REASON for deleting notification requirements for some items listed above: These are normal actions which occur in the course of routine operations.

CHAPTER XI. PLUGGING AND ABANDONMENT OF OIL AND GAS WELLS

1-329 11-1, A, 4th para., line 3, DEFINE "severe problems" as used in this context.

1-330 11-2, line 9, COMMENT on sentence beginning on line 9: This would create large amounts of temporary surface damage in areas surrounding old wells.

1-331 11-2, 1st full para., line 2, ADD a phrase so that the beginning of the first sentence reads, "In actively plowed agricultural areas..."

1-332 11-3, line 2, CHANGE to read, "...good conscience, a few old, abandoned wells may have caused serious localized environmental problems. Most wells have never caused any environmental problems."

1-333 11-3, 2, 2nd para., line 4, DELETE phrase "Until new regulations are written" and begin sentence with, "It has been the..."

1-334 11-4, C, line 4, DELETE "natural" so that first part of sentence reads, "A bentonite mud..." REASON: What is unnatural bentonite mud?

1-335 11-4, C, line 7, IOGA AGREES with the recommendation.

1-336 11-5, 2nd full para., line 2, DELETE "small" in sentence beginning on this line, REPLACE with "any".

1-337 11-5, 3rd full para., line 5, DEFINE phrase "a small percentage" in this context.

1-338 11-6, 2, line 9, COMMENT: There is no reference in existing regulations to perforating or ripping casing. Line 12, ADD phrase so that this line reads, "...uncemented surface casing recovery inadvisable, three reasonable attempts must be made..." REASON: There must be some limit to what will be expected so that expense and effort is worthwhile, and not futile. For example, rigs commonly used to plug shallow oil wells could not be used if the proposed recommendation is adopted. There are not enough cable tool rigs in New York to plug the number of shallow wells that should be plugged if every well has to be ripped.

1-339 11-6, 1, 1st para., line 4, DEFINE term "surface water bodies" as used in this context.

1-328 This reasonable alternative will be considered during the rulemaking process.

1-329 A "severe problem" would generally be defined by the operator. The problem is severe when he judges the cost and/or technical difficulty would make continued drilling inadvisable.

1-330 The basis for this comment cannot be found in the referenced sentence.

1-331 The casing cut-off requirement should not be restricted to actively plowed areas. Over the years, farmers commonly rotate the use of their agricultural lands.

1-332 The Department has reliable information to support the contention that several old abandoned wells have caused serious localized environmental problems. Therefore, we do not agree with the suggested change, but do agree that a change from "many" to "some" would be appropriate.

1-333 The introductory phrase gives a sense of history of the Department's regulatory program. This has been our practice throughout the text of the GEIS.

1-334 The suggested change is more technically correct, but the word "natural" was added to deliberately emphasize that the use of synthetic muds would not be appropriate.

1-335 Support for the minimum mud density and gel-shear strength requirements is noted.

1-336 The use of the word "small" is meant to convey the idea that a smaller volume plug stands a greater chance of being contaminated and creating a poor cement plug than a larger volume one. We realize that other sized plugs could also be contaminated.

1-337 The term "small" is used in the relative sense. The specifics would be determined by the operator before a particular cement job is undertaken. Commonly 5% bentonite is added to reduce shrinkage.

1-338 Although no direct reference is made in the current regulations to perforating or ripping casing, the current regulations call for a well to be plugged in such a manner as to prevent migration. With uncemented casing the only way to prevent migration is to pull, rip or perforate prior to placing cement. The material in bold type is meant for consideration in future regulations. Reasonable alternative proposals will be considered during the rulemaking process. In many cases, one conscientious attempt would be sufficient. See response to I-153.
The suggested changes are not appropriate to the context of this paragraph.

It is understood that the State would make every possible effort to contact and inform the current operator of the need to plug the well.

Support for extending the temporary shut-in regulations to all wells regardless of commercial potential is noted.

The proposed regulations do outline generic plugging procedures for wells of different type and construction. See pages 11-22 to 11-26.

The option of increasing the plug size rather than a mandatory tag of plug location is given, but the State still has the authority to require the location of any cement plugs be verified.

The sentence is very relevant to the discussion concerning the proper abandonment of wells in the old oilfields in order to insure protection of potable water zones.

The referenced sentences are not in direct conflict.

This recommendation is in bold type on page 11-4 where it is first proposed, and again in the summary on page 11-23. It is not necessary to emphasize it repeatedly throughout discussion text. Support for the recommendation is again noted.

Even if circulation is not possible, zone isolation can be achieved with the proper placement of cement.

Although 15-foot cement plugs at the surface are currently required, this requirement is not clearly stated in the current regulations.

The shoe plug referred to in this sentence is clearly not the casing shoe plug, but the cement plug just placed across the casing shoe.
1.352  11-19, b, line 1, DELETE first sentence. REASON: operators are not required to rip or perforate any uncemented casing left in the hole.

1.353  11-20, line 1, DEFINE "calculated excess" as used in this context. IOGA suggests 25% excess.

1.354  11-20 c, heading of this section. DEFINE specifically what is meant by "significant brackish" water zones in this context.

1.355  11-21, d, 2nd para., line 3, Recommendation should be an option. REASON: This may not be recommended in all cases.

1.356  11-22, G. SUMMARY OF THE PROPOSED REGULATORY REQUIREMENTS COMMENT: IOGA feels that all proposed changes to regulatory requirements should have been listed in a separate appendix to the GEIS. IOGA feels that the current plugging and abandonment procedures are adequate and IOGA's suggested changes would enhance the effectiveness of these regulations.

This section is a part of the text discussion on possible options to achieve plugging objectives. It is understood that most operators will not usually choose the more expensive option, but that decision is left to the operator.

See response to I-338 and I-351.

Calculated excess in the context of this sentence refers to the cement amount which might fall into the annulus below the casing stub. Reasonable alternative proposals will be considered during the rulemaking process.

In the context of this sentence the word "brackish" could be removed or replaced with the word "saline". The word "significant" should modify "water zones". The reference is to any water zone with a measurable flow. Reasonable alternative proposals will be considered during the rulemaking process.

See Topical Response Number 5 on Reasons for Including Proposed Regulations in the GEIS.
Chapter XII. Old Oil Field Waterflood Operations and Enhanced Oil Recovery Potential

GENERAL COMMENT on this section: The distinction should be made between primary oilfield recovery and waterflood recovery operations.

12-1, A, 2nd para., line 1, CHANGE phrase "5 to 30 percent" to "5 to 60 percent".

12-1, A, 2nd para., REFERENCE at end of paragraph (Van Tyne, Foster, 1980).

12-1, A, 4th para., beginning on line 1, CHANGE to read, "beating zones from an aquifer (water drive) and/or the force of gravity (gravity drive). In many reservoirs, only one or two recovery mechanisms may exist."

12-3, §6, CHANGE to read, "Original oil-in-place is the volume of the total pore volume occupied by oil at initial conditions."

12-5, C, 1, 2nd para., line 3, ADD phrase to sentence ending on this line to read, "however, New York oil-wet sandstone can be flooded to a residual oil saturation of 30 to 60 percent."

12-6, last para., line 4, CHANGE sentence beginning on this line to read, "Anaerobic sulphate-reducing bacteria that must be eliminated often proliferate in produced waters."

12-7, line 2, CHANGE sentence beginning on this line to read, "Some sulphate precipitates are relatively insoluble and are..."

12-7, line 5, CORRECT spelling to "phosphonates."

12-7, 1st full para., line 1, CHANGE "must" to "may".

12-7, 2nd full para., COMMENT on the use of the terms "open and closed". Open systems are those that typically do not seek to exclude contact of the injected fluid with air. Closed systems are designed to prevent contact of injected fluid with air. Supplemental freshwater is added even to closed systems for makeup. Produced fluid may be injected in either open or closed systems.

12-7, 2nd full para., line 6, CHANGE "more" to "different".

12-7, 3rd full para., line 3, CHANGE "production facilities" to "water handling".

12-7, 4th full para., line 1, CHANGE "should" to "may". REASON: All these tests may not be necessary, i.e., temperature is appropriate for gas wells, but not water injection wells; radioactive tracer surveys are not commonly used in this area because if there is a tubing leak it could allow the uncontrolled

This chapter primarily concerns waterflood enhanced oil recovery operations.

The word "usually" prefacing the range of "5 to 30 percent" means this is an average range. Sixty percent primary recovery would be very exceptional.

This information is general textbook knowledge and was not obtained from the given reference. However, the information in the first two sentences of the third paragraph can be found in the given reference.

The addition of "and/or" is correct. The next sentence should be reworded as follows: "All four drive mechanisms may be present, but in most reservoirs only one or two recovery mechanisms are present or dominant."

The text is correct as written.

According to IOCC (1955), initial oil saturations in New York averaged around 45 percent and ranged as high as 60 percent only in the better producing areas. Flooding to a residual saturation of 30 to 60 percent would mean almost no oil was recovered.

The suggested wording is correct. "Sulphate-based" should be changed to "sulphate-reducing".

The suggested change is more technically correct.

Correction noted.

The suggested change does not significantly change the intent of the sentence. We do not mean to imply that injection fluids must always be treated, only where reservoir plugging, shale swelling, and corrosion problems are likely to occur.

Comment noted.

Correction noted. Change "more" to "different".

"Production facilities" in this context includes water handling facilities.
loss of radioactive material; annuli are not closed so annular pressure checks are not needed; caliper logging to ensure tubing integrity is not done because the water-in-annulus test is routinely performed as part of the federal UIC program.

I-371 12-9, 1st full para., COMMENT: Numbers quoted throughout this paragraph may not be typical for Allegheny County and the numbers may vary from well to well.

I-372 12-9, 1st full para., COMMENT: The reserve information needs to be updated. Also, if reserve figures are included in the GEIS, they will have to be updated each year. Line 10 should be DELETED as the figure cited is taken from a study done more than 10 years ago and includes all recovery methods, not just enhanced.

I-373 12-9, a, 2nd para., line 2, CHANGE sentence beginning on this line to read, "The accepted practice was to create an 8 inch hole through the unconsolidated surface deposits."
This is a discussion of casing and cementing practices in New York oil fields, and the old oil fields in New York are in the southwestern part of New York. The thief zones are not specific to southwestern New York, but the old oil fields are.

The text is correct as written, and gives a better explanation of why lost circulation zones are a problem.

This information was obtained from an informal survey of DMN field staff which was made prior to implementation of statewide casing and cementing guidelines in April 1986.

This sentence should be reworded as follows: "The plug, displacement water and applied pump pressure can be used to prevent cement backflow."

Correction noted. Change "rubbers" to "rubber" where it appears twice in this line and REPLACE with "elements".

Add the following sentence: "However, some operators, particularly those with close well spacing and potential channeling problems, prefer nitro-stimulation with its high velocity detonation and 360° radius of fracturing."

Correction noted. See response to 1-276. This sentence should be prefaced by "Average".

Descriptive field terms were used in the text to better illustrate these procedures to the public. The suggested addition is correct.

Correction noted. Change "1-inch macaroni string" to "tubing of smaller diameter". Description of this common remedial recompletion technique is appropriate in this section.

Again, descriptive field terms were used in the text to better illustrate procedures to the public. The text would be more technically correct by replacing the word "connects" with "may be connected". The remainder of the paragraph is correct as written.

We know that cementing the tubing annulus will result in gas interference and locking of the pump, but it has been reported to DMN staff that some operators do this. It certainly is not a common practice in recent years. It apparently has occurred in the rare circumstance where sufficient waterflood pressure caused some wells to flow.
Descriptive field terms were used to better illustrate the equipment to the public.

The test should be performed before the pit is used.

See response to I-378.

Change the word "is" to "was."

Correction noted.

Only three operators reported the reinjection of produced waters in the 1987 Brine Survey.

These sentences describe common oil field water treatment methods which may or may not be used in New York.

The suggested addition is not appropriate.

The suggested change does not alter the intent of this sentence.

Many existing New York waterfloods do not have problems, but documentation exists that many others do or have had problems. Both statements are true.

Low fluid entry from the production zone does not preclude the possibility of commingling and contamination when fluid from other zones can enter the wellbore and raise the fluid level.

Correction noted.

Some of this information is contained in the given reference, but it was not the source.
Add the reference (VanTyne and Foster, 1980). Correction noted.

Add the reference (VanTyne and Foster, 1980).

Whether or not the behavior of these operators was fraudulent has no bearing on the fact that the State had no regulations to prohibit this sort of scheme.

The sentence is correct as written.

This information is not usually available before drilling the first well, but waterflooding is usually initiated after several years of primary recovery, data gathering and interpretation.

Correction noted.

The sentence would be more correct if the term health hazard was used instead of health problems. Health problems associated with the BTX components of oil have been documented in other states but not New York. The nuisance, inconvenience, and hazard caused by localized pollution in New York are well documented.

The suggested wording is unnecessary.

The GEIS is being misquoted. The flooding of these improperly plugged wells by subsurface water zones can raise the fluid level and result in contamination of freshwater zones even from depleted low pressure formations. This scenario is described on page 10-8, where the text states that this situation is "unlikely", not that it cannot occur.

Many New York wells have not passed the mechanical integrity tests.

We agree with this comment.

There are many more points of discharge than there are SPDES permits.

Infiltration into unconfined aquifers from surface brine pits has been demonstrated many times.
this paragraph. DELETE or provide substantiation for these claims.

1-420 12-37, 2nd full para., line 2, CITE specific source of this claim. ADD information on how long it took until the stream recovered from a spill of this size.

1-421 12-38, 1st full para., line 2, DELETE sentence beginning on this line. REASON: The source of the pollution is unverified. It may not have been a result of oil operations.

1-422 12-38, 2nd full para., COMMENT: We don't believe that crude oil in water poses an inhalation or absorption threat. General conclusions should not be drawn from one sample.

1-423 12-38, 3rd full para., line 3, QUESTION: What 'other impacts' are being referred to? No documentation has been provided to demonstrate that 'other' impacts have occurred, and we do not believe they have.

1-424 12-39, §2, COMMENT: Duration of land use is no longer than that of gas or primary production wells.

1-425 12-39, §3, COMMENT: These facilities produce no greater emissions than those of other production operations. Most of these projects are run on electricity.

1-426 12-39, §4, COMMENT: Pollution potential is not increased due to new well construction standards and the plugging of old wells.

1-427 12-39, 1st full para., line 1, CHANGE "infill" to "additional project".

1-428 12-39, 1st full para., line 2, DELETE phrase beginning with "...building injection and chemical processing plants...", REASON: The land use is minimal - no more than a housing site.

1-429 12-39, 2nd full para., line 3, DELETE phrase beginning with "...from chemical mixing stations for chemical processes.", REASON: The increased air emissions related to chemical mixing for waterflood operations is equivalent to mixing a gallon of paint in a 20 acre field.

1-430 12-39, 3rd full para., DELETE "injected nitrogen", REPLACE with "gas", REASON: The chance for this happening under the UIC program is extremely remote.

1-431 12-40, §1, COMMENT: Additional requirements under the SEQR for secondary waterflood operations should consist only of an erosion and sedimentation control plan and a federal UIC permit. These are the only considerations peculiar to waterflood developments that would not also apply to primary oil wells or gas wells.

1-419 Reproduction of all of the documented cases of pollution is not possible in this text. Many IOGA members were present at the presentation given by DMN staff at the Oil, Gas and Solution Mining Board meeting in May 1986. Field investigations determined that of the 125 complaints received by DMN during 1985 and the first quarter of 1986, 62.4 percent were found to be related to oil and gas activities.

1-420 The cited reference is given in the bibliography.

1-421 In the referenced case, while it was not proven that the adjacent operator was entirely responsible, such overwhelming evidence of environmental pollution was found that the operator agreed to replace the polluted water supply.

1-422 Usually benzene poisoning from inhalation or skin absorption occurs in an industrial setting. This paragraph does not state that crude oil in water wells poses an inhalation or absorption threat. Internal consumption from drinking water can also pose a threat. EPA's toxicity tests were certainly not based on one sample.

1-423 The other potential impacts referred to are detailed in the remainder of the paragraph.

1-424 Waterflooding extends the economic life of many oil fields.

1-425 Comment noted. The use of electrical power to operate these facilities will certainly decrease the emission of pollutants from the project area.

1-426 The use of better well construction standards and the proper plugging of old wells do mitigate the increased potential for pollution from these operations. In fact, well construction and plugging standards are purposely designed to mitigate any potentially adverse impacts.

1-427 The suggested change does not appreciably change the intent of this sentence.

1-428 The land use impacts of waterflooding operations are being compared to those of other oil and gas production facilities, not those of housing construction.

1-429 We agree that the air emissions from each of these individual activities are minimal, and that they do not all occur at each waterflood project, but taken collectively they can result in a measurable increase over the air emissions from standard oil and gas operations.

1-430 The UIC program does not ban the use of nitrogen for enhanced oil recovery.

1-431 The EPA UIC regulations do not address surface environmental concerns as required under New York State SEQR regulations. See response to I-22.
COMMENT: With the exception of effective relative and absolute permeability, reservoir temperatures, fluid properties, and aerial extent of reservoir, all other items in this paragraph are already required by the UIC permitting process. These parameters may be impossible to ascertain until some wells are drilled, and the necessity to report on them is arguable.

COMMENT: Regulations concerning conversion of wells for enhanced recovery purposes are already addressed under the federal UIC regulations, and duplication of requirements by the State should be avoided.

COMMENT: Waterflood spacing should be at the discretion of the operator. REASON: The operator will have more expertise than the DEC, and due to the large sums of money necessary for waterflood development, the operator will have the greatest motivation to ensure correct spacing.

COMMENT: This is not peculiar to waterflood operations.

COMMENT: Produced fluids from waterflood operations will be more dilute than those from primary production operations and therefore should be subject to less stringent regulation, not more stringent.

COMMENT: The requirement is not peculiar to secondary recovery.

COMMENT: Such a project would be totally uneconomic as the Farmersville Pool has never produced more than a few barrels of oil.

COMMENT: Waterflood operations in the Bass Island trend is questionable.

Section L primarily is a summary of practices used in the old waterflooded oil fields that are in violation of current state and federal laws. The main conclusion of this section is that these practices must be eliminated. This conclusion is not subjective but based on facts gathered by DMN staff and detailed in the GEIS.

Documentation of adverse environmental impacts caused by waterflood operations exists in the Department's files.
1-444, 1st full para., line 3, DELETE sentence beginning on this line. REASON: The statement conflicts with EPA program mandates.

1-445, 12-44, 3rd full para., line 2, (REFER TO P. 10-8)

1-446, 12-44, 4th full para., line 1, COMMENT on "surface discharge". This is a viable, economical alternative. The State's attitude towards surface discharge of brines into streams and rivers is hypocritical. The State encourages operators to transport their water to other states in order for it to be processed properly for stream disposal, but there is not one single commercial surface discharge facility located in the State of New York for the processing of production brines.

1-447, 12-44, 4th full para., line 4, COMMENT on sentence beginning on this line: It is inappropriate to include integrity of cement casing and injection strings of wells among the items needing additional regulations, as this is already assured by the existing UIC regulations, and the implication is that the UIC program is inadequate.

GENERAL COMMENT ON SECTION 12: Preparation of an erosion and sedimentation control plan and submittal of a federal UIC permit should be the only supplements to the GEIS required for a site-specific environmental impact statement for a proposed waterflood project.

CHAPTER XIII. SOLUTION SALT MINING

1-449, 11-3, 1st para., line 4, CHANGE "10" to "18" and "another 40" to "many more".

CHAPTER XIV. UNDERGROUND GAS STORAGE

1-450, 14-2, B, 1, 3rd para., line 2, ADD phrase so that line reads...reservoir usually consists of obtaining shut-in well head pressures...

1-451, 14-6, 1st full para., line 2, QUESTION: How would DEC address potential earthquake dangers? COMMENT: No contingency for earthquakes should be necessary as it is too costly to mitigate, and it is unlikely that an earthquake will occur. Most of the fields would be developed in areas not known to be earthquake prone, anyway, since it is not in the best interests of storage field operators to develop a field that has earthquake potential.

1-452, 14-7, 14, CLARIFY what information may be required.

1-453, 14-7, 1st full para., line 1, QUESTION: Does dark print indicate regulation already in existence?
This is a proposed clarification for the term "modification of storage capacity" as used in the law [ECL 23-1301.5(b)]. For discussion of the definition of "major" with reference to underground gas storage, see responses to I-22 and I-23.

Support for this recommendation is noted.

See response to I-42.

Under current law [ECL 23-1301.1], the State Geologist must approve the suitability of a reservoir for gas storage before a permit can be granted.

See responses to I-22 and I-23.

The reference is to site-specific information that may be necessary to adequately evaluate suitability of a well for injection and/or withdrawal of natural gas or LPG.

See Topical Response Number 4 on Access Roads as Part of Project.

The Division of Solid and Hazardous Waste has deferred to the Division of Mineral Resources with regard to drilling waste. Thus, it is our responsibility to assure that this material is non-hazardous and disposed of properly.

Reclamation for waste rock disposal on-site can be required as mitigation under SEQIR.

A large project is likely to trigger SEQIR thresholds. Addressing visual and noise impacts (which we agree should be minimal) is part of the required environmental assessment under SEQIR which is already law.

Underground gas storage and LPG are not regulated by the EPA.

Most gas reservoirs are normally pressured, 0.43 to 0.52 psi/ft. of depth is the average range of normal hydrostatically pressured reservoirs nationwide. As stated in the GEIS, most New York producing formations are under pressured. According to DEC records, the initial pressure gradient range of the 21 New York gas storage fields was 23 to 52 psi/ft. of depth and the average for these gas storage fields was 39 psi/ft., of depth.

Correction noted. Beginning with the 1987 gas storage report, the DMN staff have calculated unused storage capacity by subtracting the maximum storage volume from the total storage capacity.
The capacity of storage fields is given in two numbers - working gas and cushion gas.

Most reservoirs do not approach a straight line function. They show a hysteresis curve. On the withdrawal side of the storage field, the curve has a tendency to dip below the straight line, and on the injection side it has a tendency to go above the straight line. While the end points may be exactly on the straight line, which requires a higher pressure to gas gas in the ground in a short period of time, i.e., 150 day withdrawal and 200 day injection.

The graph shown on page 14-27 is meant to illustrate the ideal relationship between gas production and reservoir pressure. We agree that in actual storage fields, the curve would deviate from the straight line as described by the commentator.

The suggested deletion is unnecessary. As pointed out in the text of the GEIS, the "calculations are not intended to pinpoint the gas losses from the reservoir but rather to qualify the storage project in terms of efficiency and environmental safety."

As stated in the text, the law [ECL 23-1301.4] requires that an annual storage report, form (85-15-2), be submitted by December 31 of each year. We are proposing that the regulation promulgated under this law allow the operator until March 31 to assemble the data. Under current regulation (6NYCRR Part 551.2(b)), a production report is required by March 31 of each year. Storage report form (85-15-2), which is more appropriate for gas storage operations, will be required in lieu of the production report form (85-15-4).

This is a standard provision in most rules and regulations to cover any unforeseen circumstances, and allow for the submission of data pertinent to a specific project which might not be included in the listing of standard data requirements.

Specific examples are detailed in the text (a through c) on pages 14-21 and 14-33. The pertinence of the comment to the cited text is not clear.

Well site restoration is required for all wells under DEC regulatory authority. 6NYCRR Part 355.5(3)(d) does allow a waiver of this requirement if it has been demonstrated to the Department that no hazard will result, and the landowner has signed an appropriate release.

See response to I-472. Support for the requirement that gas storage operators submit an operational report summary upon termination of storage operations is noted.

See response to I-451.

This listing of materials that might be appropriate to fill the cavity void is not all inclusive, and it is provided for public information.

See Topical Response Number 4 on Access Roads as Part of Project, and response I-472.
The Department supports regulatory efforts to protect gas storage operations from drilling by other operators into the storage horizon. Currently gas storage operations would be protected by permit conditions imposed on any well drilled through the storage horizon.

See response to 1-21.

Table 15.1 does relate each involved agency's area of concern and level of responsibility.

Comment noted. Any individuals wishing further clarification concerning interagency coordination can contact this Department.

Support for the enactment of a State water well construction code and water well driller licensing is noted.

This paragraph is included for public information which is one of the primary responsibilities of government.

Correction noted: change the word "will" to "may".

The "90 percent" figure was given as an estimate. It was based on all DEC data available at the time: the brine haulers' reports, the 1987 brine survey, and the 1986 oil and gas production report. The Department's recent analysis of 1987 brine production volumes and disposal methods revealed that 79% of reported gas-associated and Bass Island brine was used for roadspreading in New York. A very minute amount of oilfield brine from outside the old waterflooded areas was also used for roadspreading.

The source of information is DMN's brine analysis data base. The use of dashes and zeroes is a standard laboratory practice. The dash means the parameter was not measured, and the zero means that it was measured and measurable amounts were not detected or recorded.

This information was compiled from the brine haulers' reports which are required yearly under DEC issued Part 364 permits. Figure 15.1 is for the year 1986, and the fact that the towns accepting brine change from year to year is discussed in the text.

The cited paragraph is relevant to the discussion of underground injection as a disposal technique in New York.

The Livingston County well had not received a State permit at the time the draft GEIS went to print. Since the draft GEIS was printed an additional disposal well in Wyoming County has also received all the necessary State and federal approvals.

New York State has elected not to accept primacy for UIC.

Industry has input into both the State and federal rulemaking processes. It is not appropriate to involve industry in intergovernmental negotiations. In addition, any actions affecting the regulated community are discussed with the Oil, Gas and Solution Mining Advisory Board which has industry members.
that double bonding be eliminated. We hope discussions between DEC and EPA are successful, and that this situation is resolved quickly.

I-494

15-25, 1st full para., line 8, DELETE phrase, "Depending on the severity of the problem" and REPLACE with "typically".

I-495

15-26, 2, 3rd para., line 4 through end of paragraph. QUESTION: Are figures given in these lines correct?

CHAPTER XVI. SUMMARY OF ADVERSE ENVIRONMENTAL IMPACTS RESULTING FROM OIL, GAS SOLUTION MINING AND GAS STORAGE OPERATIONS

I-496

16-1, A, 2nd para., line 6, DELETE reference to access road for reasons cited earlier in these comments.

I-497

16-2, 2nd full para., lines 1 and 2, DELETE references to visual impacts for reasons cited earlier in these comments.

I-498

16-3, line 2, ADD language to state that vegetation loss is temporary.

I-499

16-3, 3rd full para., COMMENT on this paragraph. Erosion and sedimentation are natural occurring phenomena that have happened over geologic time. Introduction of the concept that topsoil is a commonly held natural resource similar to air and water is incorrect. It should only be regulated to the extent that it prevents excessive erosion leading to resultant excessive stream sedimentation.

I-500

16-3, 4th full para, line 3, COMMENT: These permit conditions are ad hoc regulation and could be applied in a discriminatory manner.

I-501

16-4, line 6, CHANGE remainder of this paragraph to read, "...the site reclamation plan is left to the provisions of the lease agreement in conjunction with the law." DELETE last sentence in this paragraph. REASON: It is untrue.

I-502

16-4, b. COMMENT on this section: The operator is the best judge of the size of the site. The landowner is protected by the lease agreement. What constitutes productive use of land is subjective. Oil and gas operations could be considered to be a productive use of land, and not all land supporting oil and gas operations is agricultural. IDGA AGREES with the statement that 30 years is too long to wait to reclaim land.

I-503

16-4, c. DELETE this section. REASON: This is not an appropriate concern of the GEIS. Brine spills would have a temporary, one year impact on an area due to the high amount of rain in New York. Brine has a high mineral content and is viewed as a positive impact by some farmers. Soil is not a natural resource protected by law.

I-493

We agree, but an MOU to eliminate double bonding has not yet received approval from regional EPA legal staff.

I-494

These agencies are notified in only a relatively small percentage of the spills. The decision to notify other agencies is based not on the size of the spill, but on its consequential impacts: resources endangered, threat to public health, need for evacuation, etc.

I-495

Yes, these numbers are correct.

I-496

See Topical Response Number 4 on Access Roads as Part of Project.

I-497

See Topical Response Number 2 on Visual Resources and Assessment Requirement.

I-498

This chapter summarizes adverse environmental impacts, and short term vegetation loss is not a particularly adverse impact. However, vegetation cannot be expected to return to either the access road or the portions of the well site used for production facilities, both of which might be present for over thirty years.

I-499

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

I-500

See response to I-29.

I-501

The text as written is correct. According to correspondence with Seneca County Soil and Water Conservation District (Cool, 1982, Personal Communication #14) reduced crop yields can be expected for 20 years or more because of topsoil loss.

I-502

Comment noted.

I-503

Although the effects of some brine spills may be short-term, all environmental impacts must be addressed by the GEIS. See Topical Response Number 7 on Soil as a Public Natural Resource.