PEER

WHITE PAPER

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CRUDE BEHAVIOR

Mismanagement of the Onshore Oil Program by the Florida Geological Survey of the State Department of Environmental Protection

August 1999

About PEER

Public Employees for Environmental Responsibility (PEER) is an association of resource managers, scientists, biologists, law enforcement officials and other government professionals committed to upholding the public trust through responsible management of the nation's environment and natural resources.

PEER advocates sustainable management of public resources, promotes enforcement of environmental protection laws, and seeks to be a catalyst for supporting professional integrity and promoting environmental ethics in government agencies.

PEER provides public employees committed to ecologically responsible management with a credible voice for expressing their concerns.

PEER's objectives are to:

1. **Organize** a strong base of support among employees with local, state and federal resource management agencies;
2. **Monitor** land management and environmental protection agencies;
3. **Inform** policymakers and the public about substantive issues of concern to PEER members; and
4. **Defend** and strengthen the legal rights of public employees who speak out about issues of environmental management.

PEER recognizes the invaluable role that government employees play as defenders of the environment and stewards of our natural resources. PEER supports resource professionals who advocate environmental protection in a responsible, professional manner.

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About This Report

This white paper is written by employees of the Florida Department of Environmental Protection (DEP) who work in the Florida Geological Survey (FGS) — the bureau responsible for oversight of oil and gas well drilling and operations in the state. This report is based primarily upon the public records of the events described, or at least those still in existence.

Crude Behavior details a sorry record of systematic non-enforcement of key environmental and public safety regulations, contamination of Florida's aquifers, hundreds of unplugged oil wells and open pits, and loss of royalty revenue owing to the state treasury. Many of the more serious misdeeds have been compounded by attempts to mask the public records through alteration of permit and enforcement files by illegal removal of key documents or by outright fabrication (i.e, backdating) of "new documents" in order to paper over violations.

The FGS has heretofore been a sleepy, obscure bureau which has historically viewed its job as serving the oil industry rather than the public. Accordingly, the FGS has done its best to shield its operations from oversight by short-circuiting public involvement in the permit process. An indispensable method at FGS for keeping the lid on has been the intimidation of its own professional staff into not raising their concerns within or outside the chain of command.

This report is the third in a series documenting how the state's principal environmental protection agency has often failed in its mission to safeguard Florida's environment and the public health. The first PEER white paper, entitled ***Paving Paradise*** (July 1997), described the subversion of safeguards for Florida's critical wetlands and the resultant destruction of these irreplaceable natural resources. The second report, entitled ***Dereliction of Duty*** (August 1997), highlighted the deplorable record of the Director of DEP's Northwest District in accommodating the regulated community to such an extent that he had substantially compromised the ability of the agency to do its job.

Like the previous employee-authored exposés, the purpose of this white paper is to provide the public with an internal perspective on how their environmental agency actually operates. According to this insider account, the FGS Oil & Gas Section reflects the pervasive influence of politics over science in regulating the onshore operations of the oil industry. The extent of that influence is illustrated by the troubling quotes attributed to both the FGS Bureau Chief and the Oil & Gas Section Administrator who have on a number of occasions uttered these sentiments in the presence of staff in order to reinforce their over-riding management philosophy.

The authors of this report remain anonymous not only to avoid retaliation by agency managers but also to allow the information presented to speak for itself. The authors firmly believe that their identities would only be used to distract the public from a much needed independent examination of the agency case files to verify their account.

PEER is proud to assist conscientious public employees who dedicate their careers to the faithful execution of environmental laws. We stand ready to assist the new DEP leadership and the elected representatives of the people of Florida to ensure that the commitment toenvironmental ethics and government accountability of the public servants who authored this report has not been in vain.

Jeffrey Ruch
PEER Executive Director

White Paper

I. Executive Summary

Established in 1907 and now a bureau of the Department of Environmental Protection (DEP), the Florida Geological Survey (FGS) regulates the exploration for, and production of, oil in the state. This white paper represents a candid internal assessment of the FGS and, in particular, the performance of both the FGS Bureau Chief and the Administrator of the Oil and Gas (O&G) Section.

This report examines more than two dozen cases of regulatory malpractice by the FGS, ranging from decades-old unplugged wells and oil pits which have been knowingly allowed to continue contaminating aquifers to the unwritten policy of ignoring drilling permit issuance requirements.

The legacy of the FGS has been non-enforcement of important anti-pollution and public health requirements governing the oil industry throughout Florida.

Enforcement Free Zone

Only once in the past 50 years has FGS taken an enforcement action where it shut down an oil operation. FGS management has never recommended or approved fines against companies which have failed to comply with state laws and regulations.

Serious environmental and safety violations are routinely ignored because enforcement actions of any kind are actively discouraged within FGS. The precise degree of noncompliance is difficult to establish because FGS has no tracking system by which to record prior violations or whether promised clean-up or corrective actions have taken place.

In the view of the FGS inspection staff, the citizens living in the oil producing areas of Florida are accorded the weakest environmental protection in the state:

- On an ongoing basis, oil leaks and seepage are contaminating freshwater aquifers. FGS has also blocked enforcement action against pollution spills into streams and other surface waters;
- Despite the existence of a state trust fund to cover the work, scores of abandoned oil wells remain unplugged, posing a continuing environmental and safety problem; and
- FGS has suspended safety inspections of operating wells and ignored contingency planning requirements for nearby populations.

The current FGS management has unmistakably signaled its extreme reluctance to take enforcement action under any circumstances, to such an extent that compliance with departmental rules is no longer expected by either the regulated community or by the technical staff of the agency.

In order to mask its record of disregarding environmental regulations, FGS routinelyintimidates its professional staff, purges public files, and fabricates (by backdating) "new documents" that never originally existed. FGS has managed to keep its low profile by perfecting a number of techniques that effectively curtail public oversight.

The net result of FGS management has been a virtual suspension of environmental protection laws within Florida's oil industry.

Permissive Permitting

The O&G Section is the permitting authority within the FGS. Its primary responsibilities include "conservation of oil and gas resources, correlative rights protection, maintenance of health and human safety, and environmental protection." These concerns are supposed to be addressed through a system of permits and follow-up field inspections to ensure compliance. In reality, O&G staff are expected to focus solely on their permitting duties, and are strongly discouraged from ensuring compliance.

Oil companies are routinely allowed to operate without required permits or with improperly issued drilling and operating permits. By deliberately failing to act on applications within deadlines, FGS often issues permits "by default" — a fact hidden from agency superiors.

As a consequence of its philosophy of "not interfering with industry's business," the FGS has:

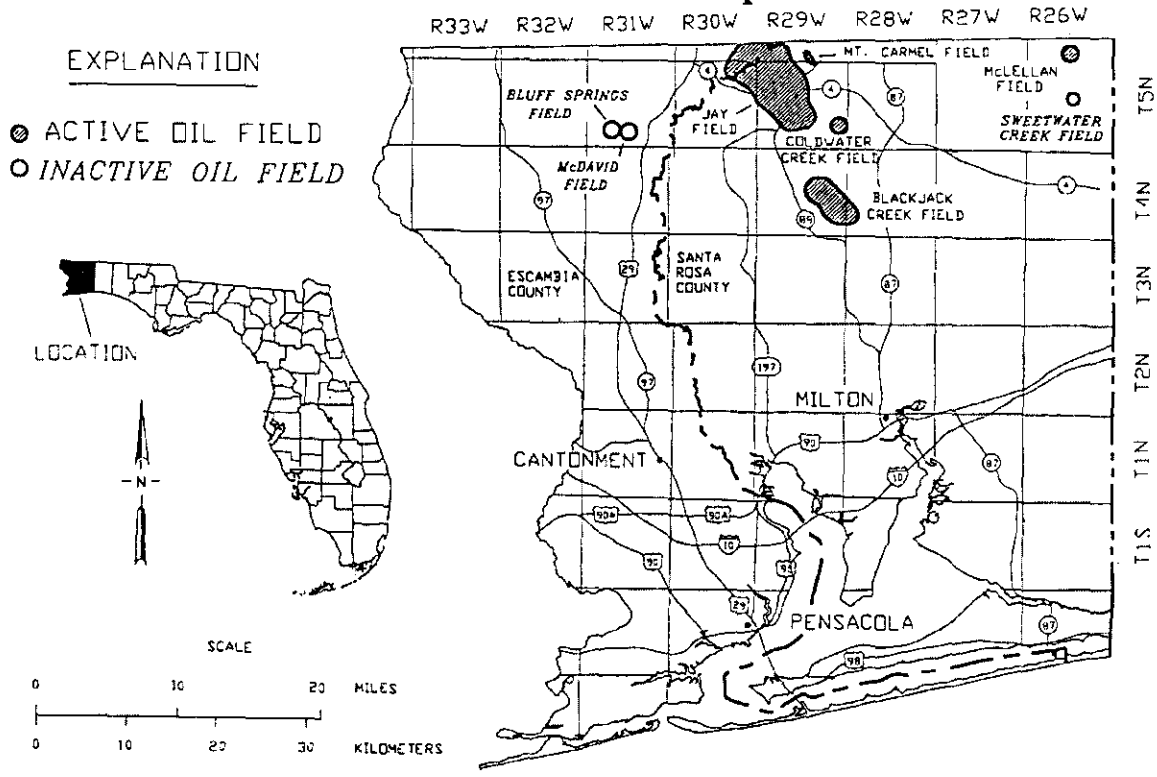
- refused to deny questionable or incomplete onshore oil drilling permits or to secure compliance with rules about submission of important engineering, safety or production information. Permit denials are exceedingly rare;
- routinely allowed industry to operate producing oil wells without necessary permits; and
- avoided public oversight by intentionally withholding public notice of pending agency permit decisions.

This white paper also details FGS laxity in enforcing production rules that ensure a fair division of royalty revenues to landowners and to the State itself.

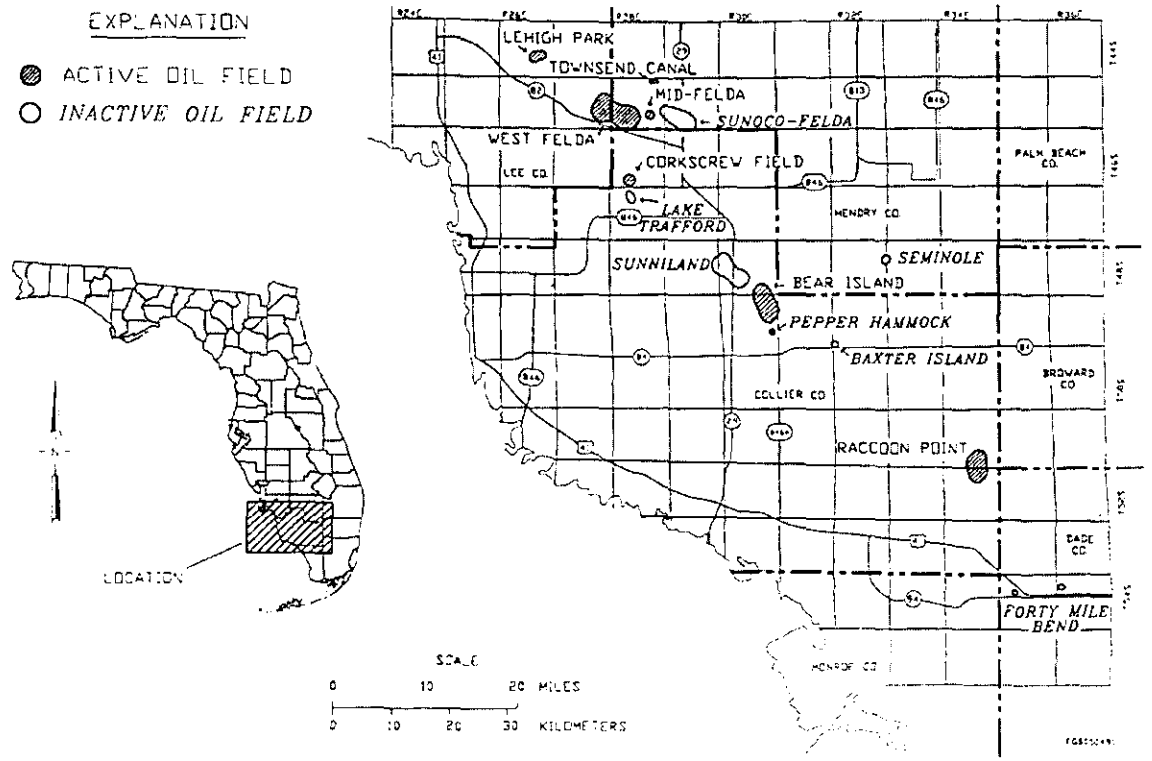
The common element throughout the entire scope of FGS operations is accommodation of industry at the expense of the public interest. FGS displays an almost unvarying pattern of stayed enforcement actions, exceedingly generous and repeated variances, extensions and waivers of environmental regulations and a studied refusal to aggressively address a festering array of pollution, safety and public health issues. In short, the pattern of FGS management behavior evidences a willful subversion of the agency's mission to protect the air, soil and waters of Florida.

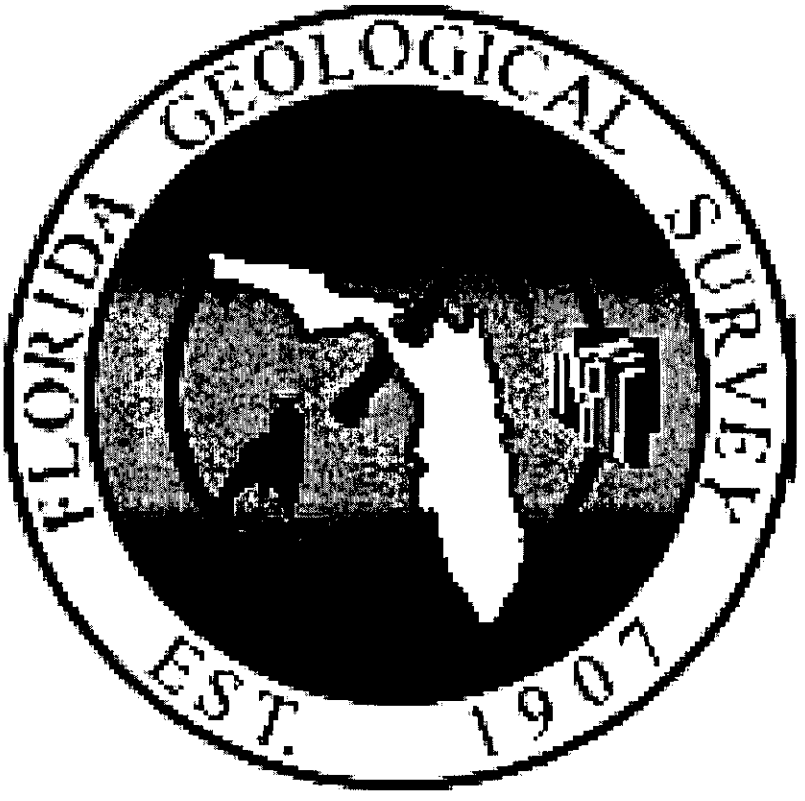
[Note: Refer to *Glossary of Terms* on pages 27 - 28]

Northest Florida oil field location map



South Florida oil field location map





White Paper

II. The People's Business

"The solid earth is a fundamental and critical component of any ecosystem. Data and research on earth systems such as aquifer systems, geologic frameworks, oil, gas and mineral resources, and geologic hazards are essential toward resource protection, human health concerns, and successful ecosystem management."

–Florida Geological Survey web site

Florida's oil industry has a relatively minor economic impact within the state, with operations restricted to two geographic regions. One area is in the Panhandle about 50 miles northeast of Pensacola, centered on the small town of Jay. The other area consists of about a dozen oil fields situated a few miles due east of Fort Myers along a northwest/southeast track running up to the Collier/Dade county lines.

Florida is the nation's 19th largest oil producer. Current oil production from the entire state is approximately 12,000 barrels of oil per day, a marked reduction from an all time high in 1978 of 130,000 barrels per day. Less than 100 full-time employees are manning field operations statewide.

Oil exploration began in Florida around the turn of the century. The first well tapped oil in 1943 in south Florida. The State Legislature passed the first oil and gas statutes in 1945 and the first regulations were developed the following year. The exact number of "wildcat" or unregulated wells drilled during the first half of this century is unknown, but it is likely there were hundreds of "pre-permit" wells in Florida. The total number of producing wells since 1943 is slightly more than 300. Half of these were located in the Panhandle's Jay Oil Field, which in the early 1980's had nearly 150 wells.

The Origins of FGS

Formerly housed within the Department of Natural Resources (DNR), the Florida Geological Survey was organizationally separated into three components, one of which was (and remains) the Oil and Gas Section. The FGS O&G Section is the regulatory agency that oversees the oil industry's drilling and production activities. Key activities include permitting geophysical operations ("seismic prospecting"), drilling or operating wells, and tracking activities through the use of a computer database.

For more than fifty years, the FGS has essentially functioned to provide assistance to the companies involved in oil drilling and production. The agency has always been small, totaling no more than a few dozen people even during the state's most active drilling years of the 1970's and early 1980's. Currently the staff is down to less than ten full time and part time staff members.

Until the late 1980's, when the task was delegated to the FGS, Florida's Governor and the Cabinet were responsible for approving permits for all oil wells. The number of permits have fluctuated over the years, but since 1990, the number of onshore drilling and operating permit applications processed by the O&G Section has averaged about three to four per year. Approximately 1300 permits have been issued in Florida in the past 50 years, and approximately 1100 wells have actually been drilled.

The Functions of FGS

The major responsibilities of the O&G regulatory program involve issuing permits and performing routine compliance checks. The two types of permits are for drilling and for operating an oil well.

Before a well can be started, a company must submit a drilling permit application containing the necessary engineering and safety data to ensure that any proposed well will be constructed according to specifications. There is usually a flurry of correspondence between the regulatory agency and the company to clear up

any application deficiencies. Once all problems are resolved and requirements satisfied, a permit is issued and the company can proceed at any time with drilling operations.

After drilling a well and finding a mineral formation, a company has 90 days in which to "test" the well in order to determine if the oil formation would be an economical producer. The clock starts the day the mineral fluids from the well are sent to storage tanks. The company must then acquire an operating permit before the 90th day of testing.

An operating permit application must also be submitted to FGS. If the permit is not approved during the specified time frame, the well must be shut down until one is issued. In practice, however, when an oil company misses the 90-day testing deadline, FGS managers usually just allow them to proceed without the necessary operating permit.

"UIC"

The Underground Injection Control (UIC) program involves the federal and state governments regulating the legal disposal of various industrial-type wastes deep into the ground. This is accomplished by the drilling of deep disposal wells that are installed under strict standards and guidelines specified in a permit usually issued by the appropriate state and federal agencies. These wells are installed far below any freshwater aquifers to prevent the drinking water supply from being contaminated with injected wastes. All applicants must show, as part of the permitting process, that the waste will stay confined within the underground layer into which it is being injected.

The State, working under the direction of the U.S. Environmental Protection Agency (EPA), has primary responsibility for administering this federal program which is authorized under the Safe Drinking Water Act. There are five classes of UIC wells that are regulated based upon the type of wastes being disposed (e.g., hazardous, industrial, sewage, etc.) The wastes that the oil industry disposes of (e.g., oil, saltwater, acids) fall under the category of Class II. In Florida, Class II wells inject fluids below a drinking water source to dispose of, or to recover, oil and gas. Nearly 60 of these wells exist statewide. In the UIC Class II program in Florida, there are two separate government agencies overseeing the same program because the federal government has not ceded primacy under theSafe Drinking Water Act to the State of Florida. Primacy negotiations between EPA and the State began in 1998.

One of the UIC programs is under federal jurisdiction, run by EPA Region IV out of Atlanta, Georgia. The other is the state program, regu-

DER/DNR Merger

Until 1993, environmental protection in Florida was handled primarily by the Department of Environmental Regulation (DER). DER's "sister" agency was the Department of Natural Resources (DNR). There had always been a dramatic difference between the two state agencies. DER, created in 1975, was charged with enforcing the state's environmental statutes and regulations. DNR, created in 1846, was charged with managing state lands.

Prior to 1993, DNR managed parks, bought and sold land, and checked and defined title to sovereign lands of the State of Florida. In contrast to the DER, DNR had no active regulatory enforcement in its history (with only one token law enforcement officer to handle all lease and public lands violations in the entire state). DNR had few court cases or administrative hearings in its history, other than those where the agency was dragged into proceedings by third party interests.

DNR also had a history of corruption in its upper levels. Two of its recent Executive Directors — Harmon Shields and Elton Gissendanner — were driven from office while under investigation for various improprieties. Few were surprised when these deposed agency heads, both of whom were identified with special interest land deals, moved on to become industry lobbyists and land consultants. Virginia Wetherell was appointed Executive Director of the DNR shortly before the merger of her agency with DER.

In contrast, DER had a reputation as a more proactive environmental agency. Charged with enforcing the state's natural resource laws, DER employed a large staff with the dedication and expertise required to assist the agency in fulfilling its mission. Although former DER chiefs received mixed reviews on their performance, agency staff, by and large, were known to be vigilant in ensuring the implementation of the state's environmental regulations.

Carol Browner, DER's first Secretary under the later Governor Lawton Chiles' administration, was highly regarded and well-respected. She left the agency in early 1993 after being tapped by President Clinton to head the U.S. Environmental Protection Agency.

Rather than appoint a new DER Secretary, Governor Chiles called for and achieved the merger of the two agencies into one environmental "super-agency" — the Department of Environmental Protection. He appointed the DNR's Virginia Wetherell to serve as DEP's first Secretary.

Secretary Wetherell wasted no time placing DNR administrators into key positions of authority within DEP while DER administrative personnel were demoted or reassigned to secondary positions, sparking a staff exodus. Today, almost no former DER top level managers remain in positions of authority at DEP. This change in managers brought decimation to the environmental enforcement functions of the former DER. Since the merger, significant numbers of former DER staff have been dismissed under the guise of declared "budget shortfalls."

The painful feelings from that period still remain within the agency. In an April 1999 memo to all agency personnel, incoming DEP Secretary David Struhs noted that "In virtually every conversation I have had with many of you about the Department, the merger that occurred six years ago between the DER and the DNR emerged as a prominent concern."

lated by the O&G Section and its UIC responsibilities are divided between Tallahassee and the two district offices (i.e. Jay and Ft. Myers). Both agencies are responsible for permitting UIC wells but their approach and processes are dissimilar. EPA, for example, has more stringent reporting requirements than the State and takes enforcement against companies that do not comply with federal regulations. The State, on the other hand, has shown a lax attitude when it comes to enforcement.

The Culture of FGS

Both the FGS Bureau Chief and the O&G Administrator have been in their current jobs for about 15 years and seem to pride themselves on doing things "the old DNR way", ignoring DEP directives for change. For instance, when FGS was put under the DEP in 1993, the two O&G satellite offices (in Jay and in Ft. Myers) were placed under the jurisdiction of the nearest DEP district offices. This meant that the personnel in those offices were supposed to have reported to their new respective district managers, rather than to FGS managers in Tallahassee. However, the Bureau Chief and the O&G Section administrator ignored the directive and ordered field office staff to continue reporting directly to them instead.

Although still located in Tallahassee, the FGS is situated on the campus of Florida State University, well away from the main offices of the old DNR (Douglas Building) or the old DER (Twin Towers) which now serve as offices for DEP. The relative physical isolation of the offices is symbolic of how the FGS management functions and serves to discourage close oversight by DEP.

The ability to keep their activities shielded from daily visual scrutiny is certainly one reason why FGS managers have been able to continue to operate freely in the face of changing times. They justify their relaxed regulatory approach by citing former Governor Chiles' 1995 decree cutting Florida's regulations, reinforcing their own view that government needs to be "friendlier" to industry. In effect, they insist that one of the goals of the program is to ensure that indus-

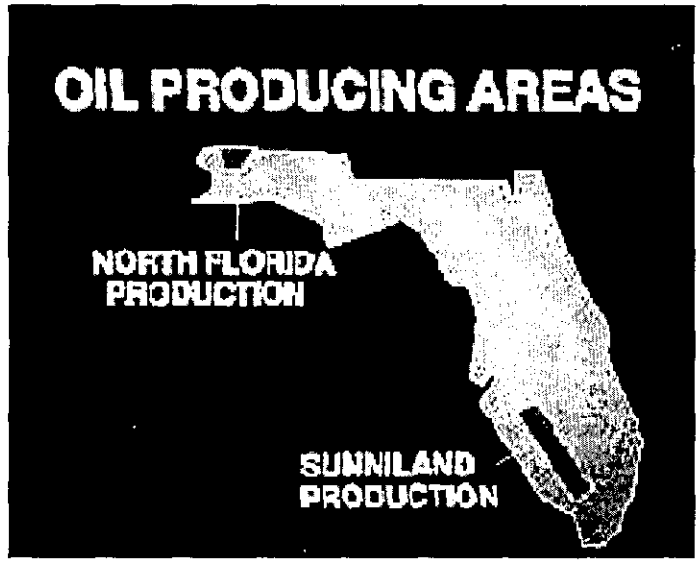
try makes money — to quote one manager: "It is good for the company. It is good for the country and it is good for us."

In regard to the permitting process, FGS managers routinely fail to abide by public notice requirements, despite warnings by DEP attorneys that such notice must be given by law. The O&G Administrator has frequently referred to public noticing as "stupid," noting that "It is unfair for the company and it needlessly delays the issuance of their permit."

In keeping with this conciliatory attitude toward industry, FGS managers resist efforts to take enforcement action against violating companies. Little of this direction is in writing. The managers seek to insulate themselves from the responsibility for the actions (or inaction) taken by their agency. It is the line staff that are not only expected to follow orders but to bear theconsequences for those orders. "I don't sign letters. I get my staff to do it," explained a manager. That way, if anything goes wrong, the manager remains safely out of the line of fire.

FGS management has made it clear to staff that there is no violation serious enough to warrant any type of enforcement action, especially a fine, against an oil company. Deadlines for industry compliance are usually ignored. In regard to submitting required permit paperwork, staff have been told that pursuing legal enforcement against a violator "over some stupid forms" is out of the question. Management claims that if a company fails to abide by the application requirements, "there is nothing we can do about it."

Not surprisingly, oil companies have come to realize (and to expect) that they can violate any rule or statute on the books with little or no repercussions. Not only do the FGS managers prevent action against violators, they insist upon negotiation as the way to avoid an enforcement scenario, no matter how severe the circumstance. In explaining why negotiation at all costs should be the first (and last) option, one manager expressed his fear that, "If we get lawyers involved, we all lose." It is unclear who he was referring to as "we."



III. Don't Ask, Don't Tell — The Permit Process

"This negative kind of thinking must stop."

–FGS manager

The O&G Section's mission is to oversee the operations of oil and gas exploration and production through permits and inspections and to see that the oil companies carry out their operations in a safe and effective manner to ensure the protection of human health and the environment.

Technically speaking, an approved drilling permit is needed before a well can be started. If the well becomes a producer, an operating permit is required before it can be produced full time. In reality, however, FGS top management live by a simple mandate — permit anything and everything, regardless of the environmental situation, the company's compliance record or the scope of the project. It is almost as if the managers fear the ramifications of upsetting an oil company over a negative permit decision.

Drilling Permits — Never Say Never

Permits are routinely issued to companies, even when they fail to fully comply with basic application requirements. For instance, in a 1997 case, a well operator did not provide crucial documentation with the permit application, even after repeated requests to do so. When staff recommended denying the permit, their administrator over-ruled their decision and ordered that it be issued. Moreover, this manager became furious and verbally upbraided the staff members for their "negative kind of thinking." He invoked one of his favorite refrains that if any permit application were denied, the company "would take FGS to court and we would lose."

This manager has made it clear to staff that they should "never even consider" rejecting an onshore oil permit application "under any circumstances." The decision point of denying a permit for lack of required information is usually averted by giving oil companies an extension or waiver without question. Approval is guaranteed and the "customer" — the regulated industry — is always right.

By law, if FGS fails to act on a permit application within 90 days of submittal, the permit is issued by default. This happens quite often with FGS. Although the practice is strongly discouraged by DEP, FGS managers simply do not disclose default permits to their superiors, nor do they inform the companies the real reason they were issued the necessary permit.

Operating Permits — Turning a Blind Eye

By direction of FGS managers, it is standard procedure for the O&G Section to allow oil companies to operate wells without the required permits. In some cases, after drilling permits were issued (Permit Nos. 312AH, 1082AH, 1190AH, 1243D and 1295H), certain companies failed to submit the necessary application materials in time (i.e., 90 day test period) which should have prevented them from proceeding to the operational phase. Regardless, the companies were allowed to produce their wells without the necessary authorization, long past the regulatory deadlines.

FGS managers do not construe such action as regulatory non-compliance. On the contrary, they have stated to staff that it is unfair for the State to penalize an oil well operator by having to wait for the O&G section to process "time-consuming paperwork" required by DEP rules.

Recertification Rubber Stamping

In the spring of 1998, the O&G Section reviewed more than 200 permit "re-certification" applications from various oil companies whose permits were set to expire in May of that year. Each permit application had a 90-day time period in which the staff had to determine if they were complete. Only one permit application was deemed complete within this time frame; all others missed the deadline for submitting the required information.

The Lingering UIC Primacy Question

The dual federal-state permitting process for Underground Injection Control (UIC) requires industry to fill out separate applications forms and submit completely separate packages to the respective agencies if they want to install and operate a UIC well. With different rules, the company must perform different tasks in order to fulfill both agencies' requirements. If one department issues a permit and the other denies it, the applicant cannot go forward until the denying agency changes its mind by issuing a permit or by granting a permit waiver.

The principal purpose of UIC regulations is to safeguard drinking water supplies by protecting the groundwater environment. For instance, Rule 62C-29.002(3)(b), F.A.C., indicates that any company drilling a new UIC well or converting an existing well into a UIC well must submit a vicinity map showing the location of all existing wells within a one-half mile radius from the proposed UIC well. The purpose of this rule is to verify that the shallower drinking water aquifers are protected from uphole migration of oil field wastes behind the casing of these offset wells.

Permit 678 is a classic example of the differing approaches to the same issue by EPA and its state counterpart. The company did not submit a vicinity map so FGS gave the company a written waiver. Since the State waived the permit application requirements, this company was not required to supply this very important information. There was no coordination or communication between EPA and the State during the review process of this application.

Fortunately, EPA does require such an analysis in addition to other stringent requirements, which will in the end negate the state's inaction as well as save the state from future drinking water contamination.

About a year ago, things began to change between EPA and FGS. The Ground Water Protection Council (GWPC), a nationally recognized groundwater organization, solicited money from the Department of Energy for the purpose of getting UIC primacy (also known as authorization) for several states from EPA. In other words, DOE was going to help certain states by hiring consultants for them to fill out EPA's primacy application so that States would takeover the operation of the Class II UIC program. EPA's role would then be reduced to one of oversight only.

It was not until late 1998 that the GWPC consultants submitted Florida's primacy application to EPA. Since that time EPA has sent the state several deficiency letters requesting more information. The poor record of enforcement and pro-industry philosophy of the FGS may ultimately prevent the State from getting UIC Class II primacy from EPA — a situation which, given the current FGS management, may be the only responsible outcome.

As a way to get around this "problem," FGS managers decided not to issue re-certification permits anymore, but just to sign the applications. After all, they reasoned, a permit "re-certification" is not really the same as "issuance," so simply signing off on the applications would avoid the time-consuming process of reviewing each one before approving the permits.

An added "benefit" (for industry) of signing off on all permit re-certification applications is that the practice allows the agency to avoid the sticky issue of public notice requirements. Since technically none of these "re-certified permits" were being "issued" it was reasoned that no one outside the agency needed to know about it. This tactic effectively blocked public review on the roughly 200 permit applications awaiting action. In other words, "no permit – no public notice – no problems."

No Notice, No Problem

In the late 1980's, after the FGS took over authority from the Governor and the Cabinet for approving permits for oil wells, the practice of providing public notice on all permit

applications effectively ended. Despite guidance to the contrary by the Office of General Counsel, permits for oil drilling continue to be issued without public notice. FGS managers simply claim to have a different legal opinion on the matter, insisting, without further explanation (or a copy of this contrary "opinion"), that state law does not require public notice for oil well drilling or operating permits. They have also refused staff suggestions to seek written clarification on the issue from the office of the DEP Secretary.

As an example of how FGS goes to extraordinary lengths to frustrate public notice requirements, in June of 1998, an operator of an Underground Injection Control (UIC) waste injection well (Permit No. 678) in north Florida submitted an application to convert this well from a deep formation injector to a shallow saltwater disposal well. When EPA informed the State that this well would require a UIC permit, FGS management instead granted a special waiver which allowed the company to proceed without a permit. The reason for this abrupt reversal was that if a permit had been issued, public notice would have been required and FGS management wanted to avoid exposing this project to any "unnecessary scrutiny."

Information Is Power

The key to any effective regulation is information about the practice being regulated. In Florida,the FGS depends upon the oil industry to supply information about new drilling, operations and other developments. But FGS never enforces the submission of required information, thereby rendering Florida's onshore drilling regulations into an essentially voluntary program. For example, an oil well operator in south Florida deepened several wells without authorization and without even contacting the DEP. This same company also ignored repeated requests by agency staff to submit necessary information about previously drilled wells. When the O&G administrator learned of this, he came to the defense of the company, ordering his staff to "back off."

In the early to mid-1990's, for example, several oil companies failed to submit necessary production forms and in some cases, a few are still holding out to this day. Initially, FGS managers insisted that the agency needed this data for its files but after encountering resistance from these companies over submitting the documents, they simply reversed their position.

IV. Spills and Shills — The Enforcement Process

"We haven't taken enforcement action in 50 years. Why start now?"

–FGS management

When companies violate the rules and cause pollution, the environment suffers. If there is a well blowout, a mixture of oil and saltwater can contaminate freshwater supplies. If a spill goes on long enough, oily fluids flow into nearby ditches and spread into state waterways, threatening aquatic plants and wildlife. When contaminated groundwater migrates away from the source (called a "plume"), it may pose a risk to crops, livestock and especially humans. Public health can also be jeopardized by toxic chemical exposure, either from gas leaks or from air pollution caused by the smoke from oil fires.

Despite assurances to staff that the two most important tasks of the O&G Section are to clean up spills and make sure inactive wells are properly plugged to protect fresh water aquifers, FGS managers do not practice what they preach. In fact, while several oil companies have polluted the state's surface waters, groundwater, air, and soils, FGS managers have done little to hold violators accountable or to clean up the pollution.

The Myth of Permit Compliance

In most other state and federal regulatory permitting programs, there are two separate divisions of responsibility. Some staff deal exclusively with permit application review and issuance; others monitor (through inspections) and keep track of permit conditions (through records requests) to ensure that companies are meeting statutory and regulatory requirements. The FGS compliance record falls short both in terms of requiring necessary documentation and inspecting wells and facilities.

Not only are there no separate staff devoted to compliance activity within FGS, the managers are the only ones who can authorize staff to take enforcement action. All oil industry violations are reported to the O&G administrator and all decisions concerning necessary action are left to him and the FGS Bureau Chief. As such, these two managers by themselves pose the major impediment to actual enforcement action. The only "enforcement" sanctioned by them involves letting field inspectors issue repeated warning notices, which usually contain no specific corrective measures or deadlines. FGS management has never recommended or approved a fine against companies which have failed to comply with state laws and regulations.

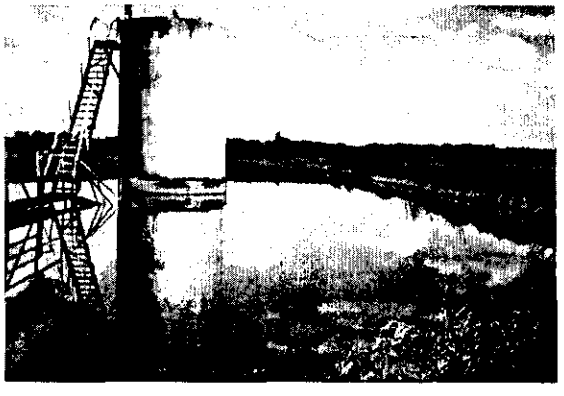
In theory, when a compliance problem is discovered, agency staff notify the company and outline immediate steps and a time frame for corrective action. If the company fails to remedy the problem(s), then official enforcement action takes place. At this stage, agency attorneys become involved in enforcement proceedings. A civil or administrative complaint may be filed but full blown litigation is rare. Usually there is a negotiated settlement with the violator in the form of what is called a "consent order." That is not the scenario within FGS. For example, the notion of a consent order was so foreign that the O&G Administrator (who has been with the State for more than 26 years) recently had to ask DEP attorneys what a consent order was.

O&G rules contain two categories of violations — minor and major. The rules do not provide specific definitions of what constitutes major versus minor but, instead, specify how each type of violation is supposed to be handled. For a "major" violation, a citation is issued immediately (with an imposed time period for correction) and the warning notice step is eliminated. If the citation is not addressed, then penalties are the next step, in the form of either a fine or a "shutdown" order.

FGS managers insist upon the use of "professional judgement" in evaluating violations on a case-by-case basis. But in the end, no matter how severe the violation, it usually falls into the minor category and requires no fine or penalty. Moreover, management moves slowly to correct violations, usually opting for the gentle warning letter or ignoring problems altogether.

In fact, in the past 50 years, FGS has enforced only one penalty, in the form of a "shutdown" order. This occurred in the early 1990's after an O&G inspector caught a company transporting a shipment of oil containing an unsafe concentration of hazardous material. That shutdown lasted only a few days, and when the same company was caught several more times for other violations, including hauling unreported oil shipments, FGS management opted not to act again.

With no enforcement tracking system for FGS violations, the O&G Section has no way of knowing how many warning notices or citations have been issued, to which companies, what, if any, follow-up has occurred, and whether problems were corrected. The O&G administrator has resisted the idea of a tracking system because he does not want to "advertise any problems" with the program.



The following case summaries convey some sense of what FGS does not want to "advertise".

The Buck Doesn't Stop Here

In the late 1980's, an oil pollution seep was discovered in a creek down-gradient from a gas plant in Jay, Florida. Company representatives repeatedly told the O&G Section staff that they had no idea where the source of the seep was coming from. However, in October 1998, a similar plume was discovered under the plant by O&G professional staff researching files from another State program — DEP's Petroleum Cleanup Bureau. The ensuing investigation revealed that the company had in fact known about this particular plume for over a decade.

Copies of this information were passed along to the O&G administrator but he ignored the plume maps and sampling data and later threw it all away. The FGS Bureau Chief, on the other hand, immediately blamed DEP's Petroleum Cleanup Bureau for not contacting the FGS about this issue, insisting that notification was not the responsibility of the company. During the intervening decade, these managers have done nothing to address this problem, claiming it is not their responsibility even though the plume originates under storage tanks and oil pits regulated by their program.

Saved By an Act of God

In July 1997, a small oil company in the Blackjack Creek Oil Field experienced a saltwater linebreak within a hundred feet of a surface creek, causing approximately 150,000 gallons of saltwater to flow overland into the creek. As usual, management chose to do nothing, refusing staff advice to take enforcement action against the company. Fortunately for FGS management, a hurricane hit the area a short time later, eliminating any evidence of the environmental damage.

Don't Drink the Water

At the Mt. Carmel oil field, located in Santa Rosa County, from 1990 to 1995 a leaking UIC well contaminated a freshwater aquifer. The responsible company had provided the State with incorrect information as to where the well's packer was set. In fact, it had be illegally set above a newly discovered hole in the well casing, allowing oil field wastes to be injected directly into the groundwater. This oil waste plume polluted drinking water, although the extent of the contamination is yet unknown.

When this problem was discovered in 1995, FGS management opted to take no action against the violating company. Earlier this year, an EPA inspector indicated that Florida's UIC primacy application could be in jeopardy if the State failed to act on this case and other like it. FGS managers have since approached DEP's Office of General Counsel for a "legal opinion" on what to do.

Regardless of any action that may *now* be taken on the Mt. Carmel situation, the fact remains that despite its responsibility to regulate UIC wells, FGS managers purposefully have ignored the problem for at least four years. Meantime, the freshwater aquifer gets more polluted with each passing day.

Minding Their Own

In 1996, an FGS field inspector discovered several abandoned oil pits located at the Sunniland Oil Field. Although he informed FGS management about these pits, which had been un-reclaimed for decades, the agency made no attempt to get the current (or previous) operator to clean them up.

Such open pits not only endanger the environment, but can pose a threat to public safety. A few years, ago a young girl riding a horse fell into a an abandoned lime pit at the Mt. Carmel Oil Field, prompting the responsible company to clean up the site. In that case, the agency had known about the Mt. Carmel pits for at least a decade but had never taken action.

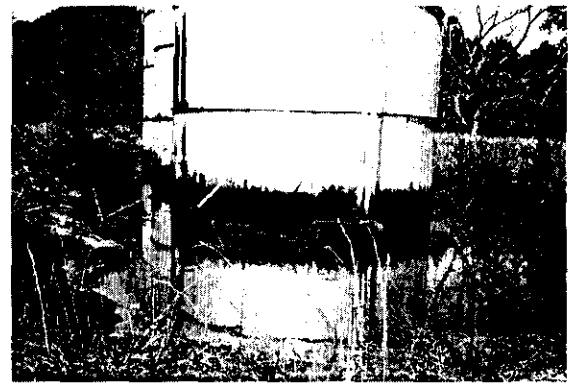
Constituent Service

From 1995 to 1998, FGS managers refused to get involved in a dispute over a well site restoration project (Permit No. 1286). Despite a landowner's repeated requests for assistance, FGS management allowed the oil company to drag its feet rather than adequately restore the site. The O&G administrator told the landowner that there was very little that the agency could do. He advised the landowner to pursue legal action against the company himself if he wanted the environmental problem cleaned up.

Sidetracks

On another occasion, a company drilled a "sidetrack" well to an illegal location. This occurred because the company failed to run a downhole directional survey to total depth, a clear violation of O&G Section rules for deviated holes. FGS management intervened to ensure that there were no adverse consequences to the company despite its serious violation. Staff had recommended that, at minimum, the company should be ordered to run the necessary survey, but the managers made it clear that they did not want to "interfere" with industry's business.

In 1993, a small oil company sidetracked an existing well (Permit No. 1243C) within the Corkscrew Swamp Preserve. Tanks and piping were installed at the site, and the well was tested. Although it produced about 1,000 barrels of oil, the oil was not sellable. Since this turned out to be an economic loss, the company just walked away from the well (and the 1000 barrels of oil in the on-site tanks), leaving an environmental mess.



The abandoned tanks posed a serious risk to a nearby creek in the event of accidental release. Without support from management, the FGS inspector continued to pursue the case for two years, issuing a warning notice for the company's failure to respond. Finally, in late 1995, the O&G administrator contacted the company himself but gave them another year to address the problem. The company instead sold the well to a smaller operator the following year.

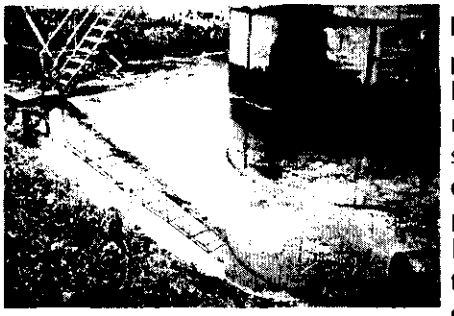
Management proceeded to give the new owners two more years to clean up theenvironmental mess left by the previous company. The new operator then drilled another sidetrack well (Permit No. 1243D) without first obtaining a drilling permit, and then missed several regulatory deadlines that delayed the issuance of the necessary operating permit. Management responded by approving several extensions in the application process, allowing the company to continue operating the well for a year without a permit.

"Hy" and Dry

In late 1995, at a time of acute criticism of "burdensome" government regulations, Governor Chiles decreed that all State rules be cut by half. The O&G administrator took full advantage of this opportunity, cutting over 60 percent of the section's rules. Much of what was cut were pages of technical information detailing safety concerns. These safety specifications were replaced by the general requirement that all operations comply with recognized "industry standards."

In 1997, in the course of reviewing a permit application (Permit No. 312AH), a major prob-

lem arose with these new standards. O&G staff determined that the company's Hydrogen Sulfide (H2S) Contingency plan was deficient because it did not meet the American Petroleum Institute (API) standards. API, a national organization funded by industry, is widely recognized as the best available source when it comes to setting standards to address certain technical problems. In terms of H2S plans, because of the health risk of exposure to the gas, API standards call for identifying all the people living within a one-mile radius of the proposed well location. The standards also recommended that the company operating the well put together a warning system and evacuation plan for residents in case of a "blowout" or other catastrophic event.



In this particular situation, the oil company's H2S contingency plan only identified the residents within a quarter mile radius of the well, falling short of the API standards. When O&G staff raised this issue with their boss, he disagreed vehemently with their interpretation, dismissed API as "a bunch of extremists," and told staff to disregard API's standards because "no one can meet them."

Shave and a Haircut

The Occupational Safety and Health Act (OSHA) requires that people working around hazardous substances be properly trained to avoid and, if necessary, deal with exposure. These OSHA regulations regarding employee safety also apply to work around oil drilling rigs. Despite being made aware of these requirements by DEP's safety coordinator, as well as by the Florida Office of Personnel, the O&G administrator has continued to encourage staff to disregard the OSHA regulations. He has also made it clear that these rules, like the API standards, were created by "extremists."

For example, OSHA regulations prohibit facial hair for those who work around or come in contact with H2S gas. Some FGS field inspectors have beards and, therefore, under the regulations, are not allowed to enter certain oil and gas facilities. Management "resolved" this issue not by ordering the inspectors to shave, but by telling them to avoid the plants. The O&G administrator has also told staff that they are no longer responsible for inspecting the plants in question, despite the fact that the agency policy makes the O&G Section legally responsible forpermitting the construction and operation of these facilities.

Gentle Reminders

FGS managers have refused even to send out firmly worded letters for fear it will anger or "upset" companies, possibly straining the agency's "good working relationship" with business. No matter how serious or longstanding is the violation nor how recalcitrant the violator, every letter must be "positive" in tone in the belief that companies will then be more likely to comply. The track record of this positive approach proves that, for all of its passive politeness, it does not work.

Many repeat violators have learned that the best way to handle FGS is simply to ignore compliance orders. One company, for example, refused to take required oil well "bottom hole" pressure readings for five years; another, a major oil company, has refused to do so for more than ten years. Both of these companies routinely ignore requirements to submit annual pressure readings from their multiple wells. Nonetheless, management refuse to do anything except occasionally send gentle reminders.

In another case, a company reported erroneous production figures for an extended period. Finally, at the urging of staff, FGS managers issued a citation asking the company to correct the problem. Even though the company still failed to do so, FGS managers refused staff recommendations to issue fines and a shutdown order, arguing that such approach was "too extreme". They insisted that the mere threat that the agency was considering shutting down its operations would be enough of a deterrent. Besides, they wanted to avoid at all costs "bad feelings" between the agency and the company. In the end, FGS managers decided to grant the violator another extension to fix the reporting problems.

V. Unplugged — A Legacy of Abandonment

"How does one justify doing nothing for half a century?"

–FGS manager

In the early 1990's, FGS field inspectors relayed their concerns to management about the proliferation of old wells around the state. If left unplugged, these inactive wells pose a contamination threat to drinking water aquifers and a risk to public safety.

A well is supposed to be plugged when it has no future utility and is being permanently abandoned. A well is essentially a piece of steel pipe (called casing) sticking out of the ground. This pipe has been stuck in the hole to keep the originally drilled hole from collapsing and the pipe is usually set to the bottom of the hole or just above the producing formation. The typical abandonment method is to use cement to fill up parts (if not all) of the open portions inside the steel pipe all the way to the surface.

Unplugged wells without a cap on the surface pipe can be a real danger, especially for small children falling down them. Another concern is that steel casing rusts and holes can form. If a deep well's interior is filled with saltwater and a shallow hole forms at the depth of the drinking water aquifer, the saltwater could easily contaminate that aquifer. Another avenue of contamination is from polluted surface water (e.g., stormwater runoff) which can flow into an uncapped well and eventually seep into the aquifer.

An Historical Disagreement

There are a number of documented cases in Florida where old (pre- 1946 or "pre-permit") wells were just abandoned by oil companies and left unplugged and uncapped. Fortunately, most of these old wells were drilled to a shallow depth and never found any oil. Although the bottom part of the hole that reached saltwater was plugged with cement, the upper parts of the hole in the fresh water zones were left uncemented and uncapped. Decades later, leaks appeared in the casings and these wells started flowing large quantities of fresh water (in an uncontrolled blowout) to the surface.

Eventually, FGS sought and received funding from the State Legislature to form a special committee to study the problem of the old wells. The FGS hired a consulting firm which completed a final report on the matter in 1993. The consultants recommended that the FGS conduct periodic inspections of the abandoned sites to verify that conditions observed in 1993 have not changed (i.e. all wells were capped and none flowing), but in the meantime should alert the Water Management Districts (WMDs) of the existence of old oil wells and set up a plugging schedule.

The Legislature had just granted the WMD a large sum of money to plug old abandoned wells in their districts. When the WMD started plugging wells, they ran into a problem with several old oil wells. These particular wells were unusually deep with big diameter casings requiring a huge volume of cement to plug. When one WMD tried to plug a deep oil well it ended exhausting its allocated money from the Legislature on just one well. When the word gotout to the other WMDs, all districts decided not to plug oil wells anymore.

Meanwhile, the FGS was supposed to do periodic inspections on the wells. But FGS management never told its staff to contact the WMD about these old wells. As a consequence, a golden opportunity was missed. Since most of these old pre-permit wells were shallow, the MWD could have plugged the shallow wells with little difficulty or expense back in 1993.

FGS did nothing on the matter until 1998, when it began contacting the WMDs, five years too late. The first field inspection occurred in March 1998 and the condition of one of the wells had changed dramatically. The capped wellhead had ruptured and a large volume of water was flowing into a nearby stream. By 1998, however, the WMD were no longer plugging oil wells. FGS managers reacted predictably, insisting that this problem was the sole responsibility of the Water Management Districts.

To this day, this question of jurisdiction over old wells remains unresolved in the minds of FGS managers, justifying continued inaction on the part of the O&G Section.

The significance of the problems with the unplugged old wells remains unknown. While the 1993 consultant report assumed that almost all of these old wells were properly plugged, there may be many pre-permit wells that were never plugged. A preliminary FGS staff inquiry identified over 100 wells that were drilled all over the state prior to 1945 with their plugging status still not known. Ominously, the very first well in the state (called W-1), drilled around 1900, is on display at a state park with only a partial cement plug in it and the exposed casing stub tilted by 45 degrees from vertical, indicating a ruptured casing below surface.

Yesterday's News

A number of the old wells are about 100 miles north of Tampa, an area that suffers frequent and severe water shortages. These old wells are "flowing," meaning that the freshwater aquifer has been punctured and precious drinking water is flowing to the nearest stream and ending up in the Gulf of Mexico. Because of the ongoing feud between the Water Management District (WMD) and the FGS managers over who is responsible for plugging these 50-year old oil wells, there appears to be no resolution in sight.

The Kissingen Spring wells, located in central Florida near a natural spring just a few miles south of the city of Bartow, were "re-discovered" when a phosphate company decided to covert an old well on its property for phosphate waste injection. The natural spring had been a popular recreational park before it stopped flowing around 1950.

A WMD inspector got word of what the company was doing and investigated. While looking over the area (most of the surrounding property is State-owned land), he found two other wells. Of the three wells, two had very large diameter casings, a good indicator that they were old oil wells. The third well, which was plugged by the WMD, turned out to be a shallow water well for public use. This WMD inspector found records in the FGS files indicating at least one oil well was drilled in this area. A video camera was run in both oil wells and in one found a casing rupturewith a large volume of fresh water roaring down the casing into a deep formation. Further study suggested that this well was drilled in the 1920's and the spring stopped flowing in 1950 when this casing rupture could have cut off the flow to the spring and caused the spring to "dry up."

When the WMD inspector found out about the O&G trust fund for plugging wells, he made several telephone calls to the FGS trying to get them to plug these old oil wells. The O&G administrator maintained that these wells were beyond his jurisdiction.

The Immaculate Trust Fund

By law, the O&G Section is responsible, and has a minerals trust fund to pay for, plugging or capping oil wells abandoned by derelict operators. Despite a clear legal mandate and a special, dedicated fund, the agency has not made any attempts to cap abandoned wells. When asked by staff why the agency had not acted, the O&G administrator expressed concern that FGS would have to approach their "bosses" to access the money from the trust fund.

Naturally, they reasoned, if their DEP superiors found out that the wells were decades old and still had not been taken care of, it would cause FGS considerable "embarrassment." "How does one justify doing nothing for half a century?", management pondered. Better, they reasoned, to continue to ignore the problem completely and, if discovered, deny that plugging the wells was their agency's responsibility.

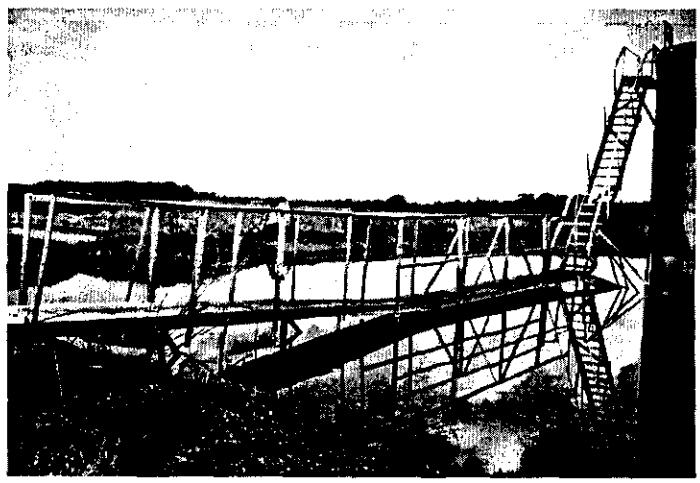
Approximately 100 inactive wells, many of which are being utilized for Underground Injection Control (UIC) purposes (i.e., waste disposal wells), are "unplugged." A number of these inactive wells have degraded to an unsafe condition and still require immediate closure.

Cases in Point

O&G Section staff have identified three permitted oil wells in South Florida that need immediate action. One (Permit No. 310) was improperly plugged several years ago, and staff suspect there is a problem because of some surface water puddles found near the well. Testing has determined that the water is salty.

Because this well is nowhere near the ocean, it appears that the fresh water aquifer is being contaminated by a deep artesian saltwater formation flow from this well. O&G inspectors have approached their boss with this problem to no avail. Nor will the administrator allow them to do anything about the other two wells (Permits No. B-1 and No. B-5).

One of the other cases involves an oil well in Levy County (Permit No. 13) that has never properly been plugged. Its casing head and well cellar are still visible. The company also operates an active well in south Florida (Permit No. 323). State law {Rule 62C-26.008(2), Florida Administrative Code (F.A.C.)} requires that all unplugged wells have their operating permits renewed or re-certified every five years. As a way to address this problem, O&G professional staff wrote a memo to management requesting that the company be sent a letter reminding them of the re-certification rule. Staff also suggested that the letter contain a requestthat the old well be properly plugged.



Since the company that drilled the well was ultimately responsible for the plugging work, the choice was simple — the company could finish plugging the well within some approved time frame or else submit an operating permit application, which would involve a fee and more stringent plugging requirements. Either way, the O&G staff believed that this would require the company to address their old, unplugged well. After consulting with the FGS Bureau Chief, the administrator over-ruled his staff and determined that the company could not be forced to plug its old well, saying that there was "nothing they could do."

A Cold Trail

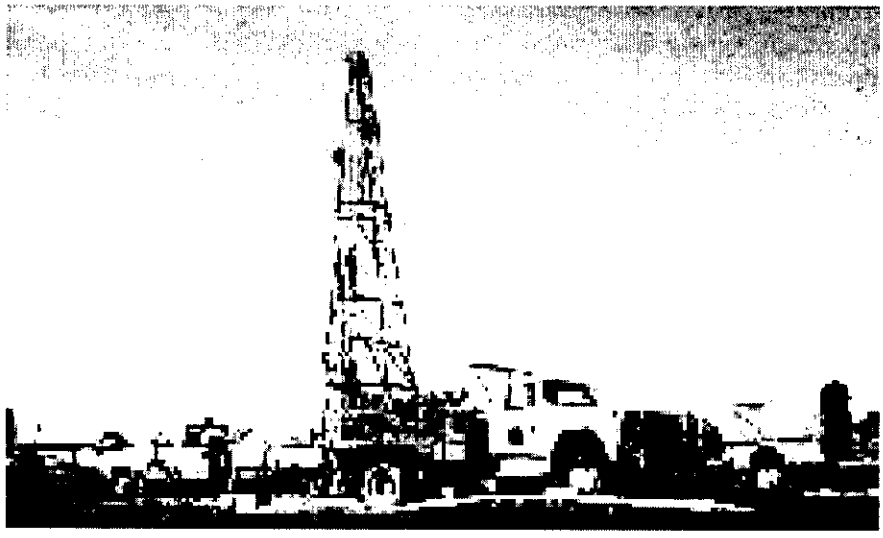
In 1995, at the Coldwater Creek Oil Field site in north Florida, an oil company ignored O&G staff's requests to plug their old well (Permit No. 1220). The company also failed to pay into the trust fund or clean up their site. After finally plugging the well more than a year later, the company neglected to properly restore the site.

Despite repeated requests by agency staff, FGS managers did nothing on the restoration issue until late last year, when they approached a DEP enforcement attorney for assistance. The attorney informed them that they had waited too long to seek legal recourse because all of the company's assets had since dissolved, leaving the ex-owners no financial ability to clean up the contaminated site. Money from the minerals trust fund may eventually be needed in order to pay for the necessary restoration.

Changing the Rules

In 1997, O&G staff again approached the administrator to recommend the immediate plugging of two wells (Permits No. 481 and No. 677). The company had temporarily plugged one of the wells in the early 1990's and promised at the time to properly plug the other when the necessary equipment became available. This required work never took place. Still, management declined to compel the company to finish plugging either well.

Despite clear O&G regulations that an operator with a well that is inactive for longer than one year is required to plug it, management again let the company off the hook. As a way to deal with staff's concerns about his unwillingness to enforce the law, the administrator changed the rules. He replaced the "old" regulation with a new one that allows a company to keep a well unplugged "forever" if it pays a $2,000 permit application fee every five years. This nominal fee creates a convenient loophole for industry at the expense of the environment.



VI. Royal Flush — Under-Collection of Royalties

"It is not our job to interfere with industry's business."

–FGS management

One of the O&G Section's delegated responsibilities is to protect royalty owners by responding to their complaints against companies in a timely manner. The royalty system is a contract between the mineral owner and a company wishing to mine certain minerals under the mineral owners' property.

A mineral owner is typically a private citizen who lacks the monetary resources to exploit the oil found on their property. Because oil companies have the money to finance oil exploration and development they are able to enter into legal arrangements with the property owner to share the profits from subsequent development. This arrangement may involve an offer to purchase the mineral rights outright or, failing that, the owner is offered royalty payments. Terms for these lease contracts with respect to royalty payments vary widely depending on whatever the company is willing to pay the mineral owner. The royalty owners usually get paid a percentage on every barrel of oil produced.

Oil companies are subject to state and local taxes on every barrel they produce. The Florida revenue department is responsible for collecting taxes, as well as for conducting tax audits to ensure proper payment. As the oil industry is rather small in Florida, it generally is not a huge source of revenue, but it does generate tax payments that run into the millions of dollars per year.

The legal ramifications of fairly distributing oil production between royalty owners and companies can become very messy if not handled properly. There are many strategies in which a petroleum resource can be extracted.

The traditional common law on mineral rights is called the «law of capture» which prescribes a highly competitive, "first come, first served" approach in which neighbors battle over the resource by drilling wells on their respective properties. In response, states have created spacing rules and set withdrawal rates as a way to level the playing field and avoid wasting the resource. Florida's spacing rule says that oil wells can be no closer than 920 feet from a unit boundary and 1840 feet apart (or a single well every 160 acres).

Another strategy for sharing oil revenue is to pool all of the productive acreage, combining the land owner(s) and the company operating rights into a single entity. This process, called "unitization", ensures that oil or natural gas production from an underground reservoir is fairly distributed between landowners and companies. Although there are several formulas to determine the sharing of revenue among all parties, the most common form of unitization is to use the outer boundaries (e.g. oil/water contact) of a petroleum reservoir as transcribed on a land map of property holdings. All parties who own land or operating rights within the area outlined on the map share in any production from this reservoir based upon an agreed formula. All parties outside this boundary are excluded from any revenue.

No Dog in This Fight

Despite the agency's statutory responsibility to protect the interests of royalty owners, FGS managers are extremely loath to intervene in royalty disputes, thus forcing landowners and the companies to resolve conflicts in court. When royalty issues require agency attention, and if forced to take a position, FGS managers usually side with industry.

According to state law (Rule 62C-26.004(5)(c), F.A.C.), all horizontal wells need to be "unitized." FGS managers contend that the horizontal unitization rule is inapplicable to O&G activities, but they refuse to put this position in writing. By not following this rule, the FGS deprives the potential royalty owners, as well as the State, out of entitled revenue. They have continued to ignore the law when granting permits (see: Permit Nos. 312AH, 645DH, and 1243D).

FGS managers often use the royalty issue as an excuse not to take appropriate enforcement action against violating oil companies, arguing

that shutting down a company's oil wells would only hurt the royalty owners and lessen tax revenues generated for the state. Paradoxically, only by intervening does FGS protect private and public royalty interests; agency inaction only benefits the oil companies.

Three Small (But Expensive) Examples

- The Raccoon Point Oil Field was discovered in 1978, but it was not unitized until 1993. A professional staff member found that the oil/water contact proposed by the company was incorrect and recommended corrective action, but FGS managers ignored him. They chose to approve the company's incorrect reservoir boundary, resulting in the loss of a share in the oil field's revenue to several royalty owners.

- In clear violation of the O&G Section rules, one company produced two oil formations from a single well — "commingled production" — for nearly a year. Since both oil formations have different royalty interests, producing these two oil zones together without a revenue sharing agreement potentially deprives the respective royalty owners of their due payments. Although there was a clear and direct harm to the royalty owners, FGS management chose to do nothing (thus siding with the company) rather than risk "upsetting" the customer.

- The State Department of Transportation (FDOT) normally acquires the royalty rights under all highways. Thus the state gets a share of the oil revenue payments if these highways become part of a productive oil field. In 1997, FGS staff raised questions about a project (Permit No. 312AH) regarding the state's 920-feet spacing rule, indicating that the outstanding issues needed to be addressed before they could grant approval for a drilling permit to a south Florida oil company. Since a state highway was located closer than 920 feet from this well, and the company indicated that there was only one royalty owner within the regulatory distance and acreage, it seemed like a reasonable question to ask for verification about royalty ownership under this highway. The O&G Section administrator expressed annoyance when he was asked to approve the request for verification, wonderingaloud why the issue had come up at all. When staff pressed the issue, arguing that the permit should be denied unless the original company submitted the necessary documentation to resolve this issue, the administrator got extremely angry, called it a "dead issue" and ordered staff to approve the permit.

Glossary of Terms

Blowout: A dangerous and uncontrolled eruption of oil, natural gas or other well bore fluids from a well.

Bottom Hole Pressure: A pressure reading taken at the bottom of a well by an instrument run in the hole on a cable to measure the pressure of an oil formation. Measuring a pressure at a much shallower depth (other than at the bottom of the hole) could give incorrect and erroneous readings. Bottom hole readings are important for blowout control (i.e., safety concerns) and for determining how much oil can ultimately be recovered from an underground reservoir.

Citation: A firmly worded official letter that is issued after a warning notice has been sent to a violator. A specific deadline for compliance is always referenced as well as dire consequences if the violation(s) is not adequately addressed in due course.

Commingled Production: When two (or more) oil formations are produced together. As a general rule in the oil industry, one well produces one zone. This is usually for royalty distribution purposes as well as accounting purposes of knowing that the oil is coming from just one formation. When two or more zones are produced together, it can become an accounting difficulty especially if there are different royalty owners in the different zones. A fair distribution of revenue becomes guesswork with little science behind it. In other words, commingling production should be done only when there are the same royalty owners in both zones or all parties agree in writing that commingling is acceptable *before* it occurs.

Deviated Well: A well that has its bore hole drilled to an angle between vertical and horizontal. This activity is usually associated with sidetracking a well.

Drilling: A process by which a well is installed. A large erector set type surface structure (called a drill rig) or a truck mounted unit is utilized and small diameter temporary steel pipe (called a drill string) with a drilling tool on the end is used to make the hole.

Enforcement: An activity performed by a government agency to ensure compliance and penalize a company or individual for failing to comply with a rule or regulation. According to O&G rules, enforcement is a three-step process. First, a warning notice is sent to the non-complying party when a violation is discovered with a specified time frame to correct the problem. If the violation is not resolved, the second step is to issue a citation with another time specific deadline. If the problem is still not addressed, then a shutdown order is issued followed by fines and penalties. In other regulatory programs within DEP, the word enforcement is defined to mean judicial or administrative proceedings, notices of violation, consent orders, fines or penalties, andpre-warning letters are not considered part of the official enforcement process.

Horizontal Well: A well with a horizontal bore hole that penetrates the productive interval at the bottom of the hole. The well usually starts off vertically from the surface and then within a few hundred feet above the oil zone, the drill pipe is directed by various devices to drive the drill pipe from the vertical to the horizontal (i.e., the borehole then becomes parallel with the surface). According to O&G rules, all horizontal wells must be unitized (see unitization).

Hydrogen Sulfide (H2S): This compound can be a highly toxic material in gaseous form. It can be found in many natural sources, but it is also a byproduct of the oil industry usually in the form a gaseous constituent associated with natural gas. In the State of Florida, H2S is found in both oil producing areas at concentrations that can cause instantaneous death if exposed to the gas. In north Florida, the H2S is processed from the Jay and Blackjack Creek Oil Fields into natural sulfur and sold as a liquid in Pensacola. In south Florida, the toxic gas is flared to the atmosphere. [Hy: abbreviation for Hydrogen.]

Oil Pit: A structure consisting of a hole in the ground that is surrounded by a soil dike or mound to form a pit that is slightly above the land surface. These structures are usually filled with waste liquids from some industrial type activity and become a hold-

Glossary of Terms, *continued*

ing area prior to disposal. The earthen pits at the Jay Gas plant (i.e., a mini-refinery) are used to store waste oil prior to being injected down one of the plant's nine UIC wells. This pit has been in existence for almost 30 years and has leaked. Oil has been found floating on the groundwater directly under this pit.

Packer: A compressible cylinder of rubber and metal that is placed inside a well to plug or seal the well bore at a specific point.

Plugged: A process by which a well is abandoned. The typical abandonment method is to use cement to fill up parts or all of the open portions inside a large diameter permanent steel pipe (called casing) to the surface. According to O&G rules, the final part of plugging a well is to cut the casing that is exposed at the surface off at least four feet below the land surface and weld a steel plate over the cut casing stub. If these last two items are not done, then the well is not considered plugged.

Plume: An area (or volume) of contaminated water (or pure contaminant) originating from a specific source. In this report, the plumes mentioned are saltwater and oil injected into a deep drinking water aquifer and some free oil floating on a shallow aquifer nearest the surface.

Shutdown Order: A legal department document given to a company that directly orders all operations be shutdown immediately until a violation(s) is corrected. Usually operations are not resumed until the problems are corrected to the department's satisfaction. Fines and penalties are usually associated with this action as well.

Sidetrack: Refers to re-drilled or new hole from the same well. When a well is first drilled to its total depth, this is the well's original bore hole pathway into the earth. When this original pathway is partially plugged with cement to a shallower depth and a new pathway drilled fromthe same surface hole, this new pathway is called a sidetrack, which is then taken to a new total depth becoming a brand new well.

Underground Injection Control (UIC): This program involves the regulation by the federal and state governments of the legal disposal of various industrial-type wastes deep into the ground. This is accomplished by the drilling of a deep disposal well that is installed under strict standards specified in a permit issued by the either or both government agencies. The applicant has to show (as part of the permitting process) that the wastes will stay confined within the underground layer being injected into. There are five classes of UIC wells based on the type of wastes being disposed (e.g., hazardous waste, oil field wastes, sewage, etc.). In this report, only oil field wastes (Class II wastes) are considered.

Unitization: A legal process by which oil and/or natural gas production from an underground reservoir is fairly distributed between landowners and working interest owners. The unitization process can take several forms and uses countless parameters in determining a formula for sharing oil revenue between all concerned parties. The most common form of unitization is to use the outer boundaries (e.g. oil/water contact) of a petroleum reservoir as transcribed on a land map of property owners. All parties who own land or operating rights within the area outlined on the map will share in any production from this reservoir based upon an agreed formula. All parties outside this boundary are excluded from any revenue. It is for this reason that the outline of the underground reservoir be defined as accurately as possible. Otherwise individuals and/or companies could be excluded from getting their fair share when in fact they do own a share of the reservoir. This is where the fairness issue becomes important and the regulator's responsibility to make sure the rights of everyone are protected.

Warning Notice: An agency letter informing a company or individual that they may be in violation of department rules. The correspondence explains what the alleged violation is and that some type of corrective action is required.