July 1, 1988

The Honorable Robert S. Drew
Chief Administrative Law Judge
New York State Department of Environmental Conservation
Office of Hearings, Room 409
50 Wolf Road
Albany, New York 12233

Dear Judge Drew:

Enclosed are the comments of the Independent Oil and Gas Association of New York on the Draft Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program.

We will be happy to answer any questions or provide additional information if desired.

Thank you for the opportunity to comment.

Sincerely,

Mary Mattaus
Executive Director

Enc.
SUMMARY
of the Technical Comments
prepared by:
INDEPENDENT OIL & GAS ASSOCIATION OF NEW YORK, INC.
on the
DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT
ON THE OIL, GAS & SOLUTION MINING REGULATORY PROGRAM

JUNE 1988

OUTLINE OF COMMENTS
on the
DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT

1) Summary of Technical Comments
2) Technical Comments
3) Glossary
4) Comments on Appendix 4
5) Attachment #1 - Impact of One-Time Dormant Season Application of Gas Well Brine to Forest Land
6) Attachment #2 - IOGA's Proposed Revisions to the Well Drilling and Completion Form
7) Attachment #3 - Liability Risks of Free Gas Clauses
8) Attachment #4 - Comments of IOGA President Arthur Van Tyne

CR-2
Independent Oil & Gas Association of New York (IOGA) is a not-for-profit trade organization representing oil and gas producers, contractors, allied service companies and suppliers, and professionals who serve that industry. At the present time, IOGA has 250 members.

A committee of IOGA members, including engineers and geologists with extensive experience in oil and gas operations, has reviewed every page of the draft GEIS. The committee met several times and conducted the technical review which forms the basis of our comments. In addition to the work contributed by the committee, IOGA sought advice from its Legislative/Legal Committee, its Board of Directors and other industry members.

We want to take this opportunity to express our firm belief that the framework of existing law and regulations, when coupled with existing permit conditions, are more than adequate to protect the environment and regulate the oil and gas industry. Much of what now exists as permit conditions should be adopted as regulations. In this regard, IOGA supports the DEC's desire for a more evenly administered, uniform regulatory program as evidenced by the numerous recommendations made in the GEIS.

Listed below is an overview of some of the points we wish to stress, and some of the areas of concern to the industry that we feel must be addressed.

First, we note that this is the general industry's first formal and direct opportunity to review and comment on the draft GEIS even though the DEC has taken several years to prepare the document. In any project of this size, there are bound to be some discrepancies or oversights. However, on the whole, we feel an honest effort has been made by the agency to accurately depict New York's oil and gas industry from its beginning up to the present time.

Second, IOGA disagrees with the present GEIS format in which the agency makes lengthy and detailed proposals for future recommended legislation, rules, regulations, permit conditions and mitigating measures. We firmly believe the GEIS should only cover: 1) the history of the industry; 2) the current operating procedures and the technical advances of the industry; and 3) the present body of law, regulations, rules and permit conditions and mitigating measures imposed on the industry to protect the environment.

Third, we make the following comments, not as criticisms, but as our sincere belief that these areas will need to be addressed differently than they are in the draft GEIS. Such action will allow our industry to continue to function as it must to develop the State's resources in a responsible manner.
8) Visual impacts as a whole are subjective, and the creation of a visual standard cannot help but lend itself to arbitrary imposition. What is visually repugnant to one person may be beautiful or interesting to another. An activity such as logging may disturb certain segments of the public, who hate to see trees cut, but the owner of the trees should still be allowed to dispose of them as he desires. Even though some people may be bothered by this, the visual impact is not permanent. Similarly, most visual impacts of oil and gas operations occur during the drilling phase which is temporary. Once a well is drilled and the land reclaimed, the visual impact is negligible. References to visual impacts are not germane to a GEIS and should be removed from this document.

9) Statements made in the GEIS imply that soil is a commonly held natural resource, similar to air and water. This concept is then used to justify regulation of private property. We disagree that soil is a commonly held natural resource requiring special protection by the DEC in every instance. Earth disturbance regulations should only be allowed which prevent excessive siltation of surface waters, which are a protected, commonly held resource.

10) Several sections of the GEIS refer to changes that will occur in the future, but which, in fact, have already taken place. These sections should have been revised before the document was released for public comment.

Finally, the GEIS is of critical importance to our industry. The outcome of these hearings and the final decisions made on the GEIS will affect New York’s oil and gas industry for many years to come. It is vital to the life of our industry that the final document addresses our concerns.

The DEC agrees that the visual impacts from a properly sited and reclaimed drilling operation are negligible and temporary, but these impacts, however limited, must be addressed under SEQR regulations. See Topical Response Number 2 on Visual Resources and Assessment.

See Topical Response Number 7 on Soil as a Public Natural Resource.

The extensive lead time required for printing and distributing a document the size and scope of the GEIS precludes it being absolutely up to date.
which will protect our environment and the rights of the landowner and the operator, as well as continue to provide jobs, tax dollars, royalty payments and other benefits associated with oil and gas development.

1-1 1) State actions in the form of regulations or permit conditions can effectively prohibit the mineral owner's right to recover his oil and/or gas reserves. Should this occur, we believe the involved parties should be financially compensated by the State for the unrecoverable reserves at full market value.

1-2 2) There should not be separate rules for state-owned land. The oil and gas regulations or permit conditions applicable to privately owned land or resources should also apply to resources owned by New York State.

1-3 3) The DEC does not have the legal right to impose itself as a third party in landowner/operator contracts. Numerous statements made in the GEIS are governed by contractual agreements, and DEC involvement here would be an infringement of landowner rights.

1-4 4) We do not believe access roads should be regulated by the DEC because: a) this is a contractual matter between the landowner and the operator, and b) such access roads are not regulated in other industries such as timbering or agriculture.

1-5 5) The GEIS makes reference to safety concerns of oil and gas operations. The safety of such activities is already regulated by the New York State Department of Labor, the federal Department of Labor, OSHA and NEPA. We believe the DEC should defer to the more than adequate standards and regulations developed by these other agencies which are already in place.

1-6 6) We are in agreement with the present casing and cementing guidelines, but we disagree with the use of grouting as a means of protecting freshwater aquifers. Although this is a very technical point, we mention it here because grouting often appears in the GEIS as a means to protect freshwater aquifers and we do not believe it will achieve the DEC's objective.

1-7 7) All well drillers, including water well drillers, should be regulated to ensure comprehensive and adequate protection of freshwater aquifers. Regulation should be extended to anyone who penetrates the groundwater zone for whatever reason.

The mineral rights owner cannot exercise his right to recover oil and/or gas reserves at expense to the environment or at expense to resources held in trust for all citizens of the State. See Topical Response Number 1 on Public Taking Without Compensation.

The oil and gas regulations and permit conditions, such as casing and cementing guidelines, which are applicable to privately owned lands are also applicable to State-owned land. There are additional conditions that the State as the landowner can impose in the leases granted to develop the resources on State owned lands. Any landowner or lessor, including the State may impose contractual obligation in the lease to protect its interest(s).

The DEC does not have the right nor does the DEC impose itself as a third party in landowner/operator contracts. However, the DEC does have the right and obligation to protect the State's natural resources for the benefit of all its citizens. Some programs that protect natural resources (e.g. tidal wetlands, freshwater wetlands, stream disturbance permits, etc.) are also viewed by many landowners, as well as the oil and gas industry, as an infringement of individual and landowner rights, but State protection and regulation of these important common resources has been upheld in the courts.

Access roads are regulated for other industries whose actions require a State permit. Under SEQR, access roads are considered "part of the action" to drill a well. See Topical Response Number 4 on Access Roads as Part of Project.

DEC must regulate safety in circumstances where failure to do so could have a deleterious effect upon the environment. Blowout prevention and control is one such circumstance. With respect to non-environmental safety concerns, the intent of the GEIS is to encourage adherence to safety guidelines rather than to propose specific safety regulations. OSHA does not have drilling rig safety regulations. They do have guidelines, but there is no federal safety inspection staff to enforce their guidelines, "Comprehensive Safety Recommendations for Land-Based Oil and Gas Well Drilling". The State Department of Labor (DOL) has adopted the federal safety regulations, but as stated above there are no federal drilling rig safety regulations, and the DOL does not make drilling rig safety inspections in New York State.

As stated in the text, grouting is commonly used in shallow surface holes as a means of protecting freshwater aquifers from infiltration of surface contaminants. It does meet this limited objective. Support for adopting the present casing and cementing guidelines as regulations is noted.

The DEC also supports regulation of water well drillers. Legislation is needed to accomplish this goal.
I. INTRODUCTION

1-11 Deletion of the phrase "beneath his land" does not substantially change the intent of this paragraph. See Appendix 4, pages 1-2 for details on mineral rights severance.

1-12 Most State issued permits are discretionary. With a non-discretionary permit, only an application and fee are needed for automatic granting of the permit (e.g. fishing permit). "Discretionary" in reference to oil and gas drilling permits means that a review and judgment must be made by the Department before the permits are issued. Therefore, a permit is not automatically issued when the application and fee are submitted.

1-13 As stated, the proposed changes to existing regulations were included so that a full public discussion of all the issues could be made. Many of the proposed regulations are currently imposed as permit conditions because they are critical to environmental protection, and a negative declaration could not be issued without them. It is Department policy to formalize standard permit conditions into regulation as soon as possible. In addition, a GEIS must assess the environmental impact of a regulatory program and determine what changes are needed to strengthen the program. See Topical Response Number 5 on Reasons for Including Proposed Regulations in the GEIS.

1-14 Industry personnel were present at the GEIS public scoping hearings where GEIS outlines were distributed for public comment. Industry had the same opportunity to respond as the public. In addition, in 1982 DEC met with IOGA to obtain information on standard oil and gas industry practices and concerns.

1-15 A full range of regulatory alternatives is discussed in Chapter 21, from prohibition of resource development to maintenance of status quo. If the commentators want discussion of a specific alternative, it should be identified and submitted.

1-16 The GEIS was developed to satisfy SEQR requirements and does serve as an EIS for all standard operations when they conform to the thresholds described in Table 3.1. Conformance of these standard operations to the thresholds in the table cannot be determined without the Environmental Assessment Form (EAF) which details the unique physical conditions of each drilling site. See Topical Response Number 3 on EAF and Site-Specific Permit Conditions.

1-17 Certain parts of this sentence when taken out of context can be misconstrued.
I-18 3-3, top line: ADD the word "supplemental" before "environmental assessments."

I-19 3-3, §1, CLARIFY: is the "two and one-half acre disturbance" for each well? If so, ADD the phrase 'per well' after two and one-half acres.

I-20 3-3, §2, DELETE §2, REASON: Disagree with the need for a specific supplemental environmental assessment for State parklands and the perceived need to treat the State differently than other surface owners.

I-21 3-3, §3, LIST other possible DEC permits which may be necessary. We feel that the Division of Mineral Resources should have the ability to streamline the permitting process and should be able to provide all necessary permit approvals. Not only has applying to different DEC divisions for permits been costly and time-consuming, but the divisions have had conflicting requirements and have required producers to submit material already submitted to another division, thereby increasing costs and length of time needed to secure permits.

I-22 3-3, §5: CLARIFY the term "major" used in this context, i.e., how many wells? Existing federal permitting requirements would answer many concerns for new waterflood projects. In regards to surface environmental disturbance, there is not a change in the type of disturbance — only in the degree. Therefore, the GEIS should apply with a few modifications to cover surface disturbance for multi-well projects.

I-23 3-3, §6, same comment as §5 above.

I-24 3-3, §7, DEFINE "major" in this context.

I-25 3-3, §8, DELETE this statement. REASON: It is a catchall phrase and too vague. The GEIS should include specific to the oil, gas and solution mining industry and "any other project" would probably not fall within, or be subject to, the conditions of the GEIS.

I-26 3-3, 2nd para., §3. DELETE §3. REASON: We do not believe the reason stated should constitute the standard for a Type I action unless the state holds the mineral rights within or contiguous to any publicly-owned park land. The taking or controlling of private mineral rights by regulation is unjustified.

I-27 3-4, para 1. DELETE this paragraph. REASON: We do not believe the location of the well should be a matter of concern for the DEC, but rather a private contractual agreement between the landowner and the operator. Further, although some leases may have been written without current landowner approval, the current landowner was aware of the lease agreement when the property was purchased. The current landowner has probably realized benefits as a result of the lease either through royalties, sale of the

The word "supplemental" should be inserted. The statement is more correct as written. Usually, one well is defined as a project, but there are multi-well projects which are exceptions to this rule.

There are reasons that State Parklands are treated differently. These lands are usually of some special scenic, historic or environmental value and are held in public trust for the benefit of all citizens.

Streamlining the permitting process is a goal of good government, but Mineral Resources staff does not have the expertise to evaluate potential impacts on environmental resources such as wetlands and streams. Responsibility for these other statutory programs is assigned to other DEC Divisions. The Division of Regulatory Affairs is responsible for coordinating the review of permit applications for those actions governed by the permit procedures set forth in the Uniform Procedures Act (UPA) ECL Article 70 and 6NYCRR Part 621. Article 23 well drilling permits are not governed by the UPA; however, such permits as those for wetlands disturbance stream crossing and brine waste hauling are governed by the UPA review procedures. Those procedures require that all permits subject to UPA provisions and relevant to a proposed action be simultaneously reviewed by the Department.

"Major" in this context means more than one well or a multi-well project. "Major" could be removed from this item without changing the intent. The federal permitting requirements do not supersede State requirements. We agree that the existing federal USEPA UIC permitting requirements would answer many of the technical concerns, but they do not address surface environmental impacts. Multi-well projects can trigger SEQR thresholds. If these thresholds are triggered, Part 617 regulations apply.

Under Federal Energy Regulatory Commission (FERC) requirements, environmental impacts must be addressed. FERC does not have this requirement for all expansions and increases in storage capacity. The federal permitting requirements and environmental assessment can satisfy many State concerns, but they do not supersede State requirements. See response to I-22.

See response to I-22.

We agree that the wording should be changed to "Any other project regulated by the Oil, Gas and Solution Mining Law. . . ."

The wording in the GEIS comes directly from Part 617.12 of the SEQR regulations. It applies to all publicly owned parkland, not just State parkland.
minerals or reduced cost of the land surface due to mineral severance.

1-28 GENERAL COMMENT FOR PAGE 3-4: Granting of rights to the surface owner by regulations when the mineral rights were not purchased in the deed to the surface is unjustified and amounts to confiscation of the mineral owner/operator property.

1-29 3-5, D: DELETE first paragraph. REASON: Once the GEIS is approved, it should stand as the set of conditions with which operators must comply to be issued permits. As new regulations are promulgated and enacted, they can be included as part of the GEIS. In the meantime, special conditions are now added to permits, and have been for some time, to ensure that drilling is a non-significant SEQR action.

1-30 3-5, B: para 2. COMMENT: Once the GEIS is in place, the EAP should be eliminated. Otherwise, what is the purpose of the GEIS?

1-31 3-6, line 1, 1st sentence: DELETE the word "application" and substitute "GEIS".

1-32 3-6, line 2, DELETE the word "revised" and replace with "adopted".

1-33 3-5a, Table 3-1, b & c: COMMENT: If the State is not the minerals owner, these sections should be removed.

1-34 3-5b, Table 3-1-j,k,l. COMMENT: These project are not different in kind from single well projects, just in degree. Also, adequate federal regulations are now in existence.

1-35 3-6, §2, CHANGE "EAF" to "permit application". REASON: The new permit application form, when approved, will request environmental assessment information.

1-36 3-6, §3, COMMENT: on pg. 3-3 note that page 3-6 should be referenced.

1-37 3-6, §4, CLARIFY or give an example of a "supplemental finding statement."

1-38 3-7, 2 para. line 1: DEFINE "major", i.e., number of wells, etc.

1-39 3-8, §2, line 2: DELETE: "affected", REPLACE with "disturbed".

1-40 3-8, §2, line 3: DELETE phrase "the access roads". REASON: Access roads are not regulated for other industries and should not be regulated for oil and gas operations.

1-41 3-9, para 2, line 2: CLARIFY what "local" means in this context.

1-27 DEC is concerned if the location of the well will result in environmental degradation. DEC does not become involved with aspects of third party contracts having no resource management implications.

1-28 DEC has never suggested any regulation to confiscate separately owned mineral rights and grant them to the surface owner.

1-29 Even after the GEIS is approved, site-specific permit conditions will be required in some cases to adequately assure environmental protection and allow DEC to issue a negative declaration.

1-30 The GEIS states that the Environmental Assessment Form will be required until the drilling permit is revised to include this information, but it is more practical to keep it as an attachment than to have a multi-page drilling permit form. The EAF is being substantially revised and shortened. See Topical Response Number 3 on EAF and Site-Specific Permit Conditions.

1-31 See response to I-30.

1-32 See response to I-30.

1-33 The requirements regarding State Parklands and Agricultural Districts come directly from the SEQR regulations. Therefore, the Division of Mineral Resources cannot change them. The SEQR regulations protect the mineral rights ownership.

1-34 Waterflood, tertiary recovery, underground gas storage and solution mining projects do have potential environmental impacts that are different from single well projects. See Chapters 12, 13, and 14. As stated earlier, existing federal requirements do not always adequately address all environmental concerns. See responses to I-22 and I-23.

1-35 See response to I-30.

1-36 There is already a cross-reference between these two sections of the text.

1-37 After a final environmental impact statement has been completed, an agency must write a findings statement certifying that the SEQR requirements have been met, and provide written support for the agency decision. Occasionally, an agency inadvertently fails to address a substantive issue in the findings statement, and when this occurs a supplemental findings statement must be prepared.

1-38 See responses to I-22 and I-23.

1-39 Under some circumstances the term "affected" could include acreage outside the project area or the actual disturbed area.

1-40 An access road can represent a significant portion of the acreage disturbed for a project and must be considered as a potential source of erosion and sedimentation affecting surface waterbodies. Improper placement or construction of access roads can have negative impacts in agricultural areas, wetlands, floodplains and significant habitats (See Chapter 8).

1-41 Access roads may also have a longer-term impact where they are left in place after the drill site has been reclaimed. See Topical Response Number 4 on Access Roads as Part of Project.

1-42 In this context "local" refers to a county, town, city, or village which has adopted its own floodplain or wetland permit program as provided for in State laws.
Comment noted.

The missing line is "on the road. Major changes in land use patterns, traffic and the need for...

The negative economic impacts of the proposed regulations on the oil and gas industry are discussed in Chapter 18. While we recognize the industry's current economic difficulties, we have a mandate to protect New York State's environment. The oil, gas and solution mining regulatory program and proposed revisions are warranted by the need for mitigation of potential adverse environmental impacts of activities regulated by the program.

The information is also in Herrick's Empire Oil.

We agree that the addition of the word "test" would be more appropriate.

Correction noted; "900 feet" should be "600 feet".

Correction noted; "Dodd, Mead" should be "Herrick".

According to Division of Mineral Resources' records, 308 wells were spudded and 293 wells were completed in 1986. In 1987, 299 wells were spudded and 279 wells were completed. This information was published in 1988 in the Division's annual report.

"Economics" as used in this context refers to all costs of oil and gas activity, including those necessary to comply with regulations.

We agree that regulations have an influence on new drilling and production. Federal and State regulations are included as "other factors" in the sentence as it is currently written.

Correction noted.

Correction noted.

Natural gas is stored in undepleted aquifers in the State of Illinois. Liquid petroleum gas (LPG) is not.

Correction noted.

Correction noted.

This paragraph is discussing historical occurrences, and does not imply anything regarding the current state of the creek.
Although a reservoir could not form without a confining rock bed, a confining bed can be breached by improperly completed wells. The word "breach" instead of the word "absence" in this sentence would be more appropriate. A reservoir can also exist without a confining caprock for quite a while, though it would be a short time geologically (i.e. natural seep areas). The example cited is documented on pages 314-315 of Herrick (1949), where the operator claimed responsibility and agreed to pay damages.

This statement makes no judgment regarding significance.

Suggested addition is unnecessary. The paragraph already states that surface pollution is usually temporary.

Correction noted. "40,000" should be "over 50,000." References are VanTyne (1967) and IOC (1955). Change "State" to the "Department of Environmental Conservation." The last sentence is not an overstatement. The lack of adequate information on many of these wells has been a serious hindrance to the Department when investigating pollution problems in areas drilled prior to 1966.

Correction noted.

The use of the word "to" maintains parallel treatment of the phrase "to help protect mineral rights of well owners."

The regulations have been updated since 1972 with respect to Part 551.2, Part 554.2, Part 556.6, and Part 559. The word "extensively" should be added in front of "updated" to make this sentence technically correct. The casing and cementing guidelines are not yet regulations.

Our records indicate that the Bass Island pressures are "relatively high" for New York with initial pressures very close to hydrostatic.

Permit conditions were imposed on Bass Island wells before the regulations were promulgated.

DEC's interpretation is implied since DEC is the author of the entire GEIS.

Rewording the phrase "is nearly continuous" to "is nearly complete with only minor breaks" would be more technically correct.

Rewording this phrase to "Over geologic time, temperature, pressure and bacterial activity..." would be correct.

The suggested deletion of "upward" is more technically correct.
1-71 5-4, 1st para., line 4. CHANGE "structure" to "feature". REASON: It's not always a structure.

1-72 5-5, top of page, line 4. CHANGE "150" to "120".

1-73 5-5, $1, 3rd para., 2nd last line. DELETE "like shales". REASON: Shales in New York have low porosity.

1-74 5-7, 2nd full para., line 2. ADD sentence to read "Interstate and intrastate gas transportation has also helped maintain low prices for gas utilities and gas consumers." A sentence should also be added in this paragraph that addresses the disincentives to drill caused by increased state and federal regulatory programs which can have the effect of increasing costs to the point where the economic benefit of oil and gas development and production is outweighed by the cost of compliance with these regulations.

1-75 5-8, 1st full para., 2nd last line. CHANGE "33" to "nearly 60".

1-76 5-9, 1st full para., 2nd last line. DELETE "like shales". REASON: Shales in New York have low porosity.

1-77 Figures 5.2 and 5.3. COMMENT: There is an inconsistency in the designation of bedrock. The maps should not overlap.

1-78 5-15 top line - DELETE this line. It appears on the bottom of page 5-14.

1-79 5-16 line 4, REFERENCE (Van Tyne, 1981).

1-80 5-16, 1st full para., REFERENCE (Van Tyne, 1981).

1-81 5-17, 3rd full para., REFERENCE (Van Tyne, 1981).

1-82 5-18, top of page, 3rd line, REFERENCE (Van Tyne and Copley, 1983).

1-83 5-18, 2nd full para., line 1, CHANGE "1,000" to "2500".

1-84 5-21, 2nd full para., line 6. CHANGE this sentence to read, "Through repeated use of this driller's misnomer, the Akron has become known as New York's 'Bass Island Formation,' and is considered to be the source bed for the oil and gas produced throughout the Bass Island trend."

1-85 5-23, 4th full para., line 4. CHANGE to read "...plain, is represented by sandstone in the area of the deltaic deposition and thin ..." Also, ADD the word "predominately" between "continuous" and "limestone" in the last sentence of this paragraph.

1-71 The suggested rewording is more technically correct.

1-72 Gas wells were producing between 1821 and 1865.

1-73 This section is a general discussion on porosity and permeability and is not specific to New York. Adding the modifier "immature" in front of "shales" would be more technically correct.

1-74 The complexities of intrastate and interstate gas transportation are beyond the scope of the GEIS. For a fuller discussion of economic impacts resulting from regulation which affect the oil and gas industry, refer to Chapter 18.

1-75 Change "33 percent" to "nearly 60 percent". During the preparation of this document, additional declines occurred.

1-76 The suggested addition goes beyond the scope of this section of the GEIS.

1-77 Correction noted. These maps should not overlap.

1-78 Correction noted.

1-79 Add the reference (VanTyne, 1981).

1-80 Add the reference (VanTyne, 1981).

1-81 Add the reference (VanTyne, 1981).

1-82 Add the reference (VanTyne and Copley, 1983).

1-83 Reworking of this phrase to "The Salina Group forms a sequence up to 2,500 feet thick of red ..." is more correct.

1-84 Explanation for including the Rondout is given in preceding text. The complex geology along the Bass Island trend has various interpretations.

1-85 This paragraph is a general discussion of Tully limestone deposition. A detailed discussion of time equivalent lithologic variations is beyond the scope of the GEIS.
5-25, a. line 6, DELETE the sentence beginning on this line.
REASON: It is not true.

5-26, 1st full para., 3rd line from the bottom, DELETE phrase, "...the faults appear to cut across the folds." and change to read "...the faults parallel the folds." REASON: They do not cut across the folds, they parallel the folds.

5-26, b. 1st para., last line, ADD phrase so the line reads..."but no evidence for this gap exists in the far eastern part of the state."

5-27, 1st full para., 2nd last line, CHANGE "1974" to "1977".

5-28, 1st full paragraph, line 3, CHANGE: "Genesee" should be "Geneseo". Also, ADD "could" to second last line to read..."huge area underlain by gasay shales could make them a significant contributor to..."

5-28, 2nd full paragraph, DELETE last sentence. REASON: The statement is incorrect, as it has not been demonstrated.

5-29, e., 1st para., 2nd last line, CHANGE "Most" to "All" so the line reads, "All of the Upper Devonian oil fields occur in Allegany..."

5-33, 1st full paragraph, line 6, CHANGE "Triassic" to "late Paleozoic".

CHAPTER VI. ENVIRONMENTAL RESOURCES

6-1, 1st para., After the last sentence, ADD the phrase, "... however, data indicate that many of the sites return to their original state even if left alone." REASON: Environmental effects attributed to the industry from the early 1900's can no longer be detected.

6-1, 2nd para., DELETE 3rd sentence beginning on line 6, REASON: This is not necessarily true, and if conflicts do arise, they are currently being adequately handled by mitigation measures set forth in permit conditions.

6-3, C, 1st para., line 8, DELETE phrase "...as well as the watersheds that supply them." REASON: "Water supply" is the term that will be used in developing future regulations and the implication of using the term "watershed" is not known.

6-3, C, 1st para., line 6, DEFINE term "significant amounts" in this context.

6-4, 1st full para., last line, CHANGE "can" to "may". REASON: There are valleys without any sand or gravel deposits.

The following rewording is more correct: "The Oriskany production is characterized by high pressure and good reservoir capacity when compared with most other New York producing formations."

The line "but where the axial direction of the anticlines changes from northeast to east the faults appear to cut across the folds," should be deleted.

Correction noted. Insert "far" before the word "eastern".

There were two possible reef discoveries in 1986 and 1987. Delete "Although no additional reef fields have been discovered since 1974," and start the sentence with "Future discoveries...

Change "Geneseo" to "Geneseo." The Geneseo Formation is equivalent to the lower "Genesee" Group. The use context of "resource base" in this sentence is estimated potential reserves.

Orton (1899) lists numerous examples of wells near Lake Erie that encountered gas-bearing black shales at 100-300 feet. The shale encountered by these wells is assumed to be the Dunkirk Shale, which is the shallowest of the Devonian black shales that has been identified as a potential gas producer.

The suggested change is correct.

Changing the sentence to read "...Appalachian Orogeny occurring in the late Paleozoic through Mid-Triassic..." is more correct.

This general statement is not specific to the oil and gas industry, and it is correct as written.

This sentence does not address the availability or adequacy of mitigation factors.

Watersheds must be considered in any surface water supply protection plan. The Department of Health has watershed regulations (Section 1100 of Article 11 of the Public Health Law).

"Significant amounts" is part of the definition of aquifer, and the definition of "significant" would vary among different areas.

The suggested change to this text would not alter the intent of this sentence.
6-4, 2nd full para., last sentence. CHANGE: This sentence should be changed as it is mid-1988 and the maps are not yet available.

6-5, 2nd full para., COMMENT: The possibility for contradictory regulations exists unless these programs are closely coordinated.

6-6, D. Public Lands, COMMENT ON THIS ENTIRE SECTION: If development of privately-owned oil and gas under public lands is in any way impaired by DEC regulation, then DEC should purchase the mineral rights at fair market value.

6-8 F. Wetlands, COMMENT ON THIS ENTIRE SECTION: If development of privately-owned oil and gas in wetlands areas is in any way impaired by DEC regulation, then DEC should purchase mineral rights at fair market value. In addition, wetlands maps for the same areas vary from DEC region to DEC region. There is a need for updated, standardized wetlands maps available for sale to the public.

6-9, G., 1st para., line 5. DELETE sentence starting with "Severe loss of life...in these areas." REASON: The statement does not belong in a GEIS concerning oil and gas. It is our interpretation that "development" in this context is meant to indicate housing or industrial development, not oil and gas.

6-9, G., 1st para., line 5. DELETE sentence starting with "Severe loss of life...in these areas." REASON: The statement does not belong in a GEIS concerning oil and gas. It is our interpretation that "development" in this context is meant to indicate housing or industrial development, not oil and gas.

6-10, 2nd para., 2nd sentence. DELETE this sentence. REASON: We apologize for the reproduction quality of this map.

6-10, 2nd para., 2nd sentence. DELETE this sentence. REASON: We apologize for the reproduction quality of this map.

6-11, I, 2nd para., 2nd sentence. DELETE this sentence. REASON: Private dollars have also been invested in oil and gas leases and in the production of oil and gas in New York State.

6-12, I, 2nd para., 2nd sentence. DELETE this sentence. REASON: Private dollars have also been invested in oil and gas leases and in the production of oil and gas in New York State.

6-13, I, 2nd para., 2nd sentence. DELETE this sentence. REASON: Private dollars have also been invested in oil and gas leases and in the production of oil and gas in New York State.

6-14, K. Significant Habitat. COMMENT: The term is broad enough to include all habitats and the definition is so broad as to be meaningless. DEFINE what has to be dealt with so that it can be understood by the industry. Also, DEFINE what is meant by "wildlife" in this context.

6-15, 1st full para., COMMENT: If the State or private groups wish to acquire fish and wildlife areas, then the owners of mineral rights under these lands should be compensated at full market value.

6-16, L. COMMENT: Local minerals managers should have access to precise information locating historic or culturally significant areas (in distances less than the current one mile) to save operators the expense of archaeological surveys.

6-16 M. QUESTION: Are the DEC's facts on acid rain compatible with those of the federal government?
6-17. COMMENT: Whose subjectivity will be accepted and whose subjectivity will prevail concerning visual resources? We believe all references to visual impacts in the GEIS should be deleted as they allow for enormous discretionary authority for the reason stated in this section - that "their value cannot be precisely defined." In addition, the greatest visual impact will occur during the drilling phase which is temporary. After completion of drilling operations, 90% of the equipment involved is buried underground.

6-18. 1st full sentence. DELETE this sentence. REASON: Aesthetic compatibility standards are not relevant to oil and gas operations. Most of the drilling locations in New York State are in remote, sparsely populated areas and actually provide a visual curiosity that draws interested onlookers. The whole idea of regulating visual impact is so far-reaching and arbitrary as to be frightening, i.e. in California, some rigs must be camouflaged by building of facades.

CHAPTER VII. NEW YORK STATE OIL, GAS AND SOLUTION MINING REGULATORY PROGRAM.

7-1. 2nd para., COMMENT: It should be noted that operators or companies drilling wells may disagree with the statements made in this paragraph and may believe that the State's regulatory programs do not always allow for the claims made here and, in fact, may actually promote waste.

7-2. 1st full para., line 10, ADD phrase after the word "drainage," to read, "but may make reserves unrecoverable."

7-2. a. line 3, DELETE phrase beginning with "...and an assessment of probable adverse environmental impacts..." REASON: Permit conditions should be based on the facts of the situation involved in that particular setting, not improbable "what if" situations.

7-5. 2. 4) DELETE 4. REASON: This should no longer be necessary once the GEIS is in place. Also, this will be addressed in the new permit application form.

7-5. 4th full para., line 2 and 3: DEFINE what "information" will be required on nearby wells. Also, DEFINE what is meant by "nearby."

7-6. 1st sentence at the top of the page. COMMENT: The procedure to transfer the fee from one permit to another should be formalized and listed in the GEIS under 'permit application.'

7-6. 1st para., line 1, COMMENT ON THE EAF: Constant reference is made to the use of an EAF throughout the GEIS. The GEIS should obviate the need for an EAF except in certain specified instances. Further, line 1 should read "...The environmental assessment information incorporated in each permit application"
and this paragraph and the one immediately following should be changed to discuss the fact that this information will be requested on the permit application form.

**I-120**
7-6, 2nd full para., GENERAL COMMENT ON ACCESS ROADS: DELETE the reference to "access roads" in the 2nd paragraph. No other industry is subject to regulation concerning access roads and neither should the oil and gas industry. This is a matter dealt with by agreement between the operator and the landowner.

**I-121**
7-7, 3rd sentence on the page, QUESTION: What happens if no answer is received from the DEC within 15 days?

**I-122**
7-9, line 10 midway down the page, DELETE this sentence. REASON: The GEIS should be all inclusive when finalized.

**I-123**
7-9, last para., GENERAL COMMENT: WE BELIEVE ALL PROPOSED CHANGES TO REGULATIONS SHOULD BE REMOVED FROM THE BODY OF THE GEIS AND INCLUDED IN A SEPARATE APPENDIX. THE PROPOSED REGULATIONS ARE JUST THAT—PROPOSED. THEY HAVE NOT BEEN FINALIZED AND ADOPTED.

**CHAPTER VIII. SITING OF OIL AND GAS WELLS**

**I-124**
8-1, 2nd & 3rd para., DELETE references to access roads for reasons cited above.

**I-125**
8-1, B. 2nd para., 2nd last line, ADD phrase so that sentence reads, "Well spacing regulations do not apply to solution mining wells or gas storage wells."

**I-126**
Figure 8-1. DELETE access road from figure.

**I-127**
8-2, 1st para., line 6, CHANGE to read, "Spacing of any future waterfloods proposed for new oil field areas would be at the discretion of the operator. There are no spacing requirements on any secondary or tertiary operations." REASON: The operator possesses the greatest expertise and interest in maximum resource recovery. These projects are very expensive to initiate and administer.

**I-128**
8-2, 1st para., 1st sentence to end of the last sentence to read, "...except along the Pennsylvania-New York state line where a 330' setback is in effect." *We agree that the suggested wording is more correct.*

**I-129**
8-2, 1st para., line 1, DEFINE term 'temporarily' as used in this context.

**I-130**
8-3, C, line 7, DELETE references to access roads for reasons cited earlier in these comments.

**I-131**
8-3, C, line 11, CHANGE "2,640 feet" to "1,000 to 2,000'" REASON: It does not coincide with information given in Table 3.1. Also, the word 'well' should be added so the statement reads, "...within 1,000 to 2,000 feet of a municipal water supply well."

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**I-119**
This section describes current procedures. See Topical Response Number 3 on EAF and Site-Specific Permit Conditions.

**I-120**
See Topical Response Number 4 on Access Roads as Part of Project.

**I-121**
During preparation of the GEIS, the SEQR regulations were amended and the 15-day time period for the Department to review the pertinent environmental data and make a determination has been extended to 20 days. This review period is directory, not mandatory.

**I-122**
See Topical Response Number 5 on Reasons for Including Proposed Regulations in the GEIS.

**I-123**
The proposed regulations are clearly separated in bold type and summarized again in bold type in Chapters 16 and 17. See Topical Response Number 5 on Reasons for Including Proposed Regulations in the GEIS.

**I-124**
See Topical Response Number 4 on Access Roads as Part of Project.

**I-125**
Correction made. Well spacing does not apply to gas storage or solution mining wells.

**I-126**
See Topical Response Number 4 on Access Roads as Part of Project.

**I-127**
The operator would, of course, propose spacing in his application for a new waterflood. This spacing proposal will still have to be reviewed by Department staff.

**I-128**
We agree that the suggested wording is more correct.

**I-129**
Forty-acre statewide spacing was adopted based on the readily available information. When the workload allows, DEC staff will determine if the spacing rules need revision. In the meantime, any operator who can show that greater ultimate recovery would be achieved by a change in well spacing can apply for a spacing variance on a field and formation basis. We receive very few requests for spacing variances.

**I-130**
See Topical Response Number 4 on Access Roads as Part of Project.

**I-131**
These are items listed on the pre-drilling site inspection form which is filled out by the field inspection staff. It is a checklist for both the proposed well and access road, and correspondence to Table 3.1 is not intended. See pages 8-17 and 8-18 for an explanation of the 1,000', 2,000' and 2,640' figures.
The variance provisions addressed in Section C apply by implication to Section D, since it is extremely unlikely that associated drilling equipment would be located a significant distance from the well.

Sentences in the text above and below address lease restrictions and State regulations.

See Topical Response Number 6 on Surface/Mineral Owner Lease Conflicts.

There is no 660' setback requirement from houses. Variances from the 660' lease boundary setback may be granted.

Commentators on earlier GEIS drafts requested specific examples of pollution incidents.

The purpose of the sketch of equipment placement is to insure that these items are placed with consideration to public safety and environmental factors. We realize that changes might be necessary because of field conditions. At the time the permit application is reviewed, the field inspector will verify that equipment setbacks are adequate. An alternate proposal to accomplish this same goal would be to require setbacks specific to the entire drilling site instead of the wellbore.

The recommendation of a requirement for a muffler is not made. As stated in the text, pneumatic mufflers and sound barriers might be appropriate only under special circumstances.