

# **Report of State Senator Mike Robichaux to the State Committee on Oilfield Waste**

## **Introduction**

**September, 1998**

During the 1997 Session of the Louisiana Legislature, the plight of a small Louisiana community, Grand Bois, became highly publicized. This community is located adjacent to an oilfield waste disposal facility owned by a company named U.S. Liquids. This facility and its previous owners have been accused of importing and managing oilfield waste which has caused medical problems in the community. As the result of the intense publicity generated by this matter, in October of 1997, the Governor of the State of Louisiana declared that every load of oilfield waste disposed in the State of Louisiana should be tested at the site of origin and at the site of delivery. When the commissioner of Conservation publicly disagreed with the Governor, he was fired.<sup>1</sup>

On May 1, 1998, as a result of the Governor's initiative, the Secretary of Natural Resources, Jack Caldwell, issued the following emergency rule:

AMENDMENT TO STATEWIDE ORDER NO. 29-B (EMERGENCY RULE)  
Order requiring a waste profile analysis of exploration and production (E&P) waste prior to shipment to a commercial facility, and waste verification testing upon receipt by a commercial facility<sup>2</sup>

It needs to be understood that under the Administrative Procedures Act, any emergency rule must meet the requirement that there must be an "imminent risk to public health, safety and welfare, and that there is not time to provide adequate notice to interested parties"<sup>3</sup> before the rules are initiated.

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<sup>1</sup> Exhibit #1, (Oilfield Waste Rules Timeline), Conservation chief gets booted by Foster, Daily Courier, 10/9/97, p. 1. {Two timelines included, the first timeline refers primarily to news accounts, and the second was obtained through state records.}

<sup>2</sup> Exhibit #2, Department of Natural Resources News Release, AMENDMENT TO STATEWIDE ORDER NO. 29-B (EMERGENCY RULE), Order requiring a waste profile analysis of exploration and production (E&P) waste prior to shipment to a commercial facility, and waste verification testing upon receipt by a commercial facility, May 1, 1998.

<sup>3</sup>Exhibit #2, p. 11, Under E. SUMMARY, "*The EMERGENCY RULE herein above adopted evidences the findings of the Commissioner of Conservation that failure to adopt the above rules may lead to an imminent risk to public health, safety and welfare, and that there is not time to provide adequate notice to interested parties.*"

Under “REASONS” for the emergency rule,<sup>4</sup> it was clearly stated that the specific reason for promulgating the rule is that *“failure to establish such procedures...may lead to the existence of an imminent peril to the public health, safety and welfare of the people of the State of Louisiana as well as the environment generally.”*

Important concepts need to be understood to appreciate the following discussion. The first is that the State of Louisiana has established emergency rules because the citizens of the state would be in imminent peril of their health, safety and welfare if the oilfield waste being tested under this rule should prove to be toxic. Otherwise, there would be no other reason for considering this situation an emergency. Consequently, failure to act on the provisions of this rule if the testing showed that this waste was, in fact, toxic would constitute malfeasance on the part of the public officials working with this data and would render the entire testing procedure a farce.

The second concept that needs to be understood is that in the early 1980's, the oil and gas industry, through their tremendous political and financial clout, was able to obtain an exemption from normal industrial standards for the handling, transportation, storage and disposal of materials which were the result of the exploration and production of petroleum products.<sup>5</sup> This exemption provided immunity to the industry for their management of these materials.

In 1987, the U.S. EPA provided a report which discussed these exemptions and concluded that some legal operations could result in *“instances in which endangerment of human health and damage to the environment may occur even where operations are in compliance with currently applicable State and Federal requirements.”*<sup>6</sup> While acknowledging the potential for adverse effect on humans and the environment, the agency concluded that the cost to the oil and gas industry was too great to fully implement the rules. However, they did acknowledge that the lower volume, higher

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<sup>4</sup> Exhibit #2, p. 3, *“Recognizing the potential advantages of a testing program for the characterization of exploration and production (E&P) waste that is fully protective of public health and the environment, and recognizing the potential advantages of a testing program that adequately characterizes such waste as to its potentially toxic constituents, it has been determined that failure to establish such procedures in the form of an administrative rule may lead to the existence of an imminent peril to the public health, safety and welfare of the people of the State of Louisiana, as well as the environment generally. Protection of the public and our environment therefore requires the Commissioner of Conservation to take immediate steps to assure that adequate testing is performed before E&P waste is treated or other disposed of in a commercial facility.”*

<sup>5</sup> Exhibit #3, Report to Congress, Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy, Executive Summaries, United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C. 20460a, p. 1, *“Under Section 3001(b)(2)(A) of the 1980 Amendments to the Resource Conservation and Recovery Act (RCRA), Congress temporarily exempted several types of solid wastes from regulation as hazardous wastes, pending further study by the Environmental Protection Agency(EPA). Among the categories of wastes exempted were “drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil or natural gas.”*

<sup>6</sup> Exhibit #3, p. 43, para. 1, *“Damages may occur in some instances even where wastes are managed in accordance with currently applicable State and Federal requirements.”*

toxicity wastes could be treated in an appropriate manner while still having a minimal impact on the industry.

The Director of the U.S. Environmental Protection Agency, Carol Browner, discussed this exemption in an interview with CBS correspondent Ed Bradley. Ms. Browner described the exemption as a “Sweetheart Deal,” and voiced her concerns about the people living near the facilities which handled these wastes.<sup>7</sup> In this program Ms. Browner made the following comments: *“Congress should revisit this loophole. I mean, this is...there’s...there’s no other thing like this in federal law. You know, big oil got a sweetheart deal.” “And the effect is that the people that live near these facilities don’t even know what is being placed in their communities—benzene, toluene, arsenic, lead. What the scientific health studies tell us about these sorts of waste is that they can result in reproductive problems, birth defects, cancers, lead poisoning, which can lead to loss in IQ points, serious health problems.” “You don’t have to know what’s in this waste. All you have to do is say, ‘This waste came out of the ground when I sank an oil well.’ And whatever comes out of the ground, you don’t have to test it, you don’t have to understand what’s in it, you can dump it anywhere. That’s how broad the loophole is. There’s nothing like it in any environmental statute.”*

Mr. Bradley also interviewed the woman who directed the study, Carla Greathouse. Carla acknowledged in the interview *“the conclusions that some of the wastes can pose dangers to human health, even if they’re managed in accordance with existing regulations.”*<sup>8</sup> When asked by Mr. Bradley if she wanted to end the exemptions, Ms. Greathouse stated: *“For certain fractions of the waste, yes.”*, Mr. Bradley then asked, *“And the scientists at the EPA were in agreement with you?”*, Carla Greathouse, *“Yes they were.”*, Mr. Bradley, *“And what happened when you move up the ladder at the EPA to the political appointees?”* Ms. Greathouse, *“The decision was overturned.”*, Mr. Bradley, *“How did you feel about that?”* Ms. Greathouse, *“I was appalled. It’s—It’s a very difficult pill to swallow. It really is, especially when you know that there are damages occurring out there that are going to continue to occur if something isn’t changed.”* Mr. Bradley, *“What do you say to the people who live in Grand Bois?”*, Ms. Greathouse, *“They’re at the mercy of the people who operate that facility, and they’re at the mercy of the industry that dumps their waste there. They really are.”*

As part of a public outreach effort, a committee was formed by Secretary Jack Caldwell to assist in promulgating appropriate rules for the oilfield waste testing procedures and for the interpretation of results. After some delay, a truly multi-stakeholder committee was formed. This committee consisted of members of the environmental community, the Louisiana legislature, scientists from Louisiana State University, representatives of various state agencies and industry representatives.

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<sup>7</sup> Exhibit #4, Transcript of CBS Television program, Town Under Siege, December 23, 1997 p. 12-13.

<sup>8</sup> Exhibit 4, p. 13.

**Senator Robichaux has compiled the following information from the State Oilfield Waste sampling program. His individual worksheets and documentation of all of the statements made in this evaluation are contained in Volume II, Books A and B.**

# Report to the

## DEPARTMENT OF NATURAL RESOURCES OIL FIELD WASTE ADVISORY COMMITTEE

Michael R. Robichaux, MD  
Senator, District 20

February 27, 1998: News Release, Louisiana Department of Natural Resources.

Under a directive from the Governor of the State of Louisiana, Murphy "Mike" Foster, the Secretary of the Department of Natural Resources invoked the provisions of the Administrative Procedures Act to enact an Emergency Rule *"requiring a waste profile analysis of exploration and production (E&P) waste prior to shipment to a commercial facility, and waste verification testing upon receipt by a commercial facility."*<sup>9</sup>

The Department of Natural Resources, Office of Conservation, made the following comments on page 1 of the Declaration of Emergency: *"Certain oil and gas exploration and production waste (E&P waste) is exempt from the hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA). This exemption is based in findings from a 1987 – 1988 Environmental Protection Agency (EPA) study and other studies that determined this type of waste does not pose a significant health or environmental threat when properly managed. The EPA, in its regulatory determination, found that these wastes are adequately regulated under existing federal and state programs."*

However, as was indicated in the introduction of this paper, either the author of the Declaration of Emergency hadn't read the EPA report, or had completely ignored its findings. Even the edited report prepared by the EPA, which ignored the consultant's recommendations, acknowledged that *"Damages may occur in some instance even where wastes are managed in accordance with currently applicable State and Federal requirements."*<sup>10</sup> The comments went on to indicate that documented cases existed which illustrated this problem.

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<sup>9</sup> Exhibit 2, Declaration of Emergency, Department of Natural Resources, Office of Conservation, May 1, 1998, p. 1, para 1.

<sup>10</sup> Exhibit #3, p. 43, Para. 2, The report additionally states on the same page that: *"There appears to be some instances in which endangerment of human health and damage to the environment may occur even where operations are in compliance with currently applicable State and Federal requirements. Some documented damage cases illustrate the potential for human health endangerment or environmental damage from such legal practices as discharge to ephemeral streams, surface water discharges in estuaries in the Gulf Coast region, road application of reserve pit contents and discharge to tundra in the Arctic, annular disposal of produced waters, and landspreading of reserve pit contents."*

In keeping with a long tradition of allowing industry to determine policy in the State of Louisiana, Secretary Caldwell enlisted the services of Forest (Ben) Thomas, Ph.D. as the state's technical advisor. Mr. Thomas', background included 13 years of employment by Shell Oil, and ten years of experience as chairman of the American Petroleum Institutes (API) Benzene Toxicology Task Force and Chairmanship of the API's Toxicology Committee.<sup>11</sup> The readers of this paper might note that the American Petroleum Institute is consider to be the primary lobbying arm of the oil and gas industry.

The study protocol established by the state called for testing of all 17 categories of oilfield waste as has been defined by the U.S. EPA. Each of these categories will be delineated in the following discussion. At the time that this data was compiled, there were a total of 1076 specimens available.

The Toxic Characteristic Leaching Procedure (TCLP) was used to determine all of the chemical levels in these tests with the exception of total sulfide concentrations. Careful evaluation of the data sampled indicates that elevated levels of Benzene were the primary areas of concern. The levels of Ethyl Benzene, Toluene and Xylene all tended to cluster with the elevated levels of Benzene and each of these chemicals has toxic potentials of their own. However, since the hazardous nature of Benzene has been well recognized and studied, Benzene will be used as a basis for the conclusions drawn in this report.<sup>12</sup>

A note also needs to made at this point that most Louisiana crude oil does not have a great deal of sulfur. Other states, such as Alabama, have many oil and gas fields which contain a considerable amount of sulfur and the oil extracted from these fields is called "Sour Crude" because of its rather objectionable "rotten egg" odor.

Total Number of Waste Samples Tested	=	1076
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Total Number of Waste Samples Tested for Benzene	=	919
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<sup>11</sup> Exhibit #5, curriculum vitae, Forrest B. (Ben) Thomas, Ph.D., DABT.

<sup>12</sup> Exhibit # 12, "Carcinogenic Effects of Benzene: An Update," National Center for Environmental Assessment – Washington Office, Office of Research and Development, U.S. Environmental Protection Agency, Washington, DC, EPA/600/-97/001F, April 1998.

## ***Definitions:***

### **Associated Wastes**

Associated Wastes are the small volume waste streams and consist of the following waste classifications:

- 04 Workover / Completion
- 05 Production Pit Sludge
- 06 Production Tank Sludge
- 07 Produced Sands / Solids
- 12 Gas Plant Processing
- 13 BS/W Waste From Approved Salvage Oil Processors
- 16 Crude Oil Spill Clean - Up

### **High Volume Wastes**

The High Volume Wastes are, as the name implies, the larger volume portions of the waste stream which tend to have smaller concentrations of toxic materials.

- 01 Salt Water
- 02 Oil Based Mud/Cuttings
- 03 Water Based Mud/Cuttings
- 08 Produced Formation Fresh
- 09 Rainwater – Ring Levees/Pits
- 10 Washout Water
- 11 Washout Pits Water
- 14 Pipeline Test Water and Pipeline Pig Water
- 99 Other Approved E/P Wastes

The Following Table is a Summary of the Levels of Benzene in the oilfield waste stream which exceed .5 mgm/L.

(This level is the concentration of Benzene acceptable by the U.S. Environmental Protection Agency for Industrial settings. Any concentration exceeding this level is defined by the EPA as being hazardous and is managed accordingly. Without the exemption from Congress, this is the standard that would have to be followed by the oil and gas industry.)

## All Waste Types

Waste Type	Number of Samples Tested	Number of Samples with Benzene $\geq$ .5	Percentage of Samples with Benzene $\geq$ .5	Average Concentration of Benzene Per Sample
01 Salt Water	54	14	26%	1.8 mgm/L
02 Oil Based Mud / Cuttings	132	8	6%	2.8 mgm/L
03 Water Based Mud / Cuttings	207	10	4.8%	15.7 mgm/L
04 Workover / Completion	227	23	10%	10.6 mgm/L
05 Production Pit Sludge	14	7	50%	.69 mgm/L
06 Production Tank Sludge	117	58	50%	249 mgm/L
07 Produced Sands / Solids	107	42	39%	28.9 mgm/L
08 Produced Formation Fresh	5	0	0%	.07 mgm/L
09 Rainwater – Ring Levees/Pits	11	0	0	None of these samples were tested for Benzene
10 Washout Water	133	0	0	None of these samples were tested for Benzene
11 Washout Pits Water	29	5	18.5%	.23 mgm/L
12 Gas Plant Processing	4	0	0	.25 mgm/L
13 BS/W Waste From Approved Salvage Oil Processors	11	5	45%	1.7 mgm/L
14 Pipeline Test Water and Pipeline Pig Water	5	3	60%	265.8 mgm/L
15 E/P Waste Generated By Permitted Commercial Facilities	1	0	0%	There is not enough data for an entry in this field
16 Crude Oil Spill Clean-Up	6	1	17%	.7 mgm/L
99 Other Approved E/P Wastes	11	1	9%	.15 mgm/L
Total	1074	177		

As you can see from the above data, all but four classes of oilfield waste tested had an average amount of Benzene which was greater than U.S. EPA industrial standards!



## Associated Waste Stream

The Associated Waste Stream is the low volume waste stream which tends to contain large quantities of harmful chemicals. In the analysis of oilfield waste performed by the State of Louisiana on this material, 486 different samples of associated waste were examined. This waste was included in 7 different categories.

Waste Type	Number of Samples Tested	Number of Samples with Benzene $\geq$ .5	Percentage of Samples with Benzene $\geq$ .5	Average Concentration of Benzene Per Sample
04 Workover / Completion	227	23	10%	10.6 mgm/L
05 Production Pit Sludge	14	7	50%	.69 mgm/L
06 Production Tank Sludge	117	58	50%	249 mgm/L
07 Produced Sands / Solids	107	42	39%	28.9 mgm/L
12 Gas Plant Processing	4	0	0%	.25 mgm/L
13 BS/W Waste From Approved Salvage Oil Processors	11	5	45%	1.7 mgm/L
16 Crude Oil Spill Clean-Up	6	1	16.7%	.74 mgm/L
<b>Subtotal</b>	<b>486</b>	<b>100</b>	<b>21%</b>	<b>71.4 mgm/L</b>
				<b>34,712 <math>\div</math> 486 = 71.4mgm/L<sup>13</sup></b>

In most other industries, including the oil and gas refining industry, the U.S. EPA has determined that any material containing Benzene exceeding .5 mgm/L must be treated as a hazardous material. The Louisiana study being discussed above has shown that the average quantity of Benzene in the associated waste stream samples, 71.4 mgm/L, is 142.8 times the acceptable EPA levels. Additionally, the sample with the highest concentration of Benzene tested, which was reported as being 15,000 mgm/L, is actually 30,000 times the threshold levels. It is inconceivable that regulatory agencies would allow this amount of a chemical, which is a known poison and human carcinogen, to go unregulated.

A separate note needs to be made regarding category 14, Pipeline Test Water and Pipeline Pig Water. Though Category 14 is not considered an associated waste and is classified with the high volume waste stream, the results of our preliminary work raise some questions about whether this waste stream should actually be included with the small volume stream. This potential reclassification has more to do with the toxicity of these samples than with their volume. While there are a limited number of samples

<sup>13</sup> Vol. II, book "B," Tab 3, Associated Waste Stream, bottom of pp. 1-9 have total quantity of Benzene from all samples which equals 34,712 mgm/486 Liters.

available, the levels of Benzene in one of the samples is frighteningly high. This is possibly the result of a sampling of Pipeline Pig Water, which may contains many of the same characteristics of Production Tank Sludges. This area needs to be studied further and additional samples need to be obtained.

If the studies should prove that our preliminary data is accurate, then this waste stream should be excluded from land farming type activities along with the other low volume wastes.

**The High Volume Waste Stream includes the following:**

<b>Waste Type</b>	<b>Number of Samples Tested</b>	<b>Number of Samples with Benzene <math>\geq .5</math></b>	<b>Percentage of Samples with Benzene <math>\geq .5</math></b>	<b>Average Concentration of Benzene Per Sample</b>
01 Salt Water	54	14	26%	1.8 mgm/L
02 Oil Based Mud / Cuttings	132	8	6%	2.8 mgm/L
03 Water Based Mud / Cuttings	207	10	4.8%	5.7 mgm/L
08 Produced Formation Fresh	4	0	0%	.7 mgm/L
09 Rainwater – Ring Levees/Pits	11	0	0	None of these samples tested for Benzene
10 Washout Water	133	0	0	None of these samples tested for Benzene
11 Washout Pits Water	27	5	18.5%	.25 mgm/L
14 Pipeline Test Water and Pipeline Pig Water	5	3	60%	265.8 mgm/L
15	1	0	0%	There is not enough data for an entry in this field
99 Other Approved E/P Wastes	11	1	9%	.15 mgm/L
<b>Total</b>	<b>585</b>	<b>41</b>	<b>7%</b>	<b>2993.5 ÷ 585 = 5.1 mgm/L</b>

Out of 486 Samples tested, the Associated Waste Stream had an average amount of Benzene per sample of  
**71.4 mgm/L**

Out of the 585 Samples tested, the High Volume Waste Stream had an average amount of Benzene per sample of  
**5.1 mgm/L**

$$71.4 \div 5.1 = 14$$

**Thus, the Associated Waste Stream has an average amount of Benzene which is 14 times greater than the High Volume Waste Stream and 142.8 times the amount allowable by non-exempt industries!**

$$(71.4 + .5 = 142.8)$$

On August 12, 1998, Wilma Subra, another member of this committee, provided a memorandum to Senator Robichaux on her evaluation of the oilfield waste data available to her at that time.

The following chart was prepared to compare the calculations performed by Senator Robichaux and those prepared by Wilma Subra.<sup>14</sup>

<b>Waste Type</b>	<b>Robichaux Number of Samples Tested</b>	<b>Wilma Subra Percentage of Samples with Benzene Exceeding Hazardous Waste Criteria</b>	<b>Senator Robichaux Percentage of Samples with Benzene Exceeding Hazardous Waste Criteria</b>	<b>Subra Number of Samples Tested</b>
01 Salt Water	54	33%	26%	45
02 Oil Based Mud / Cuttings	132	9.9%	6%	99
03 Water Based Mud / Cuttings	207	2.4%	4.8%	168
04 Workover / Completion	227	10%	10%	180
05 Production Pit Sludge	14	45%	50%	11
06 Production Tank Sludge	117	52%	50%	93
07 Produced Sands / Solids	107	38%	39%	77
08 Produced Formation Fresh	5	33%	0%	3
09 Rainwater – Ring Levees/Pits	11	0	0	None of these samples were tested for Benzene
10 Washout Water	133	0	0	None of these samples were tested for Benzene
11 Washout Pits Water	29	16%	20%	25
12 Gas Plant Processing	4	25%	25%	4
13 BS/W Waste From Approved Salvage Oil Processors	11	44%	50%	9
14 Pipeline Test Water and Pipeline Pig Water	5	60%	60%	5
15 (No Entries Provided for 15!)	1			
16 Crude Oil Spill Clean-Up	6	17%	16.7%	6
99 Other Approved E/P Wastes	11	.5%	10%	11
<b>Total</b>	<b>1074</b>			<b>736</b>

The above results are remarkably similar and only seem to differ in a significant manner when the number of samples obtained is small.

<sup>14</sup> Exhibit #11, Table 2, p. 5, (un-numbered).

Included with this report is a publication submitted by Carol Browner, Administrator of the U.S. EPA, on Environmental Health Threats to Children.<sup>15</sup> Ms. Browner's publication is extraordinarily important in gaining perspective on the dangers of the short and long term exposure of children to environmental toxins. In her Executive Summary, Ms. Browner states that "*Protecting our Children is Fundamental*," and goes on to say "*Children are particularly at risk from environmental hazards in three ways.*"

- 1) *Because children's systems are still developing – including rapid changes in growth and development, immature body organs and tissues, and weaker immune systems in infancy – they are more susceptible to environmental threats.*
- 2) *Because Children eat proportionately more food, drink more fluids, and breathe more air per pound of body weight, and because they play outside more, they are more exposed to environmental threats.*
- 3) *Because children are least able to protect themselves, their behavior – such as crawling on the ground or the floor – exposes them to different environmental hazards."*

In addition, we have also included a copy of a publication by the U.S. Environmental Protection Agency on the exemption of oil and natural gas exploration and production wastes from RCRA Subtitle C regulations. Please pay attention to the middle paragraph of page 8 and the bottom of page 19 of the EPA booklet. These pages contain the following statements:<sup>16</sup>

*p. 8: "In general, the exempt status of an E&P waste depends on how the material was used or generated as waste, not necessarily on whether the material is hazardous or toxic. For example, some exempt E&P wastes might be harmful to human health and the environment, and many non-exempt wastes might not be as harmful."*

*p. 19 Misunderstanding:*

*All exempt wastes are harmless to human health and the environment.*

*Fact:*

*Certain exempt wastes, while excluded from RCRA Subtitle C hazardous wastes control, might still be harmful to human health and the environment if not properly manage. The exemption relieves wastes that are uniquely associated with the exploration of oil and gas from regulation as hazardous wastes under RCRA Subtitle C but does not indicate the hazard potential of the exempt waste.*

The EPA was faced with an embarrassing and dangerous situation. They were required by law to treat many hazardous materials as though they were non-hazardous. However, they had a moral and legal obligation to provide an explanation of this situation to the public and this publication was an effort on their part to fulfill that obligation.

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<sup>15</sup> Exhibit #6, pp. 2-3.

<sup>16</sup> Exhibit #7, Crude Oil and Natural Gas Exploration and Production Wastes: Exemption from RCRA Subtitle C Regulation, pp. 8, 19.

For those of you who have not reviewed the air emissions information compiled by the Louisiana DEQ on the waste disposal site at Grand Bois, there is data to indicate that the airborne levels of Benzene and other volatile organic compounds exceeds levels which are considered safe for residential exposure.<sup>17</sup> The canister data obtained from this site is collected over a 48 hour period and consists of two canisters which alternately sample the air depending on the direction of the wind. The volatile materials in the canister are then taken to a laboratory where they undergo a quantitative and qualitative analysis. The quantity of chemicals recorded for any 48-hour period is thus an average of what is in the air for that period of time. Unfortunately, there was no way to determine the actual peak levels of Benzene, Toluene, Xylene, Ethlene, etc., that were in the air at the time.

It needs to be noted that by the time the State of Louisiana began testing for volatile chemicals at this site, the amount of material delivered to the facility had decreased tremendously. From the data available to the author at the time this report was written, for the period of January and February of 1998, deliveries had been reduced to 10% of what they had been receiving the preceding year.

The most recent data acquired from DEQ indicates that the volatile chemicals emitting from the site have decreased significantly since the amount of waste delivered to this site has diminished. Predictably, the number of illnesses being experienced by the citizens of this community have also decreased.

It needs to be understood that these elevated levels of various chemicals are being inhaled and ingested by children, elderly residents and people with various illnesses, chemical sensitivities and individual variations in their response to these fugitive emissions. These residential exposures cannot be compared to exposures to healthy workers who might work a 40 hour week in an industrial setting which includes holidays and vacations. These exposures are 24 hours a day and seven days a week (168hrs) for many of the younger and older residents of this community. The experience of the Grand Bois community is that their calls to the DEQ hotline informing them of various odors in the community have coincided closely with elevated levels of Hydrogen Sulfide and VOC's (Volatile Organic Compounds, i.e., Benzene, etc.) from the air monitoring being done in this area. Not only are these odors being perceived by the citizens of the community, but illnesses are being experienced by some of these people at the same time that the monitors indicate that they are being exposed to these airborne toxins.

**Based on the preceding information and the tremendous amount of data available on the short and long-term dangers of exposure to Benzene, the Associate Waste stream should be immediately diverted from all land farming activities.**

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<sup>17</sup> Volume IV, Report submitted by Senator Robichaux at meeting of May 26, 1998, on Grand Bois, pp. 68-76. Attending meeting were: Terry Ryder and Karen Gautreaux representing Governor Foster, Dale Givens (DEQ), Jack Caldwell (DNR), Jimmy Guidry (DHH), Gladstone Jones (Representing residents of Grand Bois), and Clarise Friloux (citizens of Grand Bois).

Consideration should be given to including waste type “14, Pipeline Test Water and Pipeline Pig Water” in the Associated Waste Stream. Although only 5 samples were obtained from this waste stream, preliminary data suggests that the Benzene concentration in this waste stream might be extraordinarily high and if this should prove to be the case, this stream should not be placed in a setting with potential human contact. Further testing should be done in this setting.

Additionally, attention should be given to the EPA’s recommendation in their 1987 report. The last paragraph of the last page states the following:

*“Although in the near term it appears that no new technologies are available for making significant technical improvements in the management of exempt wastes from oil and gas operations, over the long term various innovative technologies and practices may emerge. The industry should explore the use of innovative approaches, which might include conservation and waste minimization techniques for reducing generation of drilling fluid wastes, use of incineration or other treatment technologies, and substitution of less toxic compounds wherever possible in oil and gas operations generally.”<sup>18</sup>*

It has been twelve years since that recommendation was made and nothing has changed on a federal or state level since that time. It is time that the oil and gas industry pay as much attention to environmental concerns as they have to their profit margins.

The comments of Carla Greathouse, the EPA consultant for their 1987 report, ring loudly at this juncture: When Ed Bradley asks Ms. Greathouse, *“What do you say to the people who live in Grand Bois?”*, Ms. Greathouse, *“They’re at the mercy of the people who operate that facility, and they’re at the mercy of the industry that dumps their waste there. They really are.”*

Mention should be made at this point of a similar instance in which a mining industry thwarted all efforts to reform the misuse of a very poisonous substance, lead. This unconscionable act resulted in the death of untold numbers of children in the United States and was responsible for mental retardation in hundreds of thousands of young Americans.

At the turn of the 20<sup>th</sup> Century, there was ample evidence that lead was a highly poisonous material when ingested or inhaled and that its uses and applications were being regulated in Europe in an effort to protect their citizens and workers.

In America, however, a strong political effort was exerted to prevent regulations of this industry. Through a combination of political pressures, monumental campaigns of disinformation and with the assistance of their so called experts, this industry was able to prevent appropriate regulations until the mid-1990’s.

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<sup>18</sup> Exhibit #3, last paragraph p. 51.

An excellent paper, published in 1992, outlines these unconscionable actions and describes in detail how the lead industry was able to control policy for the better part of the 20<sup>th</sup> Century in the United States.<sup>19</sup> A short passage from this paper outlines how this was accomplished.

*“Even though most of the industrialized world moved to control white lead paint by the turn of the century and curtail its use soon after World War I, U. S. policymakers ignored medical and industrial labor reports from home and abroad. The lead industry proceeded to gain control over the conduct of medical research, the setting of public health priorities, and the dissemination of information to warn the public. Through a trade association, the nation’s lead producers, refiners, and manufactures disputed claims of lead poisoning and worked actively to discount such reports and thwart regulation. When competition from non-toxic paints became a problem in the 1930s, the association by-passed the marketplace and worked to assure that lead paint would be required in public housing projects and other public buildings.”*

*“The sheer weight of dead bodies of acutely lead poisoned children began to stir pediatricians and legislators into action in the 1950’s, but federal regulation of lead paint was another two decades in coming. Today, despite significant restrictions on use of lead in paint and automobile fuel, the child still lives in a lead world and millions of children across the United States are poisoned as a result.”<sup>20</sup>*

Two distinguished physicians, one from Harvard (Dr. Joseph Aub) and the other from the prestigious Kettering Institute (Dr. Robert Kehoe), were employed by this industry and spread industry propaganda and disinformation. When children were dying and becoming mentally retarded from eating the lead paint from their baby cribs, one of these physicians stated that the children were retarded to start with and that was why they ate the paint.<sup>21</sup>

The following is a quote from this same article, which sums up the effectiveness of these two physicians and their corporate benefactors: *“Together, these bodies of scientific work from the Kettering Laboratory and from Harvard posed a formidable obstacle to anyone who wanted to learn more about lead poisoning for children or adults. In this benevolent climate, the lead industry proceeded to pump more lead than ever into the environment.”<sup>22</sup>*

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<sup>19</sup> “THE HOUR OF LEAD, A BRIEF HISTORY OF LEAD POISONING IN THE UNITED STATES, OVER THE PAST CENTURY AND OF EFFORTS BY THE LEAD INDUSTRY TO DELAY REGULATION,” Environmental Defense Fund, June, 1992, pp. 2-3.

<sup>20</sup> Ibid. at 21, p. 2.

<sup>21</sup> Ibid. at 21, p. 16, “Together, Aub and Kehoe played down the potential effects of absorbed lead on children. Aub particularly seemed interested in minimizing the importance of encephalopathy;.....He also implied that any child who chewed lead paint was already “defective,” a bias that persisted for decades.”

<sup>22</sup> Ibid. at 21, pp. 16-17.



Dr. Kehoe established that the ingestion of lead was an everyday process for most Americans and that the amount of ingestion which others considered toxic was actually normal. For his part, Dr. Aub provided the medical basis for the Surgeon General's decision to approve the use of lead in gasoline in 1926.

In 1943, a joint publication of the U.S. Government and the Lead Industries Association was recommending white lead for farm buildings and domestic interiors. The publication even provided direction for mixing lead paints. Eating of flakes of lead paint and the eating and inhalation of lead containing dust by children has been the most common causes of lead poisoning in this country and continues to be a scourge on the children of our country to this day.

As late as the 1970's, the United States was still reeling from the government-endorsed policy of using lead in paints and in gasoline. At a Congressional hearing in 1970, it was reported that of the 12,000 to 16,000 children afflicted with lead poisoning each year in the United States, approximately 200 died and half of the remainder were rendered mentally retarded!<sup>23</sup> Thus, over the 70 years or so that this deadly substance was used inappropriately in the United States, thousands of children were killed and hundreds of thousands of children were rendered mentally retarded! Interestingly, in 1990, then President George Bush's Spaniel was reported as being severely ill from eating the lead paint flakes from the White House. Dr. Aub would probably have stated that the dog was retarded to start with. A time line of the history of lead was prepared by the author of this paper, which may be of interest to anyone wishing to obtain an overview of this subject.<sup>24</sup>

It is hard to imagine the depravity and greed which went into these decision making processes, and it is doubtful that anyone was called to task for their actions. Obviously, these were crimes committed by corporate outlaws, unconstrained by conscience and oblivious to the plight of their victims, along with their experts du jour and political apologists. Their crimes are no less than that of the vile dictator who assassinates his own people and their children to satisfy his greed for wealth and power.

This author sees little difference between the actions of the lead industry and those of the Oil and Gas Industry. Had 200 people been killed by the obviously toxic products brought in from Escambia, Alabama to Grand Bois, Louisiana, in 1994, it would not have been illegal. A "Sweetheart Deal" had been struck with Congress, and let the public be dammed. Angel Orgeron, who lives within 300 feet of the pit into which these chemicals were poured, has been chronically ill and suffers from delayed mental development. The Refinery worker who worked in this same material before it left Alabama has been declared permanently disabled, presumably as the result of his exposure to these materials. Other citizens of the Town of Grand Bois are suffering considerable hardships and misery as the result of their exposure to these wastes.

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<sup>23</sup> Ibid. at 21, p. 39.

<sup>24</sup> Exhibit 13.

Unfortunately, the human effects of exposure to a vast array of toxic chemicals is often not readily apparent to anyone except those who suffer the ill effects of these exposures. While lead ingestion can often be quantitated and followed, intracellular changes from various toxins usually cannot be seen, smelled, touched, X-rayed or otherwise tested or detected.

All other industries have uniform limits to the concentration of toxic chemical to which they must adhere to protect their workers and the public. However, the Oil and Gas Industry was able to buy their own set of standards and the public must live with them, even when those chemicals are thousands of times more concentrated than those allowed in other industrial settings.

Industry got their "Sweetheart Deal" and it is now time for them to now acknowledge their responsibility and do what is right for their own industry and for our country. In the recent lawsuit involving the citizens of the Town of Grand Bois, news accounts indicate that the jurors were adamant in their opinions that the law needed to be changed.

After three years of working with the Department of Environmental Quality and the Department of Natural Resources, it has become abundantly clear that the primary goal of these agencies is to protect and promote the interests of industry. This remains a consistent theme within these agencies, even when the health and safety of the public is clearly compromised.<sup>25</sup>, <sup>26</sup> During the 1997, Session of the Louisiana Legislature, when an effort was made to correct some of the more flagrant abuses, the main opponents of those efforts were members of the Governor's Cabinet and their staff personnel.

While it is doubtful that Secretary of the Department of Natural Resources, Jack Caldwell, has ever visited with the people in the town of Grand Bois, nor does he personally know anyone from the community who is suffering from the ill effects of being exposed to these so called non-hazardous oilfield wastes, he is no stranger to the Oil and Gas Industry. As an attorney who has represented the industry for much of his professional life, Secretary Caldwell has been active in assuring them that he is looking out for their best interests. In a mailing to members of the Senate Natural Resources Committee, Secretary Caldwell described the waste testing program discussed earlier in this paper.<sup>27</sup>

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<sup>25</sup> Exhibit #8, A classic example of this behavior was evidenced in March of 1997, when a barge containing pyrolysis gasoline overturned in the Mississippi River. The Secretary of the Department of Environmental Quality, Dale Givens, consistently denied any problems with the situation even though the Commissioner of Administration became weak and developed a headache after checking on complaints of odors in a stairwell of the Capitol Annex and numerous other individuals became quite ill. It was twelve days before Secretary Givens would even acknowledge that the "blue fog," which had engulfed and terrified parts of Baton Rouge, was related to the barge.

<sup>26</sup>Exhibit #8, Time line of barge accident in Baton Rouge, May, 1997, pp. 1-4.

<sup>27</sup>Exhibit #9, Department of Natural Resources, INFORMATION ADVISORY FROM DNR SECRETARY JACK CALDWELL, "For your information/files; The American Oil and Gas Reporter, April 1998 issue, Articles of interest on state's waste testing program and LIOGA meeting."

His comments included the following quote: *"I want to assure you that, although the sky may fall a little, it isn't going to crush Chicken Little. We have made every effort to minimize the cost to industry. I hope we have succeeded."* He said the DNR went into the rule making with that objective in mind, as well as to develop a valid data base that could be used to make intelligent decisions about the level of toxicants in oil field waste and whether they posed a risk to human health. *"We will have the largest data base ever assembled, and will find the facts. We think it will be incontrovertible from a statistical standpoint."*<sup>28</sup>

In an apparent attempt to dispel any industry anxieties, Secretary Caldwell offered the following observations:

*"I think we re going to come out with a workable program. And I think it will greatly lessen the chances of the U.S. Environmental Protection Agency's drive to revoke the exploration and production waste exemption from hazardous waste regulation under the Resource Conservation and Recovery Act."*<sup>29</sup>

U.S. Senators Landrieu and Breaux, along with Congressmen Jefferson and John might find the last page of Secretary Caldwell's mailout rather interesting. One of the comments of Wayne Gibbens, president of the Mid Continent Oil and Gas Association, was as follows: *"Turning to federal politics, Gibbens declared 'It is time to put objectivity and bipartisanship aside. We have a great stake in seeing that Republicans control both houses of Congress.'"*

Earlier in this article it was pointed out that Governor Foster initially insisted that every load of oilfield waste would be tested at the site of origin and at the site of delivery and that the Director of the Office of Conservation was fired when he stated that this would be too expensive.<sup>30</sup> Secretary Caldwell has done precisely what the former Director had advocated, in spite of the Governor's directions. It should be readily apparent as to who really determines policy in the State of Louisiana.

With that thought in mind, let us now review the "Emergency Rule" under which this program was initiated and evaluate the bias involved in that document favoring the Oil and Gas Industry. As has been illustrated previously by the comments of Carol Browner and Carla Greathouse, the U.S. EPA was forced to ignore its paid consultants and the opinions of its scientists and publish a document that supported the position of the Oil and Gas Industry. Despite the bias of the document, the EPA felt compelled to acknowledge that certain portions of the waste stream had been found to be hazardous. However, when the State of Louisiana used this document as a reference for its declaration of emergency, it chose to misrepresent the already misrepresented observations of the EPA and provide another layer of dishonesty to our understanding of this appalling dilemma.

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<sup>28</sup> Exhibit #9, p. 2, first sentence of page.

<sup>29</sup> Exhibit #9, p. 2, last paragraph.

<sup>30</sup> Exhibit #1, "Conservation chief gets booted by Foster," Daily Courier, 10/9/97, p. 1.

Earlier this year, a legal opinion was requested of State Attorney General Richard Ieyoub regarding the responsibility of public officials to protect the citizens of our state from known environmental hazards.<sup>31</sup> Mr. Ieyoub's response was to point out that:

*"The Louisiana Constitution commands that the natural resources of the State – including air and water – be protected, conserved, and replenished insofar as possible and consistent with the health, safety and welfare of the people. The Environmental Quality Act clearly states that the purpose of the act is 'to maintain a healthful and safe environment through regulation of water and air quality,' and the Louisiana Supreme Court has instructed that 'the rights of the public must receive active and affirmative protection' at the hands of the environmental regulators who 'must act with diligence, fairness and faithfulness to protect {the} public interest' in a safe and healthful environment. Louisiana Constitution, Article IX, Section 1; Save Ourselves, 454 So.2d 1157."*

*"If regulatory tools available to environmental agencies are not sufficient to address demonstrable threats to public health and safety posed by a regulated facility – if a facility otherwise fully in compliance with statutory and regulatory conditions continues to constitute a demonstrable threat to public health and safety – it is then incumbent upon the legislature to enact effective regulatory tools in the form of statutes or enabling legislation which will provide for that degree of protection of public health and safety commanded by the Louisiana Constitution and the Louisiana Supreme Court. The constitutional mandate regarding protection of public health and safety from environmental threats extends to the legislature as well as to environmental agencies and officials. Louisiana Constitution, Art. IX, Sec. 1."*

The preceding analysis of the oilfield waste samples indicates that there is **"incontrovertible"** evidence from **"a statistical standpoint"** that certain portions of the E&P waste stream should be handled as hazardous materials and disposed of in a hazardous waste facility. There is also ample evidence to indicate that failure to fulfill this obligation will violate the Constitution of the State of Louisiana.

Hopefully, Secretary Caldwell and his technical advisor, Ben Thomas, can do the right thing and recommend what the data clearly indicates. Only time will tell just what **"incontrovertible"** means to an industry which has bought its own laws and created its own justice and to a state agency which is void of a conscience and clearly dominated by pro industry sentiments.

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<sup>31</sup> Exhibit #10, State of Louisiana, Department of Justice, Opinion Number 98-108.

## NOW

In concluding this discussion, there needs to be an explanation of a seemingly inconsequential term referred to as “NOW.” Prior to the recent Louisiana controversy over Exploration and Production waste, this waste stream was officially called NOW, or Non-Hazardous Oilfield Waste. In what should be an extraordinary embarrassment to anyone capable of being embarrassed, industry proponents, their political champions and (ir)responsible agencies had designated the E&P waste stream as NOW. For years the citizens of Grand Bois were deluded into thinking that, although this material had a horrible odor and made many of them sick, it was safe because the facility was designated as a Non-Hazardous Oilfield Waste disposal site. To them, and in all likelihood to the rest of the world, Non-Hazardous meant Non-Hazardous.

Few aspects of this controversy could be more revealing of the shameless greed and callous disregard for human rights, the unprincipled and unscrupulous dishonesty and the brazen arrogance of the individuals who dreamed up and then used this misleading designation.

Irrespective of the rhetoric to the contrary, the toxic nature of Benzene, Lead, Arsenic and other chemicals will never change. As with the tobacco industry and other industrial groups that have come under criticism in recent years, there is a predictable response to publications and proposals such as are those being made in this paper. A typical knee jerk reaction, as was seen repeatedly with the lead industry, would be to provide a wide array of dissenting findings of well-qualified authorities as to the toxicity of the various compounds.

I am sure that there are scores of scientists who are willing to compromise their professional integrity to refute the latest studies on the toxicity of Benzene as was presented by the U.S. EPA earlier this year.<sup>32</sup> Money talks and money talks loudly. Unfortunately, there are thousands of American children who went to early graves as the result of the talking dollar in the matter of the lead industry vs. the children of the United States of America.

We cannot allow ourselves be a party to another such travesty of justice and another dark chapter in the history of our country.

***The data is incontrovertible from a statistical standpoint.***

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<sup>32</sup> Exhibit # 12.

## Summary:

The ostensible purpose of the emergency rules promulgated by the Department of Conservation was to evaluate the relative toxicity of exempt oilfield waste and to act accordingly. Specifically, the “Reasons”, as outlined on page 3 of the emergency rule, are as follows:

*“Recognizing the potential advantages of a testing program for the characterization of exploration and production (E&P) waste that is fully protective of public health and the environment, and recognize the potential advantages of a testing program that adequately characterizes such as to its potentially toxic constituents, it has been determined that failure to establish such procedures in the form of an administrative rule may lead to the existence of an imminent peril to the public health, safety and welfare of the people of the State of Louisiana, as well as the environment generally.”*

*“Protection of the public and the environment therefore requires the Commissioner of Conservation to take immediate steps to assure that adequate testing is performed before E&P waste is treated or otherwise disposed of in a commercial facility. The emergency rule, Amendment to Statewide Order No. 29-B (EMERGENCY RULE) set forth hereinafter is now adopted by the Office of Conservation.”*

The preceding data analysis provides objective information on the dangers of these materials and their potential to cause significant damage to both humans and the environment. Not surprisingly, this data correlates with the findings of the consultant group and the scientific community of the U.S. EPA.<sup>33</sup> The Associated Waste stream should be immediately banned from land farming operations and diverted to a safer level of disposal. Additionally, provisions should be made for the eventual phasing out of land farming operations and new technologies and safer disposal policies should be mandated.

This entire issue is clearly a no-brainer. Industry has determined public law and policy with regard to the disposal of oilfield waste and has abused the public trust in every way imaginable. There is no excuse for any agency head, public official or industry representative to oppose the proposed changes. The Director of the U.S. EPA, the consultant hired to study this subject and the Scientists employed by this agency have all favored this course of action. The data presented in this paper confirms their opinions.

Failure to act on this information will constitute negligence on the part of the entire committee and malfeasance on the part of our State Officials.

Mike Robichaux, MD  
Senator, District 20  
State of Louisiana

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<sup>33</sup> Exhibit #4, “Town Under Siege,” See comments of EPA Administrator Carol Browner and EPA consultant, Carla Greathouse, pp. 12-13.

*Postscript:*

*"It is impossible to calculate the moral mischief, if I may so express it, that mental lying has produced in society. When a man has so far corrupted and prostituted the chastity of his mind as to subscribe his professional belief to things he does not believe he has prepared himself for the commission of every other crime".*

**Thomas Paine (1737–1809)**