundaries of the installation. Such additional notice must be given within 24 hours of discovery of the migration and must provide all of the information required in an initial notice and specify the extent of the migration.

A notification of a reportable pollution release made by a party in accordance with statutory requirements constitutes compliance on behalf of all parties subject to the notice requirement for that reportable pollution release. However, if the notification is not made in accordance with statutory requirements, DEP may pursue enforcement against all parties subject to the notice requirement. After providing a notice of a reportable pollution release, an installation owner or operator may submit a letter to DEP documenting additional information if an amendment to the notice is warranted or the owner or operator has determined that a reportable pollution release did not, in fact, occur.

DEP must publish, on a website accessible to the public, all notices submitted by an owner or operator within 24 hours of receipt by the department. DEP must also create an electronic mailing list for notices and allow the public, including local governments, health departments, news media, and other interested persons, to subscribe to and receive periodic direct announcements of any reportable pollution release notices submitted. DEP must establish regional electronic mailing lists, such as by county or district boundaries, to allow subscribers to determine the notices they wish to receive by geographic area. DEP must also establish an e-mail address and an online form as options for owners and operators to provide notices of reportable pollution release.

The bill provides that a reportable pollution release notice provided by an owner or operator to DEP does not constitute an admission of liability or harm. It also provides that the owner or operator of an installation is subject to civil penalties of up to \$10,000 per day for each day the

owner or operator is in violation of the requirement to provide notification of a reportable pollution release. The bill authorizes DEP to adopt rules to administer these provisions.

The bill takes effect July 1, 2017.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

The county/municipality mandates provision of Art. VII, section 18, of the Florida Constitution may apply because this bill may require certain local governments to spend money or take action that requires the expenditures of money. If so, the insignificant fiscal impact exemption to the mandates provision likely applies. Costs to local governments for gathering and reporting information regarding reportable pollution releases within 24 hours of discovery may have an insignificant fiscal impact.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

Owners and operators of installations which use, produce, or contain substances listed by DEP will likely incur some costs for gathering and reporting information regarding reportable pollution releases within 24 hours of discovery.

C. Government Sector Impact:

Installations owned or operated by governmental entities, including local governments, will likely incur some costs for gathering and reporting information regarding reportable pollution releases within 24 hours of discovery.

DEP also will likely incur some costs in promulgating rules to administer the provisions of the bill and in developing the website and electronic mailing lists required by the bill.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill amends section 403.121 of the Florida Statutes.

This bill creates sections 403.076, 403.077, and 403.078 of the Florida Statutes.

IX. Additional Information:

- A. **Committee Substitute – Statement of Substantial Changes:**
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

CS by Environmental Preservation and Conservation on March 7, 2017:

- Makes a technical change to add land to components of nature of which DEP has the authority and duty to control and prohibit pollution.
- Changes the definition of releases that must be reported by eliminating the requirement that DEP determine the releases by establishing and publishing a list of substances that present an immediate and substantial risk to the public health, safety, or welfare at or above specified quantities determined by DEP. Instead, the CS provides that a reportable pollution release is a release to the air, land, or water that is discovered by the owner or operator of an installation, is not authorized by law, and is:
 - Reportable to the State Watch Office;
 - Reportable to DEP or a contracted county pursuant to rules governing storage tank systems;
 - Reportable to DEP pursuant to rules governing underground injection control systems;
 - A hazardous substance as defined in statute at or above quantities established in Federal Regulations; or
 - An extremely hazardous substance as defined in Federal Regulations.
- Requires additional notice to DEP if, after providing the initial notice, the owner or operator determines that a release has migrated outside the property boundaries of the installation. Such additional notice must be given within 24 hours of discovery of the migration and must provide all of the information required in an initial notice and specify the extent of the migration.

- B. **Amendments:**

None.



453416

LEGISLATIVE ACTION

Senate	.	House
Comm: RCS	.	
03/09/2017	.	
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The Committee on Environmental Preservation and Conservation
(Galvano) recommended the following:

Senate Amendment

Delete line 45
and insert:
control and prohibit pollution of the air, land, and water of
this



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LEGISLATIVE ACTION

Senate	.	House
Comm: WD	.	
03/09/2017	.	
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The Committee on Environmental Preservation and Conservation
(Latvala) recommended the following:

Senate Amendment (with title amendment)

Delete lines 61 - 141

and insert:

"reportable release" means the release or discharge of pollution
which is not authorized by law and is required to be reported to
the State Watch Office.

(2) OWNER AND OPERATOR RESPONSIBILITIES.—

(a) In the event of a reportable release, any person who is
an owner or operator of the installation at which the reportable



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11 release occurred must provide a notice with the following
12 information, to the extent known at the time of such notice, to
13 the department within 24 hours after its discovery:

14 1. The name and address of the installation where the
15 reportable release occurred.

16 2. The name and title of the reporting person and the
17 nature of his or her relationship to the installation.

18 3. The identification number for any active department
19 permits, variances, registrations, or orders that are relevant
20 to the reportable release.

21 4. The name and telephone number of a contact person for
22 further information.

23 5. The substance released.

24 6. The estimated quantity of the substance released and, if
25 applicable, the estimated quantity that has since been
26 recovered.

27 7. The cause of the release.

28 8. The source of the release.

29 9. The location of the release.

30 10. The date, time, and duration of the release.

31 11. The medium into which the substance was released, such
32 as, but not limited to, the outdoor air, land, groundwater,
33 aquifer, or specified waters or wetlands.

34 12. Whether the released substance has migrated to land or
35 waters of the state outside the property boundaries of the
36 installation and the location of such migration.

37 13. To the extent available, toxicological information
38 associated with the substance released as specified on a safety
39 data sheet or comparable source published by the Occupational



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40 Safety and Health Administration or the Centers for Disease
41 Control and Prevention, or their successor agencies.

42

43 The owner or operator may also include in the notice any other
44 information he or she wishes in order to assist in the
45 protection of the public health, safety, and welfare.

46 (b) If multiple parties are subject to the notification
47 requirements based on a single reportable release, a single
48 notification made by one party in accordance with this section
49 constitutes compliance on behalf of all parties subject to the
50 requirement. However, if the notification is not made in
51 accordance with this section, the department may pursue
52 enforcement against all parties subject to the requirement.

53 (c) If the installation owner or operator determines, after
54 providing notice pursuant to paragraph (a), that a reportable
55 release did not occur or that an amendment to the notice is
56 warranted, the installation owner or operator may submit a
57 letter to the department documenting such determination.

58 (3) DEPARTMENTAL RESPONSIBILITIES.—

59 (a) The department shall publish, on a website accessible
60 to the public, all notices submitted by an owner or operator
61 pursuant to subsection (2) within 24 hours of receipt.

62 (b) The department shall create an electronic mailing list
63 for such notices and allow the public, including local
64 governments, health departments, news media, and other
65 interested persons, to subscribe to and receive periodic direct
66 announcement of any notices submitted pursuant to subsection
67 (2). The department shall establish regional electronic mailing
68 lists, such as by county or district boundaries, to allow



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69 subscribers to determine the notices they wish to receive by
70 geographic area.

71 (c) The department shall establish an e-mail address and an
72 online form as options for owners and operators to provide the
73 notice specified in paragraphs (2) (a) and (b).

74 (4) ADMISSION OF LIABILITY OR HARM.—Providing notice under
75 subsection (2) does not constitute an admission of liability or
76 harm.

77 (5) VIOLATIONS.—For failure to provide the notification
78 required by paragraph (2) (a), the owner or operator shall be
79 subject to the civil penalties specified in s. 403.121.

80 (6) ADOPTION OF RULES.—The department shall adopt rules

81
82 ===== T I T L E A M E N D M E N T =====

83 And the title is amended as follows:

84 Delete lines 10 - 13

85 and insert:

86 defining the term "reportable release"; requiring an
87 owner or



883586

LEGISLATIVE ACTION

Senate	.	House
Comm: RCS	.	
03/09/2017	.	
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	.	
	.	

The Committee on Environmental Preservation and Conservation
(Galvano) recommended the following:

Senate Amendment (with title amendment)

Delete lines 61 - 141

and insert:

"reportable pollution release" means the release or discharge of
a substance from an installation to the air, land, or waters of
the state which is discovered by the owner or operator of the
installation, which is not authorized by law, and which is:

(a) Reportable to the State Watch Office within the
Division of Emergency Management pursuant to department rules,



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11 permit, order, or variance;

12 (b) Reportable to the department or a contracted county
13 pursuant to department rules governing storage tank systems
14 under ss. 376.303, 376.321, and 376.322;

15 (c) Reportable to the department pursuant to department
16 rules requiring notice for noncompliance from underground
17 injection control systems where such noncompliance may endanger
18 public health or the environment and has the potential to
19 contaminate potable water wells outside the property boundaries
20 of the installation;

21 (d) A hazardous substance at or above the quantity
22 established in Table 302.4 of 40 C.F.R. s. 302.4, revised as of
23 July 1, 2016, for such substance, for which notification is
24 required by 40 C.F.R. s. 302.6; or

25 (e) An extremely hazardous substance pursuant to 40 C.F.R.
26 s. 355.61, at or above the quantity established in Appendices A
27 and B of 40 C.F.R. part 355, revised as of July 1, 2016, for
28 such substance, for which notice is required by 40 C.F.R. s.
29 355.33.

30 (2) OWNER AND OPERATOR RESPONSIBILITIES.—

31 (a) In the event of a reportable pollution release, any
32 person who is an owner or operator of the installation at which
33 the reportable pollution release occurred must provide a notice
34 containing the following information, to the extent known at the
35 time of such notice, to the department within 24 hours after its
36 discovery:

37 1. The name and address of the installation where the
38 reportable pollution release occurred.

39 2. The name and title of the reporting person and the



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40 nature of his or her relationship to the installation.
41 3. The identification numbers for any active department
42 permits, variances, registrations, or orders that are relevant
43 to the reportable pollution release.
44 4. The name and telephone number of a contact person for
45 further information.
46 5. The substance released.
47 6. The estimated quantity of the substance released and, if
48 applicable, the estimated quantity that has since been
49 recovered.
50 7. The cause of the release.
51 8. The source of the release.
52 9. The location of the release.
53 10. The date, time, and duration of the release.
54 11. The medium into which the substance was released,
55 including, but not limited to, the outdoor air, land,
56 groundwater, aquifer, or specified waters or wetlands.
57 12. Whether the released substance has migrated to land or
58 waters of the state outside the property boundaries of the
59 installation and the location of such migration.
60 13. To the extent available, toxicological information
61 associated with the substance released as specified on a safety
62 data sheet or comparable source published by the Occupational
63 Safety and Health Administration or the Centers for Disease
64 Control and Prevention, or their successor agencies.
65
66 The owner or operator may also include in the notice any other
67 information he or she wishes in order to assist in the
68 protection of the public health, safety, and welfare.



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69 (b) If multiple parties are subject to the notification
70 requirements based on a single reportable pollution release, a
71 single notification made by one party in accordance with this
72 section constitutes compliance on behalf of all parties subject
73 to the requirement. However, if the notification is not made in
74 accordance with this section, the department may pursue
75 enforcement against all parties subject to the requirement.

76 (c) If, after providing notice pursuant to paragraph (a),
77 the installation owner or operator determines that a reportable
78 pollution release did not occur or that an amendment to the
79 notice is warranted, the installation owner or operator may
80 submit a letter to the department documenting such
81 determination.

82 (d) If, after providing notice under paragraph (a), the
83 installation owner or operator determines that a release subject
84 to the noticing requirements of this act has migrated outside
85 the property boundaries of the installation, the owner or
86 operator, within 24 hours after such discovery, must provide an
87 additional notice to the department. Such notice must comply
88 with the requirements of paragraph (a) and specify the extent of
89 the migration outside the property boundaries.

90 (3) DEPARTMENTAL RESPONSIBILITIES.—

91 (a) The department shall publish on a website accessible to
92 the public all notices submitted by an owner or operator
93 pursuant to subsection (2) within 24 hours of receipt.

94 (b) The department shall create an electronic mailing list
95 for such notices and allow the public, including local
96 governments, health departments, news media, and other
97 interested persons, to subscribe to and receive periodic direct



98 announcement of any notices submitted pursuant to subsection
99 (2). The department shall establish regional electronic mailing
100 lists, such as by county or district boundaries, to allow
101 subscribers to determine the notices they wish to receive by
102 geographic area.

103 (c) The department shall establish an e-mail address and an
104 online form as options for owners and operators to provide the
105 notice specified in paragraphs (2) (a) and (b).

106 (4) ADMISSION OF LIABILITY OR HARM.—Providing notice under
107 subsection (2) does not constitute an admission of liability or
108 harm.

109 (5) VIOLATIONS.—For failure to provide the notification
110 required by paragraphs (2) (a) or (2) (d), the owner or operator
111 shall be subject to the civil penalties specified in s. 403.121.

112 (6) ADOPTION OF RULES.—The department shall adopt rules
113

114 ===== T I T L E A M E N D M E N T =====

115 And the title is amended as follows:

116 Delete lines 10 - 19

117 and insert:

118 defining the term "reportable pollution release";
119 requiring an owner or operator of an installation at
120 which a reportable pollution release occurred to
121 provide certain information to the department within
122 24 hours after the discovery of a reportable pollution
123 release; authorizing the owner or operator to amend
124 such notice; specifying compliance and enforcement
125 requirements; requiring owners or operators to provide
126 notice when a reportable pollution release migrates



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127
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outside the property boundaries of the installation;
requiring the department to

By Senator Galvano

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1 A bill to be entitled
2 An act relating to public notification of pollution;
3 creating s. 403.076, F.S.; providing a short title;
4 creating s. 403.077, F.S.; providing goals and
5 legislative findings; specifying authority of the
6 Department of Environmental Protection; specifying
7 that the act does not alter or affect the emergency
8 management responsibilities of certain other
9 governmental entities; creating s. 403.078, F.S.;
10 defining the term "reportable release"; requiring the
11 department to establish and publish the types and
12 amounts of a substance that, if released, would
13 constitute a reportable release; requiring an owner or
14 operator of an installation at which a reportable
15 release occurred to provide certain information to the
16 department within 24 hours after the discovery of a
17 reportable release; authorizing the owner or operator
18 to amend such notice; specifying compliance and
19 enforcement requirements; requiring the department to
20 publish such information in a specified manner;
21 requiring the department to establish an electronic
22 mailing list; requiring the department to provide a
23 reporting form and e-mail address for such notice;
24 specifying that providing a notice does not constitute
25 an admission of liability or harm; specifying
26 penalties for violations; requiring the department to
27 adopt rules; amending s. 403.121, F.S.; specifying
28 penalties for failure to provide required notice;
29 providing an effective date.

30
31 Be It Enacted by the Legislature of the State of Florida:
32

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33 Section 1. Section 403.076, Florida Statutes, is created to
34 read:

35 403.076 Short title.—Sections 403.076-403.078 may be cited
36 as the “Public Notice of Pollution Act.”

37 Section 2. Section 403.077, Florida Statutes, is created to
38 read:

39 403.077 Public notice of pollution; goals and findings.—

40 (1) It is a goal of the state that the public be timely
41 notified of a discovered, reportable pollution release that may
42 pose an immediate danger to the public health, safety, or
43 welfare.

44 (2) The department has the authority and the duty to
45 control and prohibit pollution of the air and water of this
46 state and has the primary responsibility to ensure that the
47 public is aware of reportable pollution releases. Alerting the
48 department about reportable pollution releases, within the
49 timeframes and in the manner provided by this act, will better
50 inform the department and the public regarding such releases and
51 the need, if any, to take action to protect the public health,
52 safety, and welfare.

53 (3) This act does not alter or affect the emergency
54 management responsibilities of the Governor, the Division of
55 Emergency Management, or the governing body of any political
56 subdivision of the state pursuant to chapter 252.

57 Section 3. Section 403.078, Florida Statutes, is created to
58 read:

59 403.078 Public notification of pollution.—

60 (1) DEFINITION.—As used in this section, the term
61 “reportable release” means the release of a substance at or

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62 above the quantity specified by the department in subsection
63 (2).

64 (2) DEPARTMENT DETERMINATION OF REPORTABLE RELEASE.—The
65 department shall establish and publish a list of substances
66 that, at a specified quantity determined by the department,
67 present an immediate and substantial risk to the public health,
68 safety, or welfare.

69 (3) OWNER AND OPERATOR RESPONSIBILITIES.—

70 (a) In the event of a reportable release, any person who is
71 an owner or operator of the installation at which the reportable
72 release occurred must provide a notice with the following
73 information, to the extent known at the time of such notice, to
74 the department within 24 hours after its discovery:

75 1. The name and address of the installation where the
76 reportable release occurred.

77 2. The name and title of the reporting person and the
78 nature of his or her relationship to the installation.

79 3. The identification number for any active department
80 permits, variances, registrations, or orders that are relevant
81 to the reportable release.

82 4. The name and telephone number of a contact person for
83 further information.

84 5. The substance released.

85 6. The estimated quantity of the substance released and, if
86 applicable, the estimated quantity that has since been
87 recovered.

88 7. The cause of the release.

89 8. The source of the release.

90 9. The location of the release.

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91 10. The date, time, and duration of the release.

92 11. The medium into which the substance was released, such
93 as, but not limited to, the outdoor air, land, groundwater,
94 aquifer, or specified waters or wetlands.

95 12. Whether the released substance has migrated to land or
96 waters of the state outside the property boundaries of the
97 installation and the location of such migration.

98 13. To the extent available, toxicological information
99 associated with the substance released as specified on a safety
100 data sheet or comparable source published by the Occupational
101 Safety and Health Administration or the Centers for Disease
102 Control and Prevention, or their successor agencies.

103
104 The owner or operator may also include in the notice any other
105 information he or she wishes in order to assist in the
106 protection of the public health, safety, and welfare.

107 (b) If multiple parties are subject to the notification
108 requirements based on a single reportable release, a single
109 notification made by one party in accordance with this section
110 constitutes compliance on behalf of all parties subject to the
111 requirement. However, if the notification is not made in
112 accordance with this section, the department may pursue
113 enforcement against all parties subject to the requirement.

114 (c) If the installation owner or operator determines, after
115 providing notice pursuant to paragraph (a), that a reportable
116 release did not occur or that an amendment to the notice is
117 warranted, the installation owner or operator may submit a
118 letter to the department documenting such determination.

119 (4) DEPARTMENTAL RESPONSIBILITIES.—

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120 (a) The department shall publish, on a website accessible
121 to the public, all notices submitted by an owner or operator
122 pursuant to subsection (3) within 24 hours of receipt.

123 (b) The department shall create an electronic mailing list
124 for such notices and allow the public, including local
125 governments, health departments, news media, and other
126 interested persons, to subscribe to and receive periodic direct
127 announcement of any notices submitted pursuant to subsection
128 (3). The department shall establish regional electronic mailing
129 lists, such as by county or district boundaries, to allow
130 subscribers to determine the notices they wish to receive by
131 geographic area.

132 (c) The department shall establish an e-mail address and an
133 online form as options for owners and operators to provide the
134 notice specified in paragraphs (3) (a) and (b).

135 (5) ADMISSION OF LIABILITY OR HARM.—Providing notice under
136 subsection (3) does not constitute an admission of liability or
137 harm.

138 (6) VIOLATIONS.—For failure to provide the notification
139 required by paragraph (3) (a), the owner or operator shall be
140 subject to the civil penalties specified in s. 403.121.

141 (7) ADOPTION OF RULES.—The department shall adopt rules
142 necessary to administer the provisions of this section.

143 Section 4. Present paragraph (f) of subsection (4) of
144 section 403.121, Florida Statutes, is redesignated as paragraph
145 (g), and a new paragraph (f) is added to that subsection, to
146 read:

147 403.121 Enforcement; procedure; remedies.—The department
148 shall have the following judicial and administrative remedies

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149 available to it for violations of this chapter, as specified in
150 s. 403.161(1).

151 (4) In an administrative proceeding, in addition to the
152 penalties that may be assessed under subsection (3), the
153 department shall assess administrative penalties according to
154 the following schedule:

155 (f) For failure to provide required notice pursuant to s.
156 403.078, up to \$10,000 per day for each day an installation
157 owner or operator is in violation of the section.

158 Section 5. This act shall take effect July 1, 2017.

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Environmental Preservation and Conservation

BILL: SB 442

INTRODUCER: Senator Young and others

SUBJECT: Advanced Well Stimulation Treatment

DATE: March 6, 2017

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Istler	Rogers	EP	Favorable
2.			AEN	
3.			AP	

I. Summary:

SB 442 prohibits the performance of advanced well stimulation treatments on oil or gas wells. The bill defines the term “advanced well stimulation treatment” to include all stages of well intervention performed by injecting fluids into a rock formation:

- At pressure that is at or exceeds the fracture gradient of the rock formation and the purpose or effect is to fracture the formation to increase production or recovery from an oil or gas well, such as hydraulic fracturing or acid fracturing; or
- At pressure below the fracture gradient of the rock formation and the purpose or effect is to dissolve the formation to increase production or recovery from an oil or gas well, such as matrix acidizing.

The definition explicitly excludes techniques used for routine well cleanout work, well maintenance, or removal of formation damage due to drilling or production; or acidizing techniques used to maintain or restore the natural permeability of the formation near the wellbore.

II. Present Situation:

Production of conventional versus unconventional oil and gas resources: the use of well stimulation techniques

Conventional oil and gas resources are found in permeable sandstone and carbonate reservoirs.¹ Wells have historically been drilled vertically, straight down into a rock formation to extract conventional resources. Whereas conventional resources are found in concentrated underground locations, unconventional resources are highly dispersed through impermeable or “tight” rock

¹ Michael Ratner & Mary Tiemann, Cong. Research Serv., R 43148, *An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions*, 2 (Apr. 22, 2015), available at <https://www.fas.org/sgp/crs/misc/R43148.pdf> (last visited Feb. 23, 2017).

formations such as shales and tight sands. To extract unconventional resources, drilling has shifted from vertical to horizontal or directional away from the reservoir and toward the source rock.

Well stimulation techniques are used in the production of both conventional and unconventional resources. The techniques can be focused solely on the wellbore for maintenance and remedial purposes or can be used to increase production from the reservoir.² The relatively recent development horizontal or directional drilling in conjunction with the expanded use of well stimulation techniques has increased the production at oil or gas wells and has led to the profitable extraction of unconventional resources.³ The three main well stimulation techniques are hydraulic fracturing, acid fracturing, and matrix acidizing.⁴

Hydraulic Fracturing

Hydraulic fracturing was developed in the 1940s to increase the production of conventional oil and gas resources. While the technique is not new, the composition of the fracturing fluids used in the process has evolved over time. Initially the fracturing fluids were oil-based and relied on a mixture of petroleum compounds, such as napalm and diesel fuels.⁵ Modern hydraulic fracturing involves a fracturing fluid that is composed of a base fluid, in most cases water; additives, each designed to serve a particular function; and a proppant, such as sand. The composition of the fracturing fluid varies depending on the permeability and brittleness of the reservoir rock.⁶ A hydraulic fracturing operation at a horizontal well involves four stages. The first is the “stage,” during which a portion of the well is isolated to focus the fracture fluid pressure. The second is the “pad,” during which fracture fluid is injected without proppant to initiate and propagate the fracture. The proppant is then added to keep the fractures open. The third stage is the “flush,” during which fluid is injected without proppant to push any remaining proppant into the fractures. The fourth state is the “flowback,” during which the hydraulic fracturing fluids are removed and the fluid pressure dissipates.⁷

The Environmental Protection Agency (EPA) estimates that 25,000-30,000 new wells were drilled and hydraulically fractured annually in the United States between 2011 and 2014.⁸ In the U.S., hydraulically fractured oil and gas production wells accounted for approximately 50 percent of oil production and approximately 70 percent of gas production in 2015.⁹ Hydraulic

² California Council on Science and Technology Lawrence Berkeley National Laboratory, *An Independent Assessment of Well Stimulation in California, vol. 1, Well stimulation technologies and their past, present, and potential future use in California*, 14 (January 2015) [hereinafter *CA Study*], available at <http://ccst.us/publications/2015/2015SB4-v1.php> (last visited Feb. 23, 2017).

³ *Id.* at 2.

⁴ *Id.* at 28.

⁵ Gallegos, T.J., and Varela, B.A., United States Geological Survey, *Trends in Hydraulic Fracturing Distributions and Treatment Fluids, Additives, Proppants, and Water Volumes Applied to Wells Drilled in the United States from 1947 through 2010—Data Analysis and Comparison to the Literature*, Scientific Investigations Report 2014–5131, 7 (2015), available at <http://pubs.usgs.gov/sir/2014/5131/pdf/sir2014-5131.pdf> (last visited Feb. 23, 2017).

⁶ *CA Study* at 48.

⁷ *Id.* at 42.

⁸ U.S. Environmental Protection Agency (EPA), *Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States*, 3-1 (Dec. 2016) [hereinafter *EPA Study*], available at <https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990> (last visited Feb. 23, 2017).

⁹ *Id.*

fracturing in conjunction with horizontal or directional drilling techniques has led to a surge in domestic production of oil and gas resources in the last decade and, in 2012, the United States became the world's top producer of petroleum and natural gas hydrocarbons.¹⁰ Following a decline in prices, the number of new hydraulically fractured wells in 2015 decreased to 20,000, but despite this decline, U.S. oil and gas production continues at levels above those in previous decades.¹¹

Acid Fracturing

Well stimulation techniques that use acid-based formulas are sometimes preferred in carbonate reservoirs.¹² Acid fracturing is a well stimulation technique that uses acidic fluids. Well operators pump the acidic fluids into a well at a pressure that exceeds the fracture gradient and, thus, fractures the rock. The acid etches the walls of the fracture and eliminates the need to use a proppant because the fractures remain open after pressure is released.¹³ The produced fluids have a much lower acid content than the injected fluids because most of the acid that is injected is neutralized through a reaction with the rock.¹⁴ As compared to hydraulic fracturing, acid fracturing is generally more successful in carbonate reservoirs because of the relatively high degree of natural fractures present.¹⁵

The purpose of an acid fracturing treatment is to create new or open existing fractures and dissolve formation material to create an irregular fracture surface that opens up new flow paths or enhances existing flow paths into the wellbore.¹⁶ As compared to hydraulic fracturing, acid fracturing results in fractures that are relatively short in length.¹⁷ One of the main factors that adversely affects acid fracture growth is fluid loss or acid leakoff. Acid leakoff can result in the enlargement of wormholes and natural fractures and can greatly increase the area from which fluid loss occurs, making fluid-loss control difficult and preventing acid from reaching untreated parts of the fracture.¹⁸

Matrix Acidizing

Dating back to 1895, well operators have been using matrix acidizing for over 100 years.¹⁹ Drilling and production operations lead to formation damage.²⁰ Formation damage can include the plugging of perforations or the plugging of the rock matrix by debris from the well and well

¹⁰ U.S. Energy Information Administration (EIA), *Today in Energy, U.S. remained the world's largest producer of petroleum and natural gas hydrocarbons in 2014*, (Apr. 7, 2015) <http://www.eia.gov/todayinenergy/detail.cfm?id=20692> (last visited Feb. 23, 2017).

¹¹ *EPA Study* at 3-1.

¹² *CA Study* at 56.

¹³ *Id.* at 28.

¹⁴ *Id.* at 14.

¹⁵ *Id.* at 56.

¹⁶ American Petroleum Institute, *Acidizing: Treatment in Oil and Gas Operations*, 3 (2014), available at <http://www.api.org/~media/files/oil-and-natural-gas/hydraulic-fracturing/acidizing-oil-natural-gas-briefing-paper-v2.pdf> (last visited Feb. 23, 2017).

¹⁷ *CA Study* at 56.

¹⁸ Middle East & Asia Reservoir Review, vol. 4, *Stimulate the Flow*, 46 (Jan. 2003), available at https://www.slb.com/resources/publications/industry_articles/mearr/num4_stimulate_flow.aspx (last visited Feb. 23, 2017).

¹⁹ *CA Study* at 69.

²⁰ Middle East & Asia Reservoir Review, vol. 4, *Stimulate the Flow*, 42 (Jan. 2003).

operations which restricts the flow of hydrocarbons into the wellbore.²¹ Matrix acidizing is performed by pumping acidic fluids into a well at a pressure that does not exceed the fracture gradient.²² Acidizing is often used for well maintenance and to remediate damage caused by well operation and drilling.²³ Operators use acid, which is very effective at dissolving carbonate minerals, to bypass formation damage around the well.²⁴ The acid is mostly neutralized because it reacts quickly with the limestone. This technique is also commonly used to clean water well systems to remove mineral deposits from the well screen, gravel pack, and the immediate formation.²⁵

If large volumes of acid are injected into carbonate formations, matrix acidizing can be used to increase the permeability of the formation beyond the zone impacted by drilling or production activities.²⁶ Matrix acidizing can result in limited stimulation of carbonate reservoir permeability beyond the near-wellbore region.²⁷ This technique is not commonly used for stimulation in unconventional reservoirs because it does not increase recovery enough in low permeability reservoirs to make production viable.²⁸ The penetration into the formation caused by matrix acidizing is less extensive than after use of a fracturing technique. However, in carbonate reservoirs matrix acidizing can create deeply penetrating channels, known as wormholes, and lead to deeper acid penetration into more permeable fractures of a naturally fractured reservoir.²⁹ To minimize the probability of acid entering into highly permeable sections of the formation, which could create channels into water-producing zones, careful treatment, design, and execution is required when performing a matrix acidizing treatment.³⁰

Production of oil and gas resources in Florida

Northwest and South Florida are the major oil and gas producing areas in the state. The first producing oil well was discovered in 1943 at a wellsite located in the Big Cypress Preserve in South Florida.³¹ Oil and gas resources were first discovered in Northwest Florida in 1970. There are two active oil and gas fields in Northwest Florida in Escambia and Santa Rosa counties, and five active oil and gas fields in South Florida in Lee, Hendry, Collier, and Miami-Dade counties.³² While geologists believe that there may be large oil and natural gas deposits off Florida's western coast, the state enacted a drilling ban for state waters in 1990 and, in 2006,

²¹ *Id.*

²² *CA Study* at 69.

²³ *Id.* at 14.

²⁴ *Id.* at 69.

²⁵ National Groundwater Association, *Residential Well Cleaning*, 5 (April 2008), available at <http://www.ngwa.org/Fundamentals/protecting/Documents/bp-residential-well.pdf> (last visited Feb. 23, 2017).

²⁶ *CA Study* at 14.

²⁷ *Id.* at 28.

²⁸ *Id.* at 14.

²⁹ *Id.* at 30.

³⁰ Middle East & Asia Reservoir Review, vol. 4, *Stimulate the Flow*, 44 (Jan. 2003).

³¹ American Oil & Gas Historical Society, *First Florida Oil Well*, <http://aoghs.org/states/first-florida-oil-well/> (last visited Feb. 23, 2017).

³² Florida Department of Environmental Protection (FDEP), *Florida Oil and Gas Annual Production Reports* (2016), available at http://www.dep.state.fl.us/water/mines/oil_gas/production.htm (last visited Feb. 23, 2017).

Congress banned the leasing of federal offshore blocks within 125 miles of Florida's western coast until at least 2022.³³

As of 2016, there were approximately 64 active producer wells in Florida.³⁴ The Florida Department of Environmental Protection's (FDEP) 2016 Annual Production Report totaled natural gas production at 773,444 million cubic feet and oil production at 618,809 thousand barrels in the state.³⁵

Proven oil and gas reserves both in Northwest and South Florida are composed of carbonate formations and reservoirs that have relatively high permeability.³⁶ Rather than hydraulic fracturing, well operators in the state prefer washing or flushing the formations to open carbonate pathways to enhance recovery of oil and gas resources.³⁷

Regulation of well stimulation techniques

Federal

There is limited direct federal regulation over oil and gas activities. In 2005, Congress passed the Energy Policy Act amending, in part, the Safe Drinking Water Act (SDWA) and the Clean Water Act (CWA).³⁸ The SDWA was amended to revise the definition of the term "underground injection" to specifically exclude the underground injection of fluids or propping agents (other than diesel fuels) pursuant to hydraulic fracturing operations. The CWA was amended to characterize oil and gas exploration and production as "construction activities," thereby removing these operations from the scope of the CWA.³⁹ Thus, the Energy Policy Act effectively exempted non-diesel hydraulic fracturing from federal regulation.⁴⁰

In an attempt to regulate hydraulic fracturing on federal and tribal lands, the Bureau of Land Management (BLM) in March of 2015, published final rules governing hydraulic fracturing.⁴¹

³³ EIA, Florida State Profile, *Analysis: Petroleum*, <http://www.eia.gov/state/analysis.php?sid=FL> (last visited Feb. 23, 2017); see s. 377.242(1), F.S.

³⁴ Florida Department of Environmental Protection (FDEP), *Florida Oil and Gas Annual Production Reports* (2016), available at http://www.dep.state.fl.us/water/mines/oil_gas/production.htm (last visited Feb. 23, 2017).

³⁵ *Id.*

³⁶ FDEP, *Hydraulic Fracturing Background and Recommendations* (Sept. 29, 2015) available at http://news.caloosahatchee.org/docs/Dep_Fracturing_Response_130118.pdf (last visited Feb. 23, 2017).

³⁷ *Id.*

³⁸ Energy Policy Act of 2005, H.R. 6, 109th Cong. (2005-2006).

³⁹ The EPA rule implementing the CWA amendment was challenged and the Ninth Circuit Court of Appeals vacated the rule. Oil and gas construction facilities remain subject to stormwater permitting requirements, as well as, NPDES permit requirements; see William J. Brady, *Hydraulic Fracturing Regulation in the United States: The Laissez-faire approach of the Federal government and varying state regulations*, 8 (Unv. of Denver Sturm College of Law), available at <http://www.law.du.edu/documents/faculty-highlights/Intersol-2012-HydroFracking.pdf> (last visited Feb. 23, 2017).

⁴⁰ Hannah Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 FORDHAM ENVTL. L. REV. 115 (2009), available at <http://law.uh.edu/faculty/thester/courses/Emerging%20Tech%202011/Wiseman%20on%20Fracking.pdf> (last visited Feb. 23, 2017).

⁴¹ Under the final BLM regulations, the term "hydraulic fracturing" is defined as "those operations conducted in an individual wellbore designed to increase the flow of hydrocarbons from the rock formation to the wellbore through modifying the permeability of reservoir rock by applying fluids under pressure to fracture it. Hydraulic fracturing does not include enhanced

The rules were to take effect on June 24, 2015, however, the United States District Court for the District of Wyoming granted a preliminary injunction and the rule was stayed.⁴² In June of 2016, the court held that the BLM lacked authority to regulate hydraulic fracturing and set aside the final rules.⁴³ The decision is on appeal and the case is pending.

While direct regulation over well stimulation techniques at the federal level is limited, there are several federal statutes that regulate the impacts of oil and gas extraction. The EPA's Oil and Gas Extraction Effluent Guidelines and Standards regulate wastewater discharges from field exploration, drilling, production, well treatment, and well completion activities.⁴⁴ The regulations apply to conventional and unconventional extraction with the exception of extractions of coalbed methane.⁴⁵ These standards are incorporated into the National Pollutant Discharge Elimination System regulatory framework.⁴⁶

Because oil and gas activities may result in the release of hazardous substances into the environment at or under the surface in a manner that may endanger public health or the environment, these activities are regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).⁴⁷ While recovered petroleum or natural gas is exempt from the act, other hazardous substances that result from oil or gas production, such as fracturing fluids, fall under the act. If a release of such fluids occurs, the facility owner and operator could face liability under CERCLA.⁴⁸

To ensure that employees who may be exposed to hazardous chemicals in the workplace are aware of the chemicals' potential dangers, manufacturers and importers must obtain or develop Material Safety Data Sheets (MSDS) for hydraulic fracturing chemicals that are hazardous according to the Occupational Safety and Health Administration (OSHA) standards. MSDS sheets must be maintained for hazardous chemicals at each job site and must, at a minimum, include the chemical names of substances that are considered hazardous under OSHA regulations.⁴⁹

State

States have primary jurisdiction and authority over the regulation of oil and gas activities. Almost all states with economically viable production wells have extensive regulatory programs

secondary recovery such as water flooding, tertiary recovery, recovery through steam injection, or other types of well stimulation operations such as acidizing.”

⁴² *State of Wyo. vs. U.S. Dept. of the Int.*, No. 2: 15-CB-043-SWS (D. Wyo. Sept. 30, 2015) (order granting preliminary injunction), available at <http://www.wyd.uscourts.gov/pdfforms/orders/15-cv-043%20130%20order.pdf> (last visited Feb. 23, 2017).

⁴³ *State of Wyo. vs. U.S. Dept. of the Int.*, No. 2: 15-CV-043-SWS (D. Wyo. June 21, 2016) (order on petitions for review of final agency action), available at <http://www.wyd.uscourts.gov/pdfforms/orders/15-cv-043-S%20Order.pdf> (last visited Feb. 23, 2017).

⁴⁴ EPA, *Oil and Gas Extraction Effluent Guidelines, Rule Summary*, <http://www.epa.gov/eg/oil-and-gas-extraction-effluent-guidelines> (last visited Feb. 23, 2017).

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ Adam Vann, Brandon J. Murrill, & Mary Tiemann, Cong. Research Serv., R 43152, *Hydraulic Fracturing: Selected Legal Issues*, 12 (Sept. 26, 2014), available at <https://www.fas.org/sgp/crs/misc/R43152.pdf> (last visited Feb. 23, 2017).

⁴⁸ *Id.* at 13.

⁴⁹ *Id.* at 22.

in place for permitting and monitoring oil and gas activities. Recent advances in technology and the widespread use of well stimulation techniques, particularly hydraulic fracturing, have motivated some states to update and revise their oil and gas regulations to specifically address such techniques or to ban certain techniques altogether.⁵⁰ In 2012, Vermont became the first state to ban hydraulic fracturing.⁵¹

The Governor of New York in December of 2010 issued an executive order directing the New York State Department of Environmental Conservation (NDEC) to publish a revised Generic Environmental Impact Statement to consider if and under what conditions high-volume hydraulic fracturing should be allowed in the state of New York and which prohibited the issuance of permits to drill wells using such method until the statement was completed.⁵² The NDEC published its final findings statement in 2015, which concluded that there were “no feasible or prudent alternatives [other than a ban which] would adequately avoid or minimize adverse environmental impacts and that address the scientific uncertainties and risks to public health from [high-volume hydraulic fracturing.]” The NDEC’s Findings Statement effectively banned high-volume hydraulic fracturing in the state of New York.⁵³

In 2015, Maryland passed a two-year moratorium on hydraulic fracturing, which included a requirement that the Maryland Department of the Environment (MDE) adopt regulations for the hydraulic fracturing of a well for the exploration or production of natural gas.⁵⁴ MDE proposed rules, including a suite of best practices to be followed for oil and gas exploration and production in Maryland, which are intended to protect public health, safety, natural resources, and the environment. The MDE published rules in November of 2016, and the rules are under review by the Maryland General Assembly’s Joint Committee on Administrative, Executive, and

⁵⁰ Hannah Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 FORDHAM ENVTL. L. REV. 115 (2009); see *State of Wyo. vs. U.S. Dept. of the Int.*, No. 2: 15-CB-043-SWS at 40 (D. Wyo. Sept. 30, 2015), for a list of states with regulations that address hydraulic fracturing.

⁵¹ 29 V.S.A. § 571; 29 V.S.A. § 503, defines the “hydraulic fracturing” as “the process of pumping a fluid into or under the surface of the ground in order to create fractures in rock for the purpose of the production or recovery of oil or gas.”

⁵² Governor Paterson, *Executive Order No. 41: Requiring Further Environmental Review of High-Volume Hydraulic Fracturing in the Marcellus Shale*, 9 CRR-NY 7.41 (Dec. 13, 2010), available at [https://govt.westlaw.com/nycrr/Document/Ib2187f04646111e09f330000845b8d3e?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)&bhcp=1](https://govt.westlaw.com/nycrr/Document/Ib2187f04646111e09f330000845b8d3e?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)&bhcp=1) (last visited Feb. 23, 2017).

⁵³ NY Department of Environmental Conservation, *Final Supplemental Generic Environmental Impact Statement on the Oil, Gas, and Solution Mining Regulatory Program: Regulatory Program for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and other Low-Permeability Gas Reservoirs*, 42 (June 2015), available at <http://www.dec.ny.gov/energy/75370.html> (last visited Feb. 23, 2017); under New York law, the term “high-volume hydraulic fracturing” is defined as “the stimulation of a well using 300,000 or more gallons of water as the base fluid for hydraulic fracturing for all stages in a well completion, regardless of whether the well is vertical or directional, including horizontal.”

⁵⁴ Maryland Code § 14-107.1; under Maryland law, the term “hydraulic fracturing” is defined as “a drilling technique that expands existing fractures or creates new fractures in rock by injecting fluids, often a mixture of water and chemicals, sand, or other substances, and often under pressure, into or underneath the surface of the rock for purposes that include well drilling for the exploration or production of natural gas.”

Legislative Review.⁵⁵ The MDE is prohibited from issuing a permit for hydraulic fracturing until October 1, 2017.⁵⁶

In the state of Florida, the FDEP has regulatory authority over oil and gas resources. The Division of Water Resource Management (division) within the FDEP oversees the permitting process for drilling production and exploration. The FDEP adopted Rule Chapters 62C-25 through 62C-30 of the Florida Administrative Code to implement and enforce the regulation of oil and gas resources. The division has jurisdiction and authority over all persons and property necessary to administer and enforce all laws relating to the conservation of oil and gas.⁵⁷ Drilling and exploration is not authorized or is subject to local governmental approval in tidal waters, near improved beaches, and within municipal boundaries.⁵⁸

When issuing permits for oil and gas exploration or extraction, the division is required to consider the nature, character, and location of the lands involved; the nature, type, and extent of ownership of the applicant; and the proven or indicated likelihood of the presence of oil, gas, or related minerals on a commercially viable basis.⁵⁹ The FDEP is required to ensure that all precautions are taken to prevent the spillage of oil or other pollutants in all phases of drilling for and extracting oil, gas, or other petroleum products.⁶⁰ Additionally, the FDEP is authorized to issue rules requiring the drilling, casing, and plugging of wells in such a manner as to prevent the escape of oil or other petroleum products from one stratum to another.⁶¹

Before any person begins work other than environmental assessments or surveying at the site of a proposed drilling operation, a permit to drill is required and a preliminary site inspection must be conducted by the FDEP.⁶² An application for a permit to drill must include a proposed casing and cementing program and a location plat survey.⁶³ Each drilling permit is valid for one year and may be extended for an additional year.⁶⁴ Before a permit is granted, the owner or operator is required to post a bond or other form of security for each well. The bond or security amounts vary depending upon well depth.⁶⁵ In lieu of posting a bond or security for each well, the owner or operator may file a blanket bond for the coverage of multiple operations, up to ten wells, in the amount of \$1 million.⁶⁶

Before a well is used for its intended purpose, a permit to operate the well must be obtained.⁶⁷ Operating permits are valid for the life of the well; however, every five years the FDEP is

⁵⁵ Letter from Joint Cmte. to Secretary of the Department of the Environment (Dec. 29, 2016), *available at* http://mde.maryland.gov/programs/Land/mining/marcellus/Documents/16-232P_to_Sec.pdf; see Maryland Register, 26.19.01 *Oil and Gas Exploration and Production* (Nov. 14, 2016), *available at* <http://www.dsd.state.md.us/MDR/4323/Assembled.htm>, for the full text of the regulations.

⁵⁶ Maryland Code § 14-107.1.

⁵⁷ Section 377.21(1), F.S.

⁵⁸ Section 377.24, F.S.

⁵⁹ Section 377.241, F.S.

⁶⁰ Section 377.22, F.S.

⁶¹ *Id.*

⁶² Fla. Admin. Code R. 62C-26.003.

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ Fla. Admin. Code R. 62C-26.002.

⁶⁶ *Id.*

⁶⁷ Fla. Admin. Code R. 62C-26.008.

required to perform a comprehensive field inspection and the permit must be re-certified.⁶⁸ Each application and subsequent re-certification must include the appropriate fee; bond or security coverage; a spill prevention and cleanup plan; flowline specifications and an installation plan; containment facility certification; and additional reporting and data submissions, such as driller's logs and monthly well reports.⁶⁹

A separate permit is not required for the performance of well stimulation techniques. Such techniques are regulated as workovers.⁷⁰ Rule 62C-25.002(61) of the Florida Administrative Code defines the term "workover" as "an operation involving a deepening, plug back, repair, cement squeeze, perforation, hydraulic fracturing, acidizing, or other chemical treatment which is performed in a production, disposal, or injection well in order to restore, sustain, or increase production, disposal, or injection rates." An operator is required to notify the FDEP before commencing a workover procedure and must submit a revised Well Record⁷¹ to the FDEP within 30 days after the workover.⁷² In December 2013, the FDEP received a workover notice proposing use of an enhanced extraction procedure and requested that the company that submitted the notice not complete the procedure until the FDEP could review the procedure.⁷³ The company ignored the FDEP's request and commenced with the procedure. Consequently, the FDEP issued a cease and desist order.⁷⁴ The FDEP fined the company \$25,000 for violating the cease and desist order.⁷⁵ The FDEP conducted water sampling and testing at the well site, in addition to private testing, which indicated that the workover procedure did not impact groundwater.⁷⁶

A person that violates any statute, rule, regulation, order, or permit of the division relating to the regulation of oil or gas resources or who refuses inspection by the division is liable for damages caused to the air, waters, or property of the state; for the reasonable costs of tracing the source of the discharge and for controlling and abating the source and the pollutants; and for the costs of restoring the air, waters, and property.⁷⁷ Such persons are also subject to judicial imposition of a civil penalty of up to \$10,000 for each offense.⁷⁸ Each day during any portion of which a violation occurs constitutes a separate offense.⁷⁹

⁶⁸ Fla. Admin. Code R. 62C-25.006 and R. 62C-26.008.

⁶⁹ Fla. Admin. Code R. 62C-26.008.

⁷⁰ See, e.g., s. 377.22, F.S., requiring the division to adopt rules to "regulate the shooting, perforating, and chemical treatment of wells" and to "regulate secondary recovery methods, in the introduction of gas, air, water, or other substance in producing formations;" and s. 377.26, F.S., requiring the division to "take into account technological advances in drilling and production technology, including, but not limited to, horizontal well completions in the producing formation using directional drilling methods."

⁷¹ Fla. Admin. Code R. 62C-26.008.

⁷² Fla. Admin. Code R. 62C-29.006.

⁷³ FDEP, *Collier Oil Drilling*, http://www.dep.state.fl.us/secretary/oil/collier_oil.htm (last visited Feb. 23, 2017).

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ Section 377.37(1)(a), F.S.

⁷⁸ *Id.*

⁷⁹ *Id.*

Local

As most states with oil and gas resources have extensive regulatory programs governing oil and gas activities, the issue as to what extent the local governments within those states may regulate oil and gas activities within their boundaries has arisen. In some states, local governments have banned or limited the use of certain well stimulation techniques with varying degrees of success. In Colorado a number of municipalities passed bans on hydraulic fracturing within their city limits, but the Colorado Supreme Court, finding that the cities' regulations were preempted by state law, overturned the city of Longmont's ban and the city of Fort Collins's 5-year moratorium on fracking and the storage and disposal of fracking wastes within city limits.⁸⁰ In Pennsylvania similar bans were passed, and Pennsylvania state courts held that municipalities retain their authority to limit oil and gas development within their borders, effectively authorizing local governments to regulate the "where, but not the how, of hydrocarbon recovery."⁸¹

While cities and counties do not operate oil and gas permitting programs in Florida, some through their land use regulations or zoning ordinances require special exceptions for oil and gas activities or limit oil and gas activities to certain zoning classifications.⁸² When authorizing oil and gas activities, local governments consider factors such as consistency with their comprehensive plan, injuries to communities or the public welfare, and compliance with zoning ordinances.⁸³ Section 377.24(5), F.S., restricts the FDEP from issuing a permit for drilling within the corporate limits of a municipality unless the municipality adopts a resolution approving the permit. Six municipalities, Estero, Bonita Springs, Coconut Creek, Cape Coral, Dade, and Zephyrhills, and eleven counties, Alachua, Bay, Brevard, Broward, Citrus, Martin, Miami-Dade, Pinellas, St. Lucie, Volusia, Wakulla, and Walton, have banned one or more forms of well stimulation techniques by ordinance.⁸⁴ Additionally, many other counties and cities have passed

⁸⁰ See *City of Longmont, et. al v. Colo. Oil and Gas Ass'n*, No. 15SC667 (May 2, 2016); see *City of Fort Collins v. Colo. Oil and Gas Ass'n*, No. 15SC668 (May 2, 2016), available at https://www.courts.state.co.us/Courts/Supreme_Court/Case_Announcements/ (last visited Feb. 23, 2017).

⁸¹ David L. Schwan, *Preemption Update: Local Attempts to Preempt State Regulation of Hydraulic Fracturing*, 6 (Jan. 2015), available at http://www.americanbar.org/content/dam/aba/administrative/litigation/materials/2015-joint-acle/written_materials/01_fracked_up_preemption_update.authcheckdam.pdf (last visited Feb. 23, 2017).

⁸² See, e.g., Lee County's Land Development Code §§ 34-1651 and 34-145(c).

⁸³ *Id.*

⁸⁴ Ordinance No. 2015-19 bans well stimulation within and below the corporate boundaries of the Village of Estero; Chapter 4, Article VI, Division 15, Section 4-1380 of Bonita Spring's Land Development Code bans well stimulation; Article IV, Section 13-1000 of Coconut Creek's Land Development Code bans well stimulation; Ordinance §3.23 prohibits well stimulations within the City of Cape Coral's corporate limits; Ordinance No. 2016-08 prohibits extreme well stimulation within the City of Dade; Ordinance No. 1310-16 prohibits the use of land for hydraulic fracturing within the City of Zephyrhills; §77.13.5 of Alachua County's Code of Ordinances prohibits extraction of oil and natural gas; §311 of Bay County's Land Development Regulation prohibits hydraulic fracturing in all zone districts in unincorporated Bay County; §46-375 of Brevard County's Code of Ordinances prohibits well stimulations; §66-133 of Citrus County's Code of Ordinances bans any form of well stimulation; §27-193 of Broward County's Code of Ordinances prohibits extreme well stimulation; §67.441 of Martin County's Code of Ordinances prohibits high-pressure well stimulation; §33-437 of Miami-Dade County's Code of Ordinances prohibits well stimulations; §58-489 of Pinellas County's Code of Ordinances prohibits well stimulation; Policy 6.1.5.7 of St. Lucie County's Code of Ordinances prohibits high-intensity petroleum operations; §50-42 of Volusia County's Code of Ordinances prohibits high-pressure well stimulation; §6-34 of Wakulla County's Code of Ordinances prohibits high intensity petroleum operations; §9-156 of Walton County's Code of Ordinances prohibits extreme well stimulation.

resolutions supporting various types of bans and moratoriums relating to well stimulation techniques.⁸⁵

Environmental Concerns

There are a variety of environmental concerns relating to well stimulation techniques. Potential impacts and concerns include: groundwater or surface water contamination; stress on water supplies; inadequate wastewater management and disposal; and air quality degradation.⁸⁶ Because well stimulation techniques are applied to so many types of underground formations using a variety of methods and fluids, environmental impacts vary depending on factors such as the toxicity of the fluid used; the closeness of the fracture zone to underground drinking water; the existence of a barrier between the fracture formation and other formations; and how wastewater is disposed.⁸⁷

Water Quality

The EPA estimated that of the approximately 275,000 wells that have been hydraulically fractured in 25 states between 2000 and 2013, an estimated 21,900 or eight percent were within one mile of at least one public water system groundwater well or surface water intake.⁸⁸ As a result of fracturing, sources of drinking water may be contaminated through the release of gas-phase hydrocarbons, in what is known as stray gas migration, as a result of the movement of liquid or gases out of the well if the well casing or cementing is too weak or if it fails.⁸⁹ The EPA concluded that “the injection of hydraulic fracturing fluids into wells with inadequate mechanical integrity [allowed for] gases or liquids to move to groundwater sources.”⁹⁰ While concerns related to inadequate well casing or cementing, are not unique to hydraulic fracturing, horizontally drilled, hydraulically fractured wells pose more production challenges because the well casing is subject to greater pressures.⁹¹

Mitigating measures, such as extending the casing farther below groundwater resources and pressure testing the well casing before the injection of fluids, may work to prevent well casing failures. Blowout preventers also help control and prevent pressure build-ups. Furthermore, hydraulically fractured wells in shale formations are usually drilled deeper than vertical wells and, therefore, the vertical separation between the formation and the drinking water resource is usually greater.⁹² Thousands of feet of rock layers typically overlay the produced portion of shale

⁸⁵ See Food & Water Watch, *Local Regulations Against Fracking*, <http://www.foodandwaterwatch.org/insight/local-resolutions-against-fracking#florida>, for a list of local governments that passed resolutions against fracking.

⁸⁶ EPA, *Natural Gas Extraction-Hydraulic Fracturing, Providing Regulatory Clarity and Protections Against Known Risks*, <http://www.epa.gov/hydraulicfracturing> (last visited Feb. 23, 2017).

⁸⁷ Hannah Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 FORDHAM ENVTL. L. REV. 115 (2009).

⁸⁸ *EPA Study* at 2-14.

⁸⁹ Avner Vengosh, Robert B. Jackson, Nathaniel Warner, Thomas Darrah, & Andrew Kondash, *A Critical Review of the Risks to Water Resources from Unconventional Shale Gas Development and Hydraulic Fracturing in the United States*, American Chemical Society, 48 Env. Sci. & Technol. 8334-8348, 8336 (Mar. 2014), available at <http://pubs.acs.org/doi/abs/10.1021/es405118y> (last visited Feb. 23, 2107).

⁹⁰ *EPA Study* at 10-3.

⁹¹ Michael Ratner & Mary Tiemann, Cong. Research Serv., R 43148, *An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions*, 8 (Apr. 22, 2015).

⁹² *Id.* at 7.

and serve as a barrier to contamination.⁹³ The vast majority of Florida's public water supply is obtained from groundwater sources, specifically from the Floridan aquifer system that underlies the state of Florida.⁹⁴ Areas in which oil and gas have been extracted have an upper confining unit that is generally greater than 100 feet, which may serve as a barrier to contamination.⁹⁵

Fractures created during hydraulic fracturing can intersect nearby wells or their fracture networks, resulting in the flow of fluids into those wells and to underground drinking water resources. These "frac-hits" are more likely to occur if wells are close to each other or are on the same well pad.⁹⁶ The likelihood of a frac-hit is less than 10 percent in hydraulically fractured wells more than 4,000 feet apart, while likelihood is nearly 50 percent in wells that are less than 1,000 feet apart.⁹⁷ In Florida, horizontal wells and associated drilling units that are deeper than 7,000 feet have more stringent spacing requirements.⁹⁸

Surface water contamination may occur because of the inadequate storage and disposal of produced water. Produced water is the water that comes to the surface naturally as part of the oil and gas production process. For a hydraulically fractured well the produced water includes the fracturing fluids or flowback. Approximately 10-40 percent of the volume of injected fracturing fluids returns to the surface after hydraulic fracturing.⁹⁹ In most produced waters, the concentrations of toxic elements, such as radioactive radium, are positively correlated with salinity, which suggests that many of the potential water quality issues associated with produced waters may be attributable to the geochemistry of the brines within the shale formations.¹⁰⁰ As the use of hydraulic fracturing has increased, so has the volume of wastewater generated. Spills of produced water do occur and can result in large volumes or high concentrations of chemicals reaching groundwater sources.¹⁰¹ The EPA concluded that spills generally occur at 1 to 10 percent of hydraulically fractured or active wells, with about 7 percent of such spills reaching surface water or groundwater.¹⁰² In Florida, any spill of waste material must be immediately reported to the division and the appropriate federal agencies, and the owner or operator is responsible for the costs of cleanup or other damage incurred.¹⁰³

Water Supply

The amount of water used during the performance of a hydraulic fracturing treatment depends on the well depth, formation geology, and the composition of the fluids injected. In some cases, over 90 percent of the fracturing fluid is water and each hydraulically fractured well can require

⁹³ *Id.*

⁹⁴ DEP, *Aquifers*, <https://fldep.dep.state.fl.us/swapp/Aquifer.asp> (last visited Feb. 23, 2017).

⁹⁵ U.S. Geological Survey (USGS), *Conceptual Model of the Floridan*, <http://fl.water.usgs.gov/floridan/conceptual-model.html> (last visited Feb. 23, 2017).

⁹⁶ *EPA Study* 6-71.

⁹⁷ *Id.* 10-18.

⁹⁸ Fla. Admin. Code R. 62C-26.004(5).

⁹⁹ Avner Vengosh, Robert B. Jackson, Nathaniel Warner, Thomas Darrach, & Andrew Kondash, *A Critical Review of the Risks to Water Resources from Unconventional Shale Gas Development and Hydraulic Fracturing in the United States*, American Chemical Society, 48 *Env. Sci. & Technol.* 8334-8348, 8340 (2014).

¹⁰⁰ *Id.*

¹⁰¹ *EPA Study* at 10-3.

¹⁰² *Id.* at 10-9.

¹⁰³ Section 377.371, F.S.

thousands to millions of gallons of water.¹⁰⁴ While the total water use for hydraulic fracturing is relatively low compared to other water users,¹⁰⁵ wells that are good candidates for such techniques are usually located near the same water source and, as a result, the collective impact of water withdrawals may result in increased competition among users.¹⁰⁶ To decrease the competition among users, some states have implemented pilot projects evaluating the feasibility of reusing produced waters or other brackish or wastewaters.¹⁰⁷ The reuse of wastewater, however, is often limited by the amount of wastewater that is available.¹⁰⁸ The volume of produced water from a single well is relatively small compared to the volume of water needed to fracture a well.¹⁰⁹

Wastewater Management and Disposal

The vast majority of produced water is disposed of using injection wells. Injection wells are permitted under the Underground Injection Control (UIC) program.¹¹⁰ The goal of the UIC program is the effective isolation of injected fluids from underground sources of drinking water.¹¹¹ Class II injection wells are designed to inject fluids associated with the production of oil and natural gas or fluids used to enhance hydrocarbon recovery. While the injection of fracturing fluids, unless the fluid contains diesel, is exempt from the UIC program, the wastewater from oil and gas operations is not exempt.¹¹² As unconventional oil and gas wells are being drilled at rapid rates, space for underground injection wells is becoming limited in some areas. In Florida there are 14 active Class II disposal wells, with an average disposal rate per well of 246,000 gallons per day.¹¹³

Another issue that is developing with the increase in the number of injection wells is the concern that the deep-well disposal of oil and gas production wastewater is responsible for seismic activity in certain areas.¹¹⁴ The Oklahoma Geological Survey determined that the primary suspected source of triggered seismicity is from the injection of produced water associated with oil and gas production in disposal wells.¹¹⁵

¹⁰⁴ EPA Study at ES-6.

¹⁰⁵ Avner Vengosh, Robert B. Jackson, Nathaniel Warner, Thomas Darrah, & Andrew Kondash, *A Critical Review of the Risks to Water Resources from Unconventional Shale Gas Development and Hydraulic Fracturing in the United States*, American Chemical Society, 48 Env. Sci. & Technol. 8334-8348, 8343 (2014).

¹⁰⁶ Hannah Wiseman, *Risk and Response in Fracturing Policy*, 84 Unv. of Col. L. Rev. 729-817, 776 (2009), available at http://lawreview.colorado.edu/wp-content/uploads/2013/11/11.-Wiseman_For-Printer_s.pdf (last visited Feb. 23, 2017).

¹⁰⁷ *Id.* at 770.

¹⁰⁸ EPA Study at 10-6.

¹⁰⁹ *Id.*

¹¹⁰ EPA, Underground Injection Control Program, <http://water.epa.gov/type/groundwater/uic/> (last visited Feb. 23, 2017).

¹¹¹ *Id.*

¹¹² EPA, *Natural Gas Extraction-Hydraulic Fracturing, Underground injection of waste disposal fluids from oil and gas wells (Class II wells)*, <http://www.epa.gov/hydraulicfracturing> (last visited Feb. 23, 2017).

¹¹³ EPA Study at 8-24.

¹¹⁴ See Peter Folger & Mary Tiemann, Cong. Research Serv., R 43836, *Human-Induced Earthquakes from Deep-Well Injection: A Brief Overview*, (Sept. 30, 2016), available at <https://www.fas.org/sgp/crs/misc/R43836.pdf> (last visited Feb. 23, 2017).

¹¹⁵ Oklahoma Geological Survey, *Statement on Oklahoma Seismicity* (Apr. 21, 2015), http://wichita.ogs.ou.edu/documents/OGS_Statement-Earthquakes-4-21-15.pdf (last visited Feb. 23, 2017).

Additionally, in some states the produced water is being sent to treatment facilities that are not equipped to treat wastewater from hydraulically fractured wells.¹¹⁶ In June of 2016, the EPA, under the authority of the Clean Water Act, published final rules for the oil and gas extraction category. The rules establish pretreatment standards that prevent the discharge of pollutants in wastewater from onshore unconventional oil and gas facilities to publicly owned treatment works.¹¹⁷

Air Quality

The key emissions associated with unconventional oil and natural gas production include methane, volatile organic compounds (VOCs), nitrogen oxides, sulfur dioxide, particulate matter, and various hazardous air pollutants.¹¹⁸ In 2012, the EPA issued the first federal air standards for hydraulically fractured natural gas wells.¹¹⁹ The New Source Performance Standards required reductions in VOC emissions from hydraulically fractured natural gas wells.¹²⁰ In May of 2016, the EPA issued three rules which together seek to curb emissions of methane, VOCs, toxins, and air pollutants, such as benzene, from new, reconstructed, and modified oil and gas sources.¹²¹ The final rule requires compressor stations to monitor leaks, also known as “fugitive emissions,” four times a year and requires owners or operators to find and repair such leaks, which can be a significant source of both methane and VOC pollution.¹²² The rule phases in requirements for a process known as “green completion” to capture emissions from hydraulically fractured wells. The EPA expects that implementation of the rule will reduce air pollutants and toxins, as well as, provide health benefits related to reductions in fine particle pollution and ozone toxics, along with improvements in visibility.¹²³

III. Effect of Proposed Changes:

SB 442 bans the performance of advanced well stimulation treatments in the state and clarifies that a permit for drilling or operating a well does not authorize the performance of advanced well stimulation treatments.

The bill defines the term “advanced well stimulation treatment” to include all stages of well intervention performed by injecting fluids into a rock formation:

- At pressure that is at or exceeds the fracture gradient of the rock formation and the purpose or effect is to fracture the formation to increase production or recovery from an oil or gas well, such as hydraulic fracturing or acid fracturing; or

¹¹⁶ Hannah Wiseman, *Risk and Response in Fracturing Policy*, 84 *Unv. of Col. L. Rev.* 729-817, 768-769 (2009).

¹¹⁷ EPA, *Unconventional Extraction in the Oil and Gas Industry*, <http://www2.epa.gov/eg/unconventional-extraction-oil-and-gas-industry> (last visited Feb. 23, 2017).

¹¹⁸ Michael Ratner & Mary Tiemann, Cong. Research Serv., R 43148, *An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions*, 9 (Apr. 22, 2015).

¹¹⁹ *Id.*

¹²⁰ EPA, *Controlling Air Pollution from the Oil and Natural Gas Industry*, <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry> (last visited Feb. 23, 2017).

¹²¹ EPA, *EPA's Actions to Reduce Methane Emissions from the Oil and Gas Industry: Final Rules and Draft Information Collection Request*, <https://www.epa.gov/sites/production/files/2016-09/documents/nsps-overview-fs.pdf> (last visited Feb. 23, 2017).

¹²² *Id.*

¹²³ *Id.*

- At pressure below the fracture gradient of the rock formation and the purpose or effect is to dissolve the formation to increase production or recovery from an oil or gas well, such as matrix acidizing.

The definition explicitly excludes techniques used for routine well cleanout work, well maintenance, or the removal of formation damage due to drilling or production, or acidizing techniques used to maintain or restore the natural permeability of the formation near the wellbore.

The bill clarifies that the ban only applies to oil and gas wells.

The bill takes effect upon becoming a law.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

The bill bans certain techniques used to increase production or recovery from an oil or gas well. The fiscal impact of the ban is indeterminate at this time.

C. Government Sector Impact:

The Department of Environmental Protection (FDEP) may incur additional costs related to amending Rules 62C-25 through 30 of the Florida Administrative Code to implement the ban provided in the bill. Such costs most likely can be absorbed within FDEP's existing budget.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill substantially amends section 377.19 of the Florida Statutes.

This bill creates section 377.2405 of the Florida Statutes.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.

By Senator Young

18-00374C-17

2017442__

1 A bill to be entitled
2 An act relating to advanced well stimulation
3 treatment; amending s. 377.19, F.S.; defining the term
4 "advanced well stimulation treatment"; conforming a
5 cross-reference; creating s. 377.2405, F.S.;
6 prohibiting the performance of advanced well
7 stimulation treatments; clarifying that permits for
8 drilling or operating a well do not authorize the
9 performance of advanced well stimulation treatments;
10 providing applicability; providing an effective date.

11
12 Be It Enacted by the Legislature of the State of Florida:

13
14 Section 1. Present subsections (1) through (32) of section
15 377.19, Florida Statutes, are redesignated as subsections (2)
16 through (33), respectively, present subsection (5) of that
17 section is amended, and a new subsection (1) is added to that
18 section, to read:

19 377.19 Definitions.—As used in ss. 377.06, 377.07, and
20 377.10-377.40, the term:

21 (1) "Advanced well stimulation treatment" means all stages
22 of a well intervention performed by injecting fluids into a rock
23 formation:

24 (a) At pressure that is at or exceeds the fracture gradient
25 of the rock formation and the purpose or effect is to fracture
26 the formation to increase production or recovery from an oil or
27 gas well, such as hydraulic fracturing or acid fracturing; or

28 (b) At pressure below the fracture gradient of the rock
29 formation and the purpose or effect is to dissolve the formation
30 to increase production or recovery from an oil or gas well, such
31 as matrix acidizing.
32

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33 The term does not include techniques used for routine well
34 cleanout work, well maintenance, or removal of formation damage
35 due to drilling or production, or acidizing techniques used to
36 maintain or restore the natural permeability of the formation
37 near the wellbore.

38 (6)~~(5)~~ "Gas" means all natural gas, including casinghead
39 gas, and all other hydrocarbons not defined as oil in subsection
40 (16)~~(15)~~.

41 Section 2. Section 377.2405, Florida Statutes, is created
42 to read:

43 377.2405 Advanced well stimulation treatments.—

44 (1) BAN.—The performance of advanced well stimulation
45 treatments is prohibited in this state. A permit for drilling or
46 operating a well does not authorize the performance of advanced
47 well stimulation treatments.

48 (2) APPLICABILITY.—This section only applies to wells
49 regulated pursuant to chapter 377.

50 Section 3. This act shall take effect upon becoming a law.

THE LAST PUBLISHED VERSION OF
THE DEP
PUBLIC NOTICE OF POLLUTION RULE

RULE NO. 62-4.161

Notice of Change/Withdrawal

DEPARTMENT OF ENVIRONMENTAL PROTECTION

RULE NO.: RULE TITLE:

62-4.161 Public Notice of Pollution

NOTICE OF CHANGE

Notice is hereby given that the following changes have been made to the proposed rule in accordance with subparagraph 120.54(3)(d)1., F.S., published in Vol. 42 No. 189, September 28, 2016 issue of the Florida Administrative Register.

Substantial rewording of proposed Rule 62-4.161 follows. See the Notice of Proposed Rule for 62-4.161 published on September 28, 2016, in Vol. 42 No.189, of the Florida Administrative Register for the rule text as originally proposed.

62-4.161 Public Notice of Pollution

(1) Intent. This rule is intended to prevent harm to human health, welfare, or property by assisting the control of pollution. Reportable releases as defined herein are required to be reported to the Department, the general public, local government, and effected property owners. Making these parties aware of the releases in the timeframes provided by this rule, will position them to take action to protect human health, welfare, or property.

(2) Definitions. "Reportable releases" could pose an immediate danger to public health, safety and welfare and, as used in this rule, mean the release of any substance to the outdoor air, land, or waters of the state at an installation (within the meaning of section 403.031(4), F.S.) that is not authorized by law and which is discovered by the owner or operator of the installation, or the owner or operator's employee, agent or contractor, after [effective date of the rule] and:

(a) is reportable to the State Watch Office (also known as the State Warning Point) under Department requirements such as those contained in rules, permits, orders, and variances;

(b) is reportable to the Department or its contracted county under subsections 62-761.450(3) and 62-762.451(3), F.A.C.;

(c) is reportable to the Department under paragraph 62-528.307(1)(x), F.A.C.;

(d) is a hazardous substance (within the meaning of section 376.301(21), F.S.) at or above the quantity established in Table 302.4 of 40 CFR 302.4, July 1, 2016, <http://www.flrules.org/Gateway/reference.asp?No=Ref-07610> and available at www.dep.state.fl.us/pollutionnotice, which is hereby incorporated by reference, for such substance; or

(e) is an extremely hazardous substance (within the meaning of 40 CFR 355.61 <http://www.flrules.org/Gateway/reference.asp?No=Ref-07611>) at or above the quantity established in Appendices A and B of 40 CFR 355, July 1, 2016, <http://www.flrules.org/Gateway/reference.asp?No=Ref-07612> and available at www.dep.state.fl.us/pollutionnotice, which are hereby incorporated by reference, for such substance.

(3) Notification. In the event of a reportable release, any persons (within the meaning of section 403.031(5), F.S.) who are owners or operators of the installation at which the reportable release occurred, must:

(a) Within 24 hours of a reportable release or discovery of a reportable release, notify the following persons in accordance with the notice criteria in subparagraph (4)(a)1.:

1. the Department;

2. the general public via notice to at least one broadcast television affiliate that serves the area where the installation is located and a newspaper of general circulation as described in section 50.011, F.S.; and

3. local government as follows:

a. if the installation is in an incorporated municipality:

i. the mayor, the chair of the city commission, or the comparable senior elected official representing the municipality in which the installation is located, and

ii. the city manager or comparable senior official of the municipality in which the installation is located; or,

b. if the installation is not in an incorporated municipality:

i. the chair of the county commission or comparable senior elected official representing the county in which the installation is located, and

ii. the county administrator or comparable senior official of the county in which the installation is located.

(b) Within 48 hours of a reportable release or discovery of a reportable release, notify the persons listed in paragraph (3)(a) in accordance with the notice criteria in subparagraph (4)(a)2.

(c) Within 24 hours of becoming aware that a substance released during a reportable release is present at any level or quantity in the land, outdoor air, or waters of the state located outside of the property boundaries of the installation, notify the owners of the lands at which the substance is present and the Department and local government, as provided in subparagraph (3)(a)3., in accordance with the notice criteria in subsection (4).

(4) Notice Criteria.

(a) Content.

1. The notification required under paragraph (3)(a) must include the following to the extent known at the time of the notice:

a. name and address of the installation at which the reportable release occurred;

b. name and title of the reporting person and the nature of their relationship to the installation (e.g., owner or operator);

c. identification number for any active Department permits, variances, registrations, or orders that are relevant to the reportable release;

d. name and telephone number of the person to be contacted for further information;

e. substance released;

f. estimated quantity of the substance released and quantity that has since been recovered;

g. cause or source of the release;

h. location of the release;

i. date, time, and duration of the release;

j. medium into which the substance was released; and,

k. any other persons notified, under this rule, of the reportable release.

2. The notification required under paragraph (3)(b) must include the following to the extent known at the time of the notice:

a. whether the released substance is migrating or has migrated to land, outdoor air, or waters of the state outside the property boundaries of the installation;

b. locations where the released substance has migrated to; and

c. to the extent available, toxicological information and recommended precautions (e.g., evacuation, abstaining from swimming, and abstaining from drinking groundwater) associated with the release as specified on a material safety data sheet or comparable source published by the United States Department of Labor, Occupational Safety and Health Administration or Centers for Disease Control and Prevention.

3. The notification required under paragraph (3)(c) must include the information required under subparagraphs (4)(a)1. and (4)(a)2.

4. Other information that the reporting party wishes to include to assist in the protection of human health, welfare, or property is permissible and encouraged.

(b) Method.

1. Notices required to be submitted to the Department must be submitted electronically at www.dep.state.fl.us/pollutionnotice.

2. Notices required to be submitted to local governments, broadcast television affiliates, and newspapers of general circulation must be submitted via electronic or hand delivery.

3. Notices required to be submitted to property owners must be submitted via mail, electronic delivery, or hand delivery unless the substance is present in surface waters of the state or in the outdoor air, in which case the notice must be submitted to the general public in accordance with subparagraphs (3)(a)2. and (4)(b)2.

4. Notices submitted to a newspaper of general circulation may be, but are not required to be, published in the notice section of the newspaper.

5. If notices are sent via electronic delivery, a single email to multiple parties is acceptable. Each party is not required to be separately notified.

(5) Failure to provide the notification required by this rule shall be considered a violation of Department rule and subject to the imposition of penalties pursuant to section 403.161, F.S. Where multiple parties are subject to the

notification requirements based on a single reportable release, there need not be multiple notifications. A single notification made by one party in accordance with this rule shall constitute compliance on behalf of all parties that are subject to the requirement. However, where notification is not made in accordance with this rule, the Department may pursue enforcement against all parties subject to the requirement.

Rulemaking Authority 377.22(2), 403.061(7), 403.061(8), 403.061(28), 403.062, 403.855(1), 403.861(9) FS. Law Implemented 377.21, 403.061(16), 403.061(17), 403.061(18), 403.061(28), 403.062, 403.855(3), 403.861(9) FS. History-New XX-XX-XXXX.

**Testimony by Timothy Benson, Policy Analyst****Before the Florida Senate Environmental Preservation and Conservation Committee****Tuesday, March 7, 2017**

Good afternoon Chairman Book and members of the committee. I thank you for the opportunity to speak today. My name is Timothy Benson, and I am a policy analyst at The Heartland Institute, a nonprofit, nonpartisan, national think tank headquartered in Arlington Heights, Illinois. As someone who grew up in Florida and whose immediate family still calls the Sunshine State home, the protection of the state's ecosystems is as important to me as it is to any other person in this room.

However, enacting a permanent ban on hydraulic fracturing would be a costly, wholly unnecessary mistake. The existing peer-reviewed evidence shows hydraulic fracturing processes do not pose a systemic impact on groundwater. Since 2010, at least 15 of these studies have been produced, including ones by the Bureau of Economic Geology at the Jackson School of Geosciences at the University of Texas-Austin¹, the Department of Geology at the McMicken College of Arts and Sciences at the University of Cincinnati² the California Council on Science and Technology and the Lawrence Berkeley National Laboratory³, the Department of Energy's National Energy Technology Laboratory⁴, and Germany's Federal Institute for Geosciences and Natural Resources.⁵

¹ J.P. Nicot *et al.*, "Understanding and Managing Environmental Roadblocks to Shale Gas Development: An Analysis of Shallow Gas, NORM, and Trace Metals," Bureau of Economic Geology, Jackson School of Geosciences, the University of Texas-Austin, September 2015, http://www.rpsea.org/media/files/project/338e578b/11122-56-FR-Shale_Gas_Development_Texas_Analysis_Shallow_NORMs_Trace_Metals-11-11-15_P.pdf

² Elizabeth Claire Botner, "Elevated Methane Levels from Biogenic Coalbed Gas in Ohio Drinking Water Wells near Shale Gas Extraction," Department of Geology, McMicken College of Arts and Sciences, University of Cincinnati, July 2015, <http://www.artsci.uc.edu/content/dam/artsci/departments/geology/Docs/Generaldocs/Botner%20ETD.pdf>

³ Jens T. Birkholzer *et al.*, "An Independent Scientific Assessment of Well Stimulation in California: An Examination of Hydraulic Fracturing and Acid Stimulations in the Oil and Gas Industry," California Council on Science and Technology, Lawrence Berkeley National Laboratory, July 2015, <https://ccst.us/publications/2015/2015SB4-v2ES.pdf>

⁴ Richard W. Hammack *et al.*, "An Evaluation of Fracture Growth and Gas/Fluid Migration as Horizontal Marcellus Shale Gas Wells are Hydraulically Fractured in Greene County, Pennsylvania," National Energy Technology Laboratory, U.S. Department of Energy, September 2014, http://www.netl.doe.gov/File%20Library/Research/onsite%20research/publications/NETL-TRS-3-2014_Greene-County-Site_20140915_1_1.pdf

⁵ Stefan Ladage *et al.*, "Schieferöl und Schiefergas in Deutschland: Potenziale und Umweltaspekte," Bundesanstalt für Geowissenschaften und Rohstoffe, January 2016, http://www.bgr.bund.de/DE/Themen/Energie/Downloads/Abschlussbericht_13MB_Schieferoelgaspotenzial_Deutsch

This is reinforced by the Environmental Protection Agency's own \$29-million, six-year study of fracking's impact on groundwater sources, which failed to find any systemic impact caused by the 110,000 oil and natural gas wells that have been in use across the country since 2011.⁶ While EPA says leaking well casings and surface spills can impact water sources, the study acknowledges the number of impacted sites are very rare compared to the amount of wells drilled. The rarity of these events proves fracking is generally being conducted safely and can be done so in Florida as well.

While no fracking is currently being conducted in the state, the process has been used in the past, and Florida has a long history of oil and natural gas extraction. The U.S. Energy Information Administration (EIA) reports over 2.2 million barrels⁷ of crude oil were extracted from the state in 2015, along with 5.79 billion cubic feet⁸ of natural gas.

According to the state Department of Environmental Protection, "Over 1,000 permitted wells have been drilled [in Florida] since 1943. During this timeframe, the petroleum industry has safely produced 611 million barrels of crude oil and 689 billion cubic feet of natural gas. ... There have been no major accidents, spills, or blowouts in Florida's history. Compliance rates with permit provisions and Florida's rules and statutes for the industry is very high, around 98 percent."⁹

As well as being environmentally safe, fracking has had a positive economic impact on those areas that have allowed the practice. A study released in December 2016 of communities near shale basins – conducted by researchers at the University of Chicago, Princeton University, and the Massachusetts Institute of Technology (MIT) – determined hydraulic fracturing activity brings \$1,300 to \$1,900 in annual benefits to local households, including "a 7 percent increase in average income, driven by rises in wages and royalty payments, a 10 percent increase in employment, and a 6 percent increase in housing prices."¹⁰

[hland_2016.pdf;jsessionid=56180E28F01D66721BF08DFF00C0DC54.1_cid321?_blob=publicationFile&v=5](#)

⁶ U.S. Environmental Protection Agency, "Hydraulic Fracturing for Oil and Gas: Impacts from the Hydraulic Fracturing Water Cycle on Drinking Water Resources in the United States," December 2016, <https://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=332990>

⁷ U.S. Energy Information Administration, "Crude Oil Production," accessed March 5, 2017, http://www.eia.gov/dnav/pet/pet_crd_crdpn_adc_mbbl_a.htm

⁸ U.S. Energy Information Administration, "Natural Gas Summary – Florida," accessed March 5, 2017, http://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SFL_a.htm

⁹ Florida Department of Environmental Protection, "DEP approves permits for Dan A. Hughes Company, L.P. project in Collier County near Golden Gate Estates," September 20, 2013, content.govdelivery.com/accounts/FLDEP/bulletins/8b300e

¹⁰ Alexander W. Bartik *et al.*, "The Local and Economic Consequences of Hydraulic Fracturing," The National Bureau of Economic Research, January 2017, <https://www.heartland.org/template-assets/documents/Nationwide%20Fracking%20Benefits.pdf>

The fracking process has transformed the energy outlook of the United States over the past decade. According to EIA, fracking now accounts for 51 percent of all U.S. crude oil production.¹¹ The oil and natural gas hydraulic fracturing has enabled us to exploit are cost-effective and abundant, and they can ensure the United States is the world's largest energy producer well beyond the 21st century.

Drilling is currently being conducted across the country, including in Florida, in a safe and responsible manner. Federal, state, and local governments have tested thousands of sites for hydraulic-fracturing-related pollution of groundwater and drinking-water resources, as well as for air quality. Flatly, there is no scientific justification for banning hydraulic fracturing.

For more information about The Heartland Institute's work, please visit our websites: www.heartland.org and <http://news.heartland.org>. You may also call John Nothdurft, Heartland's director of government relations, at 312/377-4000 or reach him by e-mail at jnothdurft@heartland.org.

¹¹ U.S. Energy Information Administration, U.S. Department of Energy, "Hydraulic fracturing accounts for about half of current U.S. oil production," March 15, 2016, <http://www.eia.gov/todayinenergy/detail.php?id=25372>

THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB 442

Bill Number (if applicable)

Topic Advanced Well Stimulation

Amendment Barcode (if applicable)

Name Mary-Lynn Cullen

Job Title Legislative Liaison

Address 1674 University Pkwy

Phone 941-928-0278

Street

Sarasota

Fl.

State

34243

Zip

Email achildren@aol.com

Speaking: [X] For [] Against [] Information

Waive Speaking: [] In Support [] Against (The Chair will read this information into the record.)

Representing Advocacy Institute For Children

Appearing at request of Chair: [] Yes [X] No

Lobbyist registered with Legislature: [X] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

7 March 2017
Meeting Date

SB 442
Bill Number (if applicable)

Topic Environmental impacts

Amendment Barcode (if applicable)

Name Jennifer Rubiello

Job Title State Director, Environment Florida

Address 3110 1st Ave N. Suite 2K
Street

Phone 727 327 3138

St. Petersburg FL 33713
City State Zip

Email jennifer@environmentFlorida.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Environment Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2017

Meeting Date

SB442

Bill Number (if applicable)

Topic Banning Fracking in Florida

Amendment Barcode (if applicable)

Name Ken Hays

Job Title Retired

Address 1935 Nanticoke Circle

Phone 850-980-7053

Street

Tallahassee

FL

32303

Email kmh8arin@gmail.com

City

State

Zip

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Florida citizens in favor of clean water

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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S-001 (10/14/14)

THE FLORIDA SENATE
APPEARANCE RECORD

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7 March 17

Meeting Date

SB 442

Bill Number (if applicable)

Topic Tourism / economic impacts

Amendment Barcode (if applicable)

Name Michelle Allen

Job Title Florida Organizer - Food + Water Watch

Address 233 3rd St. N.
Street

Phone 954.687.9224

St. Petersburg FL 33701
City State Zip

Email mallen@fwwatch.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Food and Water Watch

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2017
Meeting Date

SB 442
Bill Number (if applicable)

Topic Advanced Well Stimulation Treatment

Amendment Barcode (if applicable)

Name Susan Glickman

Job Title Florida Director

Address PO Box 310
Street

Phone 727.742.9003

Indian Rocks Beach FL 33785
City State Zip

Email susan@cleanenergy.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Southern Alliance for Clean Energy

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

442
Bill Number (if applicable)

Topic FRACKING

Amendment Barcode (if applicable)

Name DAVID CULLEN

Job Title _____

Address 1674 UNIVERSITY AVE # 295

Phone 941.323.2409

SARASOTA FL 34243

Email cullenase@aol.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing SEPA Club Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

~~S~~B442
Bill Number (if applicable)

Topic ~~HB442~~ FRACKING

Amendment Barcode (if applicable)

Name Patricia T. Thomas

Job Title Retired - Volunteer

Address 2985 Teton Trail
Street

Phone _____

Tlh Fla 32303
City State Zip

Email _____

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Environmental Causes, Democrat Club of N. Fla.
Food & water watch

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-17
Meeting Date

442
Bill Number (if applicable)

Topic SB442

Amendment Barcode (if applicable)

Name Kim Ross

Job Title President, ReThink Energy Florida

Address 1203 Buckingham Dr
Street

Phone 850-888-2565

Tallahassee FL 32308
City State Zip

Email kim@rethinkenergyflorida.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing ReThink Energy Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

SB 442

Bill Number (if applicable)

Meeting Date

Topic FRACKING BAN

Amendment Barcode (if applicable)

Name STEVIE LOWE

Job Title

Address 8140 CN 304

Phone 386 597 9335

Street

BUMPELL

FLA

32110

Email EQUUSMUSIC@AOL.COM

City

State

Zip

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/2/17
Meeting Date

SB 442
Bill Number (if applicable)

Topic SB 442

Amendment Barcode (if applicable)

Name Edward Mahonen

Job Title _____

Address 964 Aragon Ave
Street

Phone 304 559 4264

St Augustine FL 32086
City State Zip

Email ve4holes@aol.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Self

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2017
Meeting Date

SB442
Bill Number (if applicable)

Topic: SB 442 Fracking Ban

Amendment Barcode (if applicable)

Name Robin Mahonen

Job Title _____

Address 964 Aragon Ave
Street

Phone (304) 639-5538

St. Augustine FL 32086
City State Zip

Email RRrafael2@aol.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Self

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

442
Bill Number (if applicable)

Topic _____

Amendment Barcode (if applicable)

Name GAIL MARIE PERRY

Job Title CHAIR, COUNCIL of FLORIDA

Address PO Box 1766

Phone 954 850-4055

Pompano Beach Florida 33061

Email workingfolk@hotmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing COMMUNICATIONS WORKERS of AMERICA

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

442
Bill Number (if applicable)

Topic SB 442

Amendment Barcode (if applicable)

Name Aliki Moncrief

Job Title Exec. Director, Florida Conservation Voters

Address 1700 N. Monroe St # 11-286

Phone 850 629 4656

TLH
City

FL 32303
State Zip

Email contact@fcvoters.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Florida Conservation Voters

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

SB442
Bill Number (if applicable)

Topic SB442

Amendment Barcode (if applicable)

Name Daniel Pertwee

Job Title FSU Student

Address 1600 W Call St

Phone

Street

Tallahassee FL 32304

City

State

Zip

Email djp14c@my.fsu.edu

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing The Office of Student Sustainability FSU

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

3-7-17

Meeting Date

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

442

Bill Number (if applicable)

Topic

Amendment Barcode (if applicable)

Name JESS McCARTY

Job Title ASSISTANT COUNTY ATTORNEY

Address 111 NW 1st St 2810

Phone 305-979-7110

Street

MIAMI 33128

Email JMM2@MIAMI.DADE.GOV

City

State

Zip

Speaking: [x] For [] Against [] Information

Waive Speaking: [x] In Support [] Against (The Chair will read this information into the record.)

Representing MIAMI-DADE COUNTY

Appearing at request of Chair: [] Yes [x] No

Lobbyist registered with Legislature: [x] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/07/17
Meeting Date

SB 442
Bill Number (if applicable)

Topic Well stimulation

Amendment Barcode (if applicable)

Name Rich Templin

Job Title _____

Address 135 S. Monroe

Phone _____

Street

Tallahassee

FL

32301

City

State

Zip

Email _____

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Florida AFL-CIO

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

442

Bill Number (if applicable)

Topic Hydraulic Fracturing

Amendment Barcode (if applicable)

Name Rebecca O'Hara

Job Title Sr. Legislative Advocate

Address PO Box 1757

Phone 202 9684

Street

Tallahassee FL 32302-1757

City

State

Zip

Email rohara@flcities.com

Speaking: [X] For [] Against [] Information

Waive Speaking: [X] In Support [] Against (The Chair will read this information into the record.)

Representing Fla League of Cities

Appearing at request of Chair: [] Yes [X] No

Lobbyist registered with Legislature: [X] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/4/17

Meeting Date

SB 442

Bill Number (if applicable)

Topic Fracking Prohibition

Amendment Barcode (if applicable)

Name Linda Miklowitz

Job Title

Address 2542 Artmer's Court

Phone 850.878.4320

Tallahassee FL FL

Email LMiklowitz@aol.com

Speaking: [X] For [] Against [] Information

Waive Speaking: [] In Support [] Against (The Chair will read this information into the record.)

Representing

Appearing at request of Chair: [] Yes [X] No

Lobbyist registered with Legislature: [] Yes [X] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2017
Meeting Date

442
Bill Number (if applicable)

Topic Fracking-induced-disease

Amendment Barcode (if applicable)

Name Dr. Marc Freeman

Job Title Professor

Address 5143 Leisure Hill
Street

Phone 850 562-1335

City State Zip 32303

Email prolactive@comcast.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Self

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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APPEARANCE RECORD

THE FLORIDA SENATE

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

Meeting Date

3-

Topic Advanced Use of Amelutrom Treatment

Name Joseph Karmay

Job Title Retired

Address 1907 Rhonda Dr

Street Tallahassee

City

State

Zip

Phone

850 386-7589

Email

karmay020@comcast.net

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing

League of Women Voters

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

Bill Number (if applicable)

492

Amendment Barcode (if applicable)

THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

Meeting Date

03/07/2015

Topic

SB 442 Ban Fracking in FL

Name

Sharon Fairbanks

Job Title

Address

9601 Micosulcee Rd Lot 28

Street

City

Tallahassee FL 32309

State

Zip

Phone

(850)877-5714

Email

Fairbanks@ntally.com

Speaking:

For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing

Concerned citizen

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

Amendment Barcode (if applicable)

Bill Number (if applicable)

SB 442

THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

Meeting Date

3/7/17

Bill Number (if applicable)

442

Amendment Barcode (if applicable)

Advanced New Stimulant Treatment

Name

Davan West

Job Title

Legislative Affairs Director

Address

2301 SE Monterey Street

City

Stuart

State

FL

Zip

33916

Phone

321-243-2270

Email

dwest@martin.fl.us

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing

Martin County Board of County Commissioners

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB 42

Bill Number (if applicable)

Topic Advanced Well Stimulation

Amendment Barcode (if applicable)

Name Brenda Warger

Job Title Executive Assistant, Sustainable Tallahassee

Address 630 E. College Ave

Street

Phone 305-588-3345

Tallahassee

City

FL

State

32301

Zip

Email brendawarger@gmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Floridians Against Fracking

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

S-001 (10/14/14)

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB 442

Bill Number (if applicable)

Topic Advance well stimulation

Amendment Barcode (if applicable)

Name Hunter Becker

Job Title Student

Address 600 Dixie Dr Apt 214

Phone 954-802-8899

Street

Tallahassee

City

FL

State

32304

Zip

Email hob142@my.fsu.edu

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Floridians Against Fracking

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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S-001 (10/14/14)

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-17

Meeting Date

442

Bill Number (if applicable)

Topic Advanced Well Stimulation

Amendment Barcode (if applicable)

Name Ryan Smart

Job Title President

Address 308 N. Monroe St

Phone 850-222-6277

Tallahassee FL 32301
City State Zip

Email rsmart@1000of.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing 1000 Friends of Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

442
Bill Number (if applicable)

Topic Well Stimulation

Amendment Barcode (if applicable)

Name Jay Liles

Job Title _____

Address PO Box 6870

Phone 850/294-5004

Street Tallahassee FL 32314

Email jliles@stonline.org

City State Zip

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Florida Wildlife Federation

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-07-17

Meeting Date

SB 442

Bill Number (if applicable)

Topic FRACKING

Amendment Barcode (if applicable)

Name Nana Royer

Job Title Rep (former Reg. Nurse)

Address 6 Willow Dr

Phone 904 377 1600

Street

St Augustine FL 32080

City

State

Zip

Email nana@nrdp.net

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing INDIVISIBLE ST JOHNS UUC Fellowship of St Aug

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

JB442

Bill Number (if applicable)

Topic Advance Well Stimulation Treatment

Amendment Barcode (if applicable)

Name Jacob Sanchez

Job Title Engineering Student

Address 5581 Eagle Lake Dr

Phone

Street

Palm Beach Gardens FL 33418

Email

City

State

Zip

Speaking: [] For [] Against [] Information

Waive Speaking: [x] In Support [] Against (The Chair will read this information into the record.)

Representing

Appearing at request of Chair: [] Yes [] No

Lobbyist registered with Legislature: [] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

442

Bill Number (if applicable)

Topic Advanced Well Stimulation

Amendment Barcode (if applicable)

Name Gerrit Van Lent

Job Title Legislative Policy Coordinator

Address 999 Old Danbridge Road

Phone 305-393-3465

Street

Tallahassee

FL

32301

City

State

Zip

Email gvnlent93@gmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Rethink Energy Action Fund

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

3-7-17

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

442

Meeting Date

Bill Number (if applicable)

Topic Advanced well stimulation

Amendment Barcode (if applicable)

Name Marty Cassini

Job Title Legislative Counsel

Address 115 S. Andrews Ave

Phone 954-357-7575

Street

City Fort Lauderdale State Zip

Email mcassini@broward.org

Speaking: [] For [] Against [] Information

Waive Speaking: [x] In Support [] Against (The Chair will read this information into the record.)

Representing Broward County

Appearing at request of Chair: [] Yes [x] No

Lobbyist registered with Legislature: [x] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2017

Meeting Date

SB442

Bill Number (if applicable)

Topic Fracking

Amendment Barcode (if applicable)

Name Karen Pelham

Job Title

Address 3433 Welwyn Way

Phone 850-668-5930

Street

Tallahassee, FL 32309

City

State

Zip

Email kbpelham@gmail.com

Speaking: [X] For [] Against [] Information

Waive Speaking: [X] In Support [] Against (The Chair will read this information into the record.)

Representing Women's March Florida Environmental group

Appearing at request of Chair: [] Yes [] No

Lobbyist registered with Legislature: [] Yes [X] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3 7 17

Meeting Date

442

Bill Number (if applicable)

Topic Fracking

Amendment Barcode (if applicable)

Name Brian Lee

Job Title Legislative Director

Address 1203 Buckingham Dr.

Phone 850-766-7309

Street

Tallahassee

FL

32308

City

State

Zip

Email brian@rethinkenergyflorida.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Floridians Against Fracking / Food and Water Watch

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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S-001 (10/14/14)

THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

442
Bill Number (if applicable)

Topic Advanced Well Stimulation Treatment

Amendment Barcode (if applicable)

Name Jennifer Wilson

Job Title Lobbyist

Address 101 E. Kennedy Blvd, Suite 4000
Street

Phone 813-407-0703

Tampa FL 33602
City State Zip

Email Jennifer.Wilson@arlaw.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing _____

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

3/7/17

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

442

Meeting Date

Bill Number (if applicable)

Topic Ban oil fracking

Amendment Barcode (if applicable)

Name Zefnia Durham III

Job Title Tranisit

Address 3827 NE 14th Street

Phone 352-260-3524

Street

Gainesville

FL

32609

City

State

Zip

Email Zefniadurham@lyshas.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Zefnia Durham III

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

This form is part of the public record for this meeting.

4-6

THE FLORIDA SENATE APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB 442

Bill Number (if applicable)

Topic Well Stimulation

Amendment Barcode (if applicable)

Name Brewster Bevis

Job Title Senior Vice President

Address 516 N. Adams St

Street

Tallahassee

City

FL

State

32301

Zip

Phone 224-7173

Email bbevis@aif.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Associated Industries of Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-2017
Meeting Date

SB442
Bill Number (if applicable)

Topic FRACTURING ENVIRONMENT & CONSERVATION

Amendment Barcode (if applicable)

Name FRANK ANGEL

Job Title RETIRED UAW CHAIRMAN

Address 2180 VIREDAW
Street

Phone 708-955-6254

BOCA RATON FL. 33433
City State Zip

Email UAW 28474@gmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing SELF

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-2017

Meeting Date

SB-442

Bill Number (if applicable)

Topic Ban on Fracking SB-442

Amendment Barcode (if applicable)

Name Jimmy Filiponi

Job Title T.T.O Hookman

Address 1780 Davidson Road

Phone 863-254-7547

Street

Clewiston

FL

33440

City

State

Zip

Email

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing I.A.M L.L. 215

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-17

Meeting Date

SB 442

Bill Number (if applicable)

Topic Fracking Ban

Amendment Barcode (if applicable)

Name Cornelius Fowler

Job Title

Address 2616 7th Court

Phone 561-248-0945

Street

Clewiston

FL

33440

Email fowler6579@gmail

City

State

Zip

Speaking: [X] For [] Against [] Information

Waive Speaking: [X] In Support [] Against (The Chair will read this information into the record.)

Representing IAM local 2152

Appearing at request of Chair: [] Yes [] No

Lobbyist registered with Legislature: [] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17 Meeting Date

SB-442 Bill Number (if applicable)

Topic BAN ON FRACKING / SB-442

Amendment Barcode (if applicable)

Name EDWARD GARCI

Job Title Florida citizen

Address 301-NW-Ave D Street

Phone 561-261-0316

Belle Glade Fla 33430 City State Zip

Email

Speaking: For Against Information

Waive Speaking: In Support Against (The Chair will read this information into the record.)

Representing FAM LL 2152

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-17
Meeting Date

SB 442
Bill Number (if applicable)

Topic BAW FRACKING

Amendment Barcode (if applicable)

Name Herb Shelton

Job Title _____

Address 2115 Longview Dr.

Phone _____

Street

Tallahassee
City

FL
State

32303
Zip

Email herbie323@yahoo.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Environmental Causes of Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-2017

Meeting Date

SB-442

Bill Number (if applicable)

Topic Ban on Facking / SB-442

Amendment Barcode (if applicable)

Name Joaquin Amazon

Job Title Floridian Citizen

Address PO Box 755
Street

Phone 561-516-4650

South Bay FL 33493
City State Zip

Email _____

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing IAM LL 2152

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB442

Bill Number (if applicable)

Topic Fracking Ban

Amendment Barcode (if applicable)

Name Adam Morley

Job Title Captain

Address 1205 SR 206 E

Phone 904-540-7245

Street

St. Augustine

City

FL

State

32086

Zip

Email Capt-Morley@yahoo.com

Speaking: For Against Information

Waive Speaking: In Support Against (The Chair will read this information into the record.)

Representing Self

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB492

Bill Number (if applicable)

Topic _____

Amendment Barcode (if applicable)

Name Doug Miller

Job Title Statewide Coordinator - Floridians Against Fracking

Address 3034 O'Brien Dr.

Phone 850-266-6867

Tallahassee FL 32309

City State Zip

Email doug@rethinkenergyres.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Floridians Against Fracking

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2007

Meeting Date

442

Bill Number (if applicable)

Topic FRACKING BAN

Amendment Barcode (if applicable)

Name JO MCINTIRE

Job Title

Address

Street

St Augustine

City

FL

State

32080

Zip

Phone 904 461 3175

Email jo.mcintire@bellscott.net

Speaking: [] For [] Against [] Information

Waive Speaking: [X] In Support [] Against (The Chair will read this information into the record.)

Representing

Appearing at request of Chair: [] Yes [] No

Lobbyist registered with Legislature: [] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

03-07-17

Meeting Date

SB442

Bill Number (if applicable)

Topic Ban Fracking in FL

Amendment Barcode (if applicable)

Name Ashley French

Job Title Store Manager

Address _____

Phone 904 377 5180

Street

St Augustine

City

FL

State

32086

Zip

Email ashley.french65@gmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing _____

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2017
Meeting Date

SB442
Bill Number (if applicable)

Topic In support of SB442

Amendment Barcode (if applicable)

Name Daniel Pertwee

Job Title FSU student

Address 1600 W Call St

Phone

Street

Tallahassee

FL

32304

City

State

Zip

Email djp14c@my.fsu.edu

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Office of Student Sustainability

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/17/2017

Meeting Date

SB442

Bill Number (if applicable)

Topic In support of SB442

Amendment Barcode (if applicable)

Name Megan Nichols

Job Title FSU student

Address 1667 Sharkey Street

Phone 321-266-5081

Tallahassee FL 32304

Email seane.mone@fsu.edu

Speaking: [] For [] Against [] Information

Waive Speaking: [x] In Support [] Against (The Chair will read this information into the record.)

Representing Environmental Service Program

Appearing at request of Chair: [] Yes [] No

Lobbyist registered with Legislature: [] Yes [] No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

Bill Number (if applicable)

Topic

S.B. 442

Amendment Barcode (if applicable)

Name

CYNTHIA SCHWARTZ EBEN

Job Title

Retired PRDitt

Address

3980 Bobbin Brook Cir

Phone

250-509-0735

Street

City

Tallahassee 32312

State

Zip

Email

prnd02@gmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing

Democratic Women's Club of Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/16

Meeting Date

SB 442

Bill Number (if applicable)

Topic _____

Amendment Barcode (if applicable)

Name Glenda ABICHT

Job Title SERVICES TECHNICIAN

Address 4305 SW 98 AV
Street

Phone 786-376-1181

MIAMI, FL. 33165
City State Zip

Email _____

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing SELF

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

SB 442
Bill Number (if applicable)

Topic _____

Amendment Barcode (if applicable)

Name Gary Hunter

Job Title Attorney

Address 119 S. Monroe St. Suite 300

Phone 850-222-7500

Tallahassee FL 32301
City State Zip

Email garyh@hgsllaw.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Exxon Mobil; Florida Chamber of Commerce; Sklar Petroleum

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

442
Bill Number (if applicable)

Topic OIL & GAS EXPLORATION & PRODUCTION

Amendment Barcode (if applicable)

Name DAVID MICA

Job Title DIRECTOR

Address 215 S. MONROE STREET Suite 800

Phone 850 561-6300

Tallahassee FL 32301
City State Zip

Email MICAD@API.ORG

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing FLORIDA PETROLEUM COUNCIL

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

March 7, 2017

Meeting Date

Bill Number (if applicable)

Topic SB 442 - Hydraulic fracturing in the basin

Amendment Barcode (if applicable)

Name Stephanie Meadows

Job Title Manager, Upstream ARI

Address 1220 L STREET, NW

Phone 202/087-8578

Street

WASHINGTON, DC 20005

Email smeadows@api.org

City

State

Zip

Speaking: For Against Information

Waive Speaking: In Support Against (The Chair will read this information into the record.)

Representing AMERICAN PETROLEUM INSTITUTE

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17 Meeting Date

SB 442 Bill Number (if applicable)

Topic oil and gas development

Amendment Barcode (if applicable)

Name Ben Norris

Job Title Senior Counsel

Address 222 + 7 1220 L St., NW Street

Phone 202-682-8251

Washington DC 20005 City State Zip

Email norrisb@api.org

Speaking: For Against Information

Waive Speaking: In Support Against (The Chair will read this information into the record.)

Representing American Petroleum Institute

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

March 7, 2017
Meeting Date

Bill Number (if applicable)

Topic SB 442 - Oil and Gas Development

Amendment Barcode (if applicable)

Name Uni Blake

Job Title Scientific Advisor

Address 1220 L Street, NW
Street

Phone 202 682 8480

Washington DC 20005
City State Zip

Email Blakell@api.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing American Petroleum Institute

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

SB442
Bill Number (if applicable)

Topic _____

Amendment Barcode (if applicable)

Name Logan Pike

Job Title Director of Public Affairs

Address 100 N Duval St

Phone 850-386-3131

TLH FL 32301
City State Zip

Email lpike@jamesmadison.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing The James Madison Institute

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

442
Bill Number (if applicable)

Topic Well Stimulation

Amendment Barcode (if applicable)

Name Philip K McMillan

Job Title Vice President Neal Land & Timber

Address P.O. Box 548

Phone 850-643-7082

Blountstown FL 32424
City State Zip

Email pkm@pairpoint.net

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Neal Land & Timber

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

MARCH 7

Meeting Date

SB 244

Bill Number (if applicable)

Topic SB244

Amendment Barcode (if applicable)

Name Julio Fuentes

Job Title President, FL State Hispanic Chamber of Commerce

Address _____ Phone _____
Street

_____ Email _____
City State Zip

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Florida State Hispanic Chamber of Commerce

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

7 MAR 2017
Meeting Date

442
Bill Number (if applicable)

Topic _____

Amendment Barcode (if applicable)

Name DENNIS O. FREYTES

Job Title US VETERAN - FL HALL OF FAME

Address 9453 WESTOVER CIRCLE
Street

Phone 407-298-1151

WINDERMERE, FL 34786
City State Zip

Email denniefreytes@attmail.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing VETS FOR ENERGY

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB 442

Bill Number (if applicable)

Topic

Amendment Barcode (if applicable)

Name Timothy Benson

Job Title Policy Analyst - The Heartland Institute

Address 3939 N Wille Rd.

Phone (312) 377-4000

Arlington Heights IL 60004

Email tbenson@heartland.org

Speaking: For [] Against [x] Information []

Waive Speaking: In Support [] Against [] (The Chair will read this information into the record.)

Representing The Heartland Institute

Appearing at request of Chair: Yes [] No [x]

Lobbyist registered with Legislature: Yes [] No [x]

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

Meeting Date

SB 442

Bill Number (if applicable)

Topic Advanced Well Stimulation Treatment

Amendment Barcode (if applicable)

Name Alison B Dudley

Job Title President, AB Dudley & Associates

Address P.O. Box 428
Street

Phone 850/559-1139

Tall FL 32302
City State Zip

alison
Email dudley@dudleyandassociates.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Chevron USA

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/2017

Meeting Date

442

Bill Number (if applicable)

Topic SB 442

Amendment Barcode (if applicable)

Name Jake Cremer

Job Title Attorney

Address 401 East Jackson St, Suite 2200

Phone 813-419-3914

Street

Tampa

FL

33602

Email jtcramer@gmail.com

City

State

Zip

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Collier Resources Company

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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S-001 (10/14/14)

THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

532
Bill Number (if applicable)

Topic POLLUTION NOTIFICATION

Amendment Barcode (if applicable)

Name DAVID COLLIER

Job Title

Address 1674 UNIVERSITY Pkwy #296

Phone 941.323.2404

PARASOTA FL 34243

Email collierd@adl.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing SIERRA CLUB FLORIDA

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3-7-17
Meeting Date

532
Bill Number (if applicable)

Topic Public Notification of Pollution

Amendment Barcode (if applicable)

Name Ryan Smart

Job Title President

Address 308 N. Monroe St.
Street

Phone 850-222-6277

Tallahassee FL 32301
City State Zip

Email rsmart@1000ff.org

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing 1000 Friends of Florida

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

While it is a Senate tradition to encourage public testimony, time may not permit all persons wishing to speak to be heard at this meeting. Those who do speak may be asked to limit their remarks so that as many persons as possible can be heard.

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17

SB 532

Meeting Date

Bill Number (if applicable)

Topic Pollution Notification

Amendment Barcode (if applicable)

Name Brewster Bevis

Job Title Senior Vice President

Address 516 N. Adams St

Phone 224-7173

Street

Tallahassee

FL

32301

Email bbevis@aif.com

City

State

Zip

Speaking: [X] For [] Against [] Information

Waive Speaking: [] In Support [] Against (The Chair will read this information into the record.)

Representing Associated Industries of Florida

Appearing at request of Chair: [] Yes [X] No

Lobbyist registered with Legislature: [X] Yes [] No

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THE FLORIDA SENATE

APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

3/7/17
Meeting Date

SB 532
Bill Number (if applicable)

Topic Pollution Reporting

Amendment Barcode (if applicable)

Name NANCY STEPHENS

Job Title

Address 1625 SUMMIT LAKE DRIVE
Street

402 2954
~~402 2954~~
Phone 850 ~~475 76~~

TALLAHASSEE FL 32317
City State Zip

Email nancy@wstephens.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing MANUFACTURERS ASSOCIATION OF FLORIDA

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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THE FLORIDA SENATE
APPEARANCE RECORD

(Deliver BOTH copies of this form to the Senator or Senate Professional Staff conducting the meeting)

March 7 2017

Meeting Date

532

Bill Number (if applicable)

Topic Pollution Notice

Amendment Barcode (if applicable)

Name David Childs

Job Title Counsel

Address 119 S. Monroe St Suite 300

Phone 222-7500

Street

Tallahassee FL 32304

City

State

Zip

Email DCHILD@HSLAFL.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Florida Chamber of Commerce

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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THE FLORIDA SENATE

APPEARANCE RECORD

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3/7/17
Meeting Date

SB 532
Bill Number (if applicable)

Topic Notification of Pollution

883586
Amendment Barcode (if applicable)

Name LARRY CURTIN

Job Title Attorney

Address 315 S. Calhoun St, Ste 600

Phone 850-425-5678

Street TLH
City FL 32301
State Zip

Email Larry.Curtin@HKLaw.com

Speaking: For Against Information

Waive Speaking: In Support Against
(The Chair will read this information into the record.)

Representing Helena Chemical Co.

Appearing at request of Chair: Yes No

Lobbyist registered with Legislature: Yes No

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