OVERVIEW MANUAL FOR VALUATION AND ASSESSMENT OF OIL AND GAS PRODUCING PROPERTY IN NEW YORK STATE

NEW YORK STATE DEPARTMENT OFTAXATION AND FINANCE
OFFICE OF REAL PROPERTY TAX SERVICES
EQUALIZATION VALUATION, & CENTRAL SUPPORT SERVICES

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VALUATION AND ASSESSMENT OF OIL AND GAS PRODUCING PROPERTY IN NEW YORK STATE

Overview Manual – Table of Contents

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INTRODUCTION

This manual has been developed to provide an overview of the valuation and assessment of oil and gas producing property in New York State. The manual encompasses the responsibilities of the New York State Office of Real Property Tax Services (ORPTS) in annually certifying unit of production values for economic units of oil and gas properties. In addition, the responsibility of local officials, oil and gas producers, and the New York State Department of Environmental Conservation (NYSDEC) are outlined.

According to the latest information from NYSDEC, total gas production in New York for 2014 was 20.4 BCF's, and total oil production was 358,390 barrels.

In the early 1970's to the mid-1980's, oil and gas exploration and production activity within New York State intensified. Initially, this phenomenon was due to increased prices paid for domestic oil and gas as a result of higher demand, deregulation, and rising foreign price levels. However, from 1985 to 1991, the price paid for domestic oil and natural gas declined considerably because of unstable demand for petroleum products and increasing competition from foreign markets. Large fluctuations in oil and gas production and prices paid demonstrated the volatility of this industry. Since oil and gas producing properties are real property for taxation purposes, the need for equitable, consistent assessment practices became increasingly important.

In the early 1980's, laws were enacted to promote the development of oil and gas resources in New York and to regulate the activities of the industry. Specifically, the new laws added provisions to govern the assessment of oil and gas producing properties. The separate assessment of oil and gas economic units for producing wells in New York State was mandated. In the early 1990's the Real Property Tax Law (RPTL) was amended to authorize the Office of Real Property Tax Services (ORPTS), to impose an annual charge on oil and gas producers to pay costs incurred in the administration of the oil and gas program.

Oil and gas economic profiles are developed by ORPTS' Equalization Valuation & Central Services division from economic data submitted by oil and gas producing companies and the NYSDEC. EVCS staff analyzes the data and determines unit of production values for each economic profile. Assessors use the unit of production values to calculate assessed values for oil and gas properties.

Due to the general overview nature of this manual, specifics as to legislation and dates of occurrence are not detailed. Definitions of terms in the text can be found in the appendix and are written in layman terms. Exact definitions, laws and rules can be referenced in the Real Property Tax Law and the NYS Official Compilations of Rules for Real Property Tax Administration.

MANDATED RESPONSIBILITIES

The Office of Real Property Tax Services is responsible for determining and certifying the appropriate unit of production value to each assessor for use in the assessment of oil and gas rights. In determining unit of production values, the New York State Legislature has directed this agency to use a "discounted net cash flow" approach to reflect the following:

- Depreciation
- Depletion
- Income and Other Taxes
- Capital Investments
- Royalty Interests not Retained by Producer
- Operating and Maintenance Expenses
- Other Pertinent Costs
- Plus a Rate of Capitalization that shall not be less than 17.5 Percent

For oil, the unit of production value can be stated as a dollar amount per daily average barrel (DAB) of oil production or a dollar amount per barrel of oil produced. For gas, the unit of production value will be expressed in dollars per MCF (1,000 cubic feet) produced or dollars per daily average MCF. Daily average barrels (dab) is defined as the total annual oil production in barrels per well divided by the number of days per year (365). Daily average thousand cubic feet (DMCF) is defined as the total annual gas production in MCF per well divided by the number of days per year (365).

The Commissioner of Taxation and Finance will issue to the assessor a set of guidelines for the proper computation of the assessed value.

It should be noted that the "oil and gas right" shall be assessed in the name of the possessor of the rights and stated on the assessment roll without any exemptions. This assessed value shall include all pipes, pipelines, drilling rigs, service rigs, vehicles, and associated equipment used for the drilling, extraction, production, operation of oil and gas, and solution mining activities. This assessed value shall be made per economic unit and to the point of sale to the first commercial purchaser.

An "economic unit" is defined as real property, subject to taxation and assessment, including the oil and gas, and any and all equipment and fixtures necessary to extract and collect the oil and gas available for commercial sale.

Section 39 of the General Construction Law states a description related to the economic unit, indicating that "rights" are real property for tax purposes. Section 39 states the following:

"Oil wells and all fixtures connected therewith, situated on lands leased for oil purposes and oil interests, and rights held under and by virtue of any lease or contract or other right of license to operate for or produce petroleum oil, shall be deemed personal property for all purposes except taxation."

This provision means that the oil and gas rights, not the lease, are assessed.

If oil and gas rights are transferred in a lease, the rights, not the lease, are assessable to the owner/operator of the well. When the owner/operator also owns the land and no lease is involved, both the land and the rights are assessable separately to the owner/operator.

Section 592 of Article 5, Title 5 of the Real Property Tax Laws, allows ORPTS to request from owners or operators of producing oil and gas wells, a statement of income and expense related to production for the purpose of determining the discounted net cash flow. These company income and expense statements are not available for public inspection but are available for administrative or judicial review of assessment.

The law states that the tentative unit of production value shall be issued 45 days before tentative roll date, and the final unit of production values shall be issued 15 days before tentative roll date. The value of oil and gas rights shall be established as of December 31 of the year preceding the year in which the rights will be described and assessed on the assessment roll.

RESEARCH AND DEVELOPMENT

The American Appraisal Company was retained in 1978 to review past procedures and recommend future procedures for the valuation of oil and gas properties.

The American Appraisal Company recommended the "discounted net cash flow" method and stated assumptions for proper valuation of these properties.
The American Appraisal Company stated assumptions in constructing the model for the income stream and are as follows:

- The gross income per barrel or MCF will grow or escalate at a fixed rate during the first five years and then remain constant.
- The operating expense per barrel or MCF will grow at its own fixed rate during the first five years and then remain constant.
- The allocation for the cost per barrel or MCF of depletion equals the value per barrel or MCF of the reserve of the property.

The above assumptions represent the normal circumstances occurring during gas and oil well operations.

Step I Net Cash Flow: Gross Income

METHODOLOGY

A detailed description of the methodology used by the Office of Real Property Tax Services is outlined later in this section of the manual.

Basically, the discounted net cash flow procedure is an income approach to valuation of oil and gas wells entailing the following items:

- Production Decline Rates and Income/Expense Escalation Rates
- Gross Income and Operating Expenses
- Remaining Economic Life of Property
- Real Property Taxes
- Net Income
- Depreciation
- Depletion
- Income and Other Taxes
- Capital Investment
- Royalty Interest not Retained
- Rate of Return
- Calculation of the Present Worth of Net Income by Using an Appropriate Discount Factor

The "discounted net cash flow" is an income method recognizing that the future income is less valuable than present income so that future income must be discounted to make it equivalent to the present income. Discounting is a method of finding today's value of a sum receivable at some future date.

Rate of Return (Discount Rate)

The rate of return to be used is outlined in Section 592 of the Real Property Tax Law.

In determining the unit of production values, the minimum discount rate or rates applied by the Commissioner shall be the sum of (1) the average of the discount rates established by the United States Federal Reserve Board on the first business day of each month for each of the five calendar years upon which the economic profiles are based and that precede the year in which the unit of production values are to be certified, plus (2) a seventeen and one-half percent factor to account for risk, non-liquidity, management, real property taxes, intangible drilling costs and income taxes.

A Detailed Description of the Steps Used to Develop Oil and Gas Unit of Production Values

The overall steps for determination of oil and gas unit of production values for each economic profile are illustrated below:

		-	Royalty
		=	Producer's Gross Income
		-	Operating Expenses
			Other Costs
		-	dry hole costs
		-	depreciation
		-	capital investment (tangible)
		-	overriding royalty interests
		-	depletion
		=	NET CASH FLOW
Step II	Discount Rate:	Current average yearly rate from U.S. Federal Reserve	
		+.1750	Representing risk, non-liquidity, management, intangible drilling cost, real property and income taxes
		=Year 5	CURRENT ANNUAL DISCOUNT RATE
			Five Years Average Discount Rate
			[(Year 1 + Year 2 + Year 3 + Year 4 + Year 5)/5]
		=	CURRENT FINAL DISCOUNT RATE
Step III	Discounted Net Cash Flow:	=	The overall net cash flow for each economic profile is divided by the discount rate to yield the discounted net cash flow. Discounted net cash flow values are derived for all economic profiles on a 5-year average of income and expense data for each type of unit of production value (UPV).
Step IV	Unit of Production Value:	=	Unit of production values are based upon economic profiles reflecting average income, expense, and operating data for the five calendar years preceding the year in which the UPVs are to be certified. In applying the discounted net cash flow approach, gross income is reduced by the following: operating expenses; dry hole costs; abandonment and well plugging costs, landowner royalty payments; overriding royalty interest; capital investment; depletion and depreciation.
Step V	Tentative Unit of Production Values:	=	Unit of production values are submitted to the Commissioner for approval as tentative unit of production values. Upon approval, notice is given to the municipalities as well as the associated oil or gas companies. Both the municipality and the company can comment on the tentative values and furnish information to the Commissioner supporting their position.
Step VI	Hearing and Review:	=	ORPTS conducts hearings to receive and review comments on tentative values and revise values as necessary.
Step VII	Final Unit Of Production Values:	=	With the Commissioner's recommendation the values become final and are mailed to the municipalities and oil and gas companies. The local assessor uses these values to derive assessed values of oil and gas economic units for placement on the assessment roll.

ASSESSMENT PROCESS

The Real Property Tax Law (RPTL) provides a uniform, State-wide method of valuing oil and gas producing properties for real property tax purposes. It mandates the assessment of oil and gas properties in production separately from all other interests in the property (e.g., land, buildings).

Oil and gas producing properties are assessed as economic units. Economic units include all the real property subject to taxation and assessed in accordance with the RPTL. Gathering lines are included in determining economic units. However, transmission lines are not included. Before this law, methods of assessing oil and gas producing properties were determined by local assessors and varied throughout the State. In addition, assessors were not required to assess land separately from oil and gas rights, even when owned by someone other than the landowner. The reason for assessing mineral rights separately from the land itself recognizes the fact that the ownership sometimes differs.

To compute the assessment of an oil and gas economic unit, the assessor must multiply the amount of production by the appropriate unit of production value. The production used in the calculation is from the production year preceding the applicable taxable status date as reported by the producer. The result of this calculation must be multiplied by the most recent State equalization rate or special equalization rate. When the rate exceeds one hundred, the special equalization rate of one hundred must be used which has been established for this purpose.

To assign the proper unit of production value to a particular economic unit, the assessor must determine which profile the gas economic unit is located in or for an oil economic unit what type of recovery method and production is involved. This is illustrated in the chart below. ORPTS provides unit of production values for each category listed.

Gas Unit of Production Values	Oil Unit of Production Values
1. Medina Region No. 1	1. Enhanced Recovery Wells
2. Medina Region No. 2	2. Stripper Wells
3. Medina Region No. 3	3. Other Wells
4. Medina Region No. 4	
5. Trenton Black River (Deep Well)	
6. Onondaga and Oriskany Formations	
7. All Other Formations	

Samples of the procedure to calculate an assessment of oil and gas well economic units are as follows:

Selected Unit of Production Value Multiplied by Annual Production then by the Equalization Rate Equals the Assessed Value

An example of the assessed value of a Gas Economic Unit located in Region 3 of the Medina Region is calculated as follows:

The gas unit of production value for Region 3 of the Medina region is $1.82 per MCF which is multiplied by an annual production of 6,000 MCF for a gas economic unit. It is then multiplied by an equalization rate of .80 which equals an assessed value of $8,736

An example of the assessed value of an Oil Economic Unit for an Enhanced Recovery Well is calculated as follows:

The oil unit of production value for an independent producer with an enhanced recovery well is $30.01 per barrel of oil, times an annual production of 1000 barrels of oil for an oil economic unit, times the equalization rate of .80 equals an assessed value of $24,008

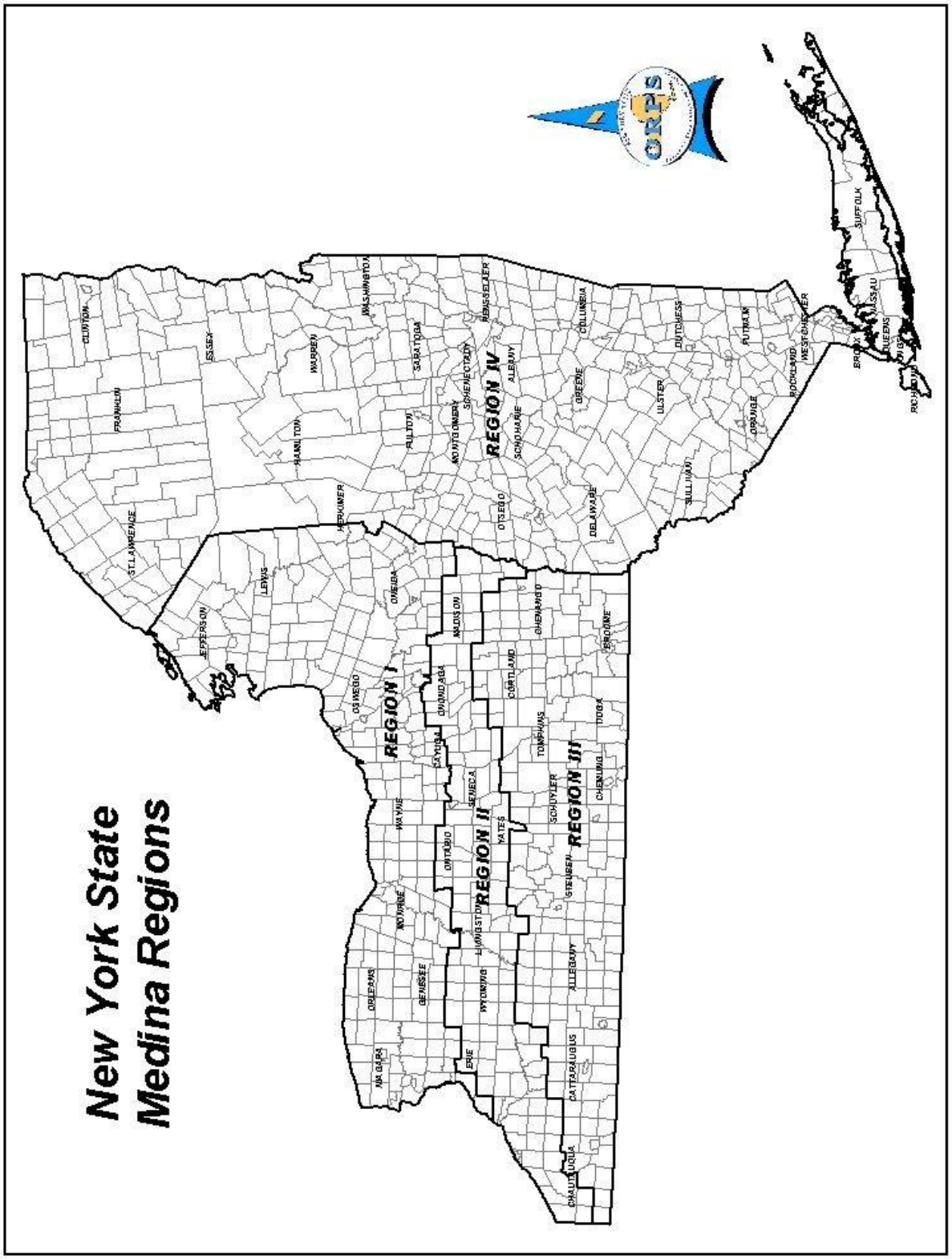
The Real Property Tax Law provides for the assessment of oil and gas economic units to be based on measured annual production during the life of the well. In a case where annual production may be nonexistent due to circumstances that prevent production, each gas economic unit is subject to a minimum assessment for two one-year periods. These assessments are based on a minimum annual production equivalent to 2,400 MCF and are only applied once during the life of a gas well. Upon completion of the second year minimum assessment, a gas economic unit must be assessed on actual measured annual production of gas. No minimum assessment may be applied to any gas economic unit existing on or before January 1, 1986. In this case, gas economic units may be assessed only on actual measured annual production.

Oil economic units are only assessed on the basis of actual measured annual production. Minimum production is not assigned for oil economic units.

Economic units including oil and gas rights are not eligible for any exemption from taxation, and/or annual charge except if they are owned by a school district, The Board of Cooperative Educational Services (BOCES), or if owned by an organization whose property is exempt.

In cases where an oil or gas economic unit is located within more than one assessing unit, the appropriate County Director(s) of Real Property Tax agree upon the portions and percentage of capital investment in each taxing district and informs the local assessor. The assessor then apportions the assessment of economic units among school and special districts.

The following map lists Medina formation regions for the valuation of gas and oil wells in New York State:



List of Medina Formation Regions For the Valuation of Gas and Oil Wells of New York State:

Region 1	Region 2	Region 3	Region 4
CAYUGA	**CATTARAUGUS**	**ALLEGANY**	**ALBANY**
Auburn (City)	Ashford	All towns	All towns
Aurelius	Dayton		
Brutus	East Otto	**BROOME**	**CLINTON**
Cato	Leon	All towns	All towns
Conquest	Machias		
Ira	Otto	**CATTARAUGUS**	**COLUMBIA**
Mentz	Perrysburg	Allegany	All towns
Montequma	Persia	Carrollton	
Sennett	Yorkshire	Cold Spring	**DELAWARE**
Sterling		Conewango	All towns
Throop	**CAYUGA**	Ellicottville	
Victory	Fleming	Farmersville	**DUTCHESS**
	Genoa	Franklinville	All towns
ERIE	Ledyard	Freedom	
Alden	Moravia	Great Valley	**ESSEX**
Amherst	Niles	Hinsdale	All towns
Buffalo (City)	Owasco	Humphrey	
Cheektowaga	Scipio	Ischua	**FRANKLIN**
Clarence	Sempronius	Little Valley	All towns
Elma	Springport	Lyndon	
Evans	Venice	Mansfield	**FULTON**
Grand Island		Napoli	All towns
Hamburg	**CHAUTAUQUA**	New Albion	
Lackawanna (City)	Arkwright	Olean (City)	**GREENE**
Lancaster	Charlotte	Olean	All towns
Marilla	Chautauqua	Portville	
Newstead	Cherry Creek	Randolph	**HAMILTON**
Tonawanda (City)	Dunkirk (City)	Red House	All towns
Tonawanda	Dunkirk	Salamanca (City)	
West Seneca	Hanover	Salamanca	**HERKIMER**
	Mina	South Valley	All towns
GENESEE	Pomfret		
	Portland	**CAYUGA**	**MONTGOMERY**
All towns	Ripley	Locke	All towns
	Sheridan	Summerhill	
JEFFERSON	Sherman		**NASSAU**
All towns	Stockton		All towns
	Villenova		
LEWIS	Westfield		**ORANGE**
All towns			All towns

Region 1	Region 2	Region 3	Region 4
LIVINGSTON	**CHENANGO**	**CHAUTAUQUA**	**OTSEGO**
Avon	Columbus	Busti	All towns
Caledonia	New Berlin	Carroll	
Lima	Sherburne	Clymer	**PUTNAM**
York		Ellery	All towns
	ERIE	Ellicott	
MADISON	Aurora	Ellington	**RENSSELAER**
Fenner	Boston	French Creek	All towns
Lenox	Brant	Gerry	
Lincoln	Colden	Harmony	**ROCKLAND**
Oneida (City)	Collins	Jamestown (City)	All towns
Smithfield	Concord	Kiantone	
Stockbridge	Eden	North Harmony	**ST. LAWRENCE**
Sullivan	Holland	Poland	All towns
	North Collins		
MONROE	Orchard Park	**CHEMUNG**	**SARATOGA**
All towns	Sardinia	All towns	All towns
	Wales		
NIAGARA		**CHENANGO**	**SCHENECTADY**
All towns	**LIVINGSTON**	Afton	All towns
	Conesus	Bainbridge	
ONEIDA	Geneseo	Coventry	**SCHOHARIE**
All towns	Groveland	German	All towns
	Leicester	Greene	
ONONDAGA	Livonia	Guilford	**SUFFOLK**
Camillus	Mont Morris	Lincklaen	All towns
Cicero	North Dansville	McDonough	
Clay	Nunda	North Norwich	**SULLIVAN**
DeWitt	Ossian	Norwich (City)	All towns
Elbridge	Portage	Norwich	
Geddes	Sparta	Otselic	**ULSTER**
Lysander	Springwater	Oxford	All towns
Manlius	West Sparta	Pharsalia	
Salina		Pitcher	**WARREN**
Syracuse (City)	**MADISON**	Plymouth	All towns
VanBuren	Brookfield	Preston	
	Cazenovia	Smithville	**WASHINGTON**
ONTARIO	DeRuyter	Smyrna	All towns
Farmington	Eaton		
Manchester	Georgetown	**CORTLAND**	**WESTCHESTER**
Phelps	Hamilton	All towns	All towns
Victor	Lebanon		
	Madison	**SCHUYLER**	
ORLEANS	Nelson	All towns	
All towns			

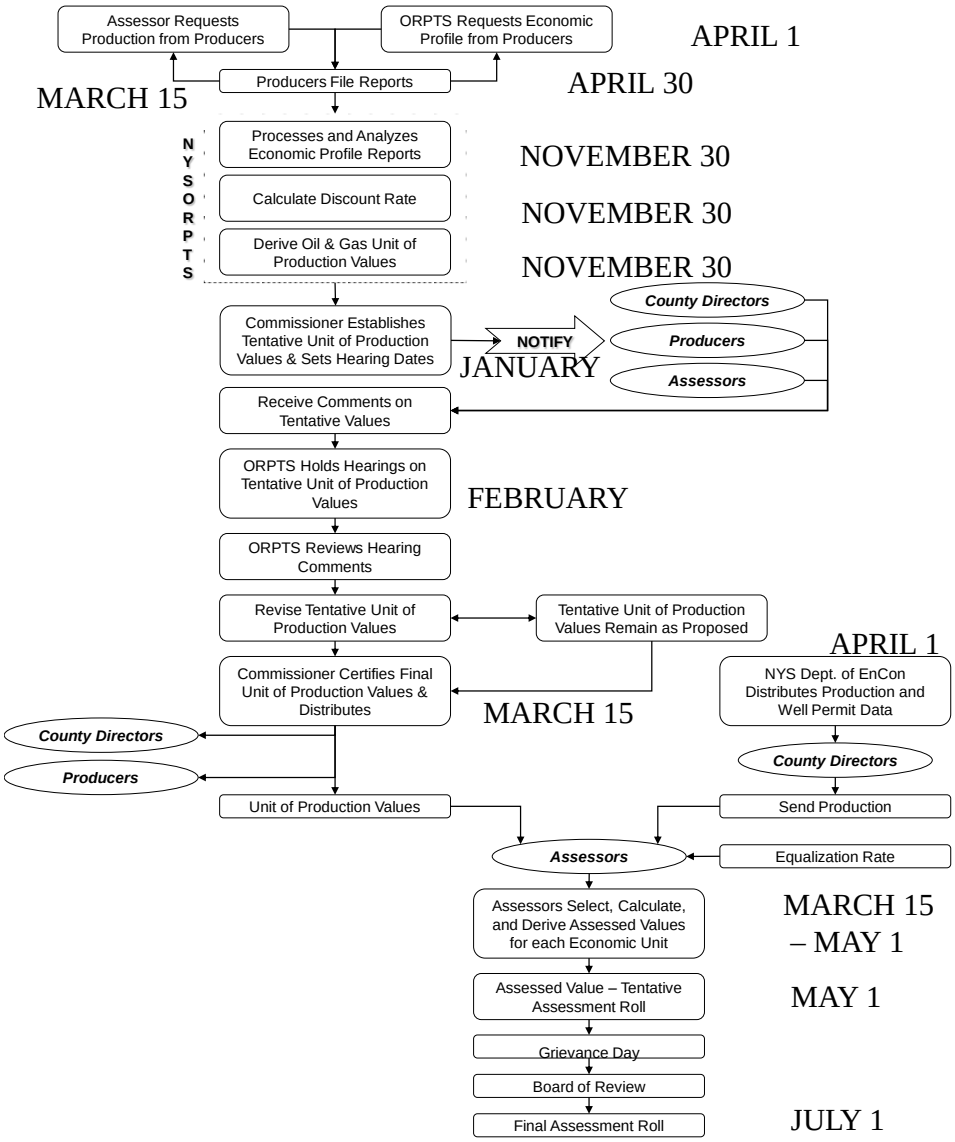
Region 1	Region 2	Region 3	Region 4
OSWEGO All towns **SENECA** Junius Seneca Falls Tyre Waterloo **WAYNE** All towns	**ONONDAGA** Fabius Lafayette Marcellus Onondaga Otisco Pompey Skaneateles Spafford Tully **ONTARIO** Bristol Canadice Canandaigua (City) Canandaigua East Bloomfield Geneva(City) Geneva Gorham Hopewell Naples Richmond Seneca South Bristol West Bloomfield **SENECA** Fayette Ovid Romulus Varick **WYOMING** All towns **YATES** Benton Italy Jerusalem Middlesex Milo Potter Torrey	**SENECA** Covert Lodi **STEUBEN** All towns **TIOGA** All towns **TOMPKINS** All towns **YATES** Barrington Starkey	

OVERALL STEPS OF THE ASSESSMENT PROCESS FOR UNIT OF PRODUCTION VALUES

Step 1	Local assessor requests production data and ORPTS requests economic profile reports from producer.
Step 2	Producers complete and file production data with assessor and economic profile reports with ORPTS.
Step 3	ORPTS processes and analyzes economic profiles and calculates discount rates to derive unit of production values.
Step 4	Commissioner establishes tentative unit of production values and notifies assessors, producers and county directors.
Step 5	A hearing is held to receive comments on tentative values.
Step 6	A review of hearing comments may revise tentative values, as necessary.
Step 7	Department of Environmental Conservation processes and distributes well permits and production information to county directors for future release to assessors.
Step 8	Commissioner certifies final unit of production values and distributes values to assessors, producers and county directors.
Step 9	Assessor derives the assessed value for each economic unit by multiplying the unit of production value times the production and then times equalization rate.
Step 10	Assessed values of all oil and gas economic units are set on the tentative assessment roll.
Step 11	After grievance day and after Board of Assessment Review decisions are made, the values are set as part of the final assessment roll.

The schematic is a general review of the process and steps necessary to develop Oil and Gas Production Unit Values. A detailed discussion of each step follows the schematic.

OVERALL PROCESS FLOW OF THE ASSESSMENT PROCESS FOR OIL AND GAS UNIT OF PRODUCTION VALUES



ADMINISTRATIVE PROCESS FOR RESPONSIBLE PARTIES

The sequential occurrences of responsibilities required for completion and filing of required data by local officials, departments of State Government, school authorities and producers are set forth in the Rules for Real Property Tax Administration. The sequence of events as outlined below is a typical representation of the assessment roll calendar year.

Prior to January - Assessors file notice by registered mail with producers requesting oil and gas production data, prescribed by NYSDEC, and the date required for review being set forth by statute. The notice must contain the tentative roll date, the name and address of the responsible office and the person or agency to which production data should be provided.

January to March - Assessors receive production data including total amount of oil and gas produced in the production year from producer and identifies other parts of economic units prior to the tentative roll date.

March to April - Assessors receive production and well permit data from county directors as distributed by NYSDEC.

Mid-March to May - Upon receipt of the unit of production values, select the appropriate value, multiply by yearly production, and then by the latest equalization rate to derive the assessed value for use on the tentative assessment roll.

OFFICE OF REAL PROPERTY TAX SERVICES:

January to February	-	Commissioner to establish tentative unit of production values.
January to February	-	Provide tentative unit of production values to selected assessors, producers, county directors and interested parties.
February to March	-	ORPTS conducts at least one public hearing to receive comments on the tentative values.
Early March	-	Revise values as needed. Commissioner certifies final unit of production values.
Early to Mid-March	-	Provide final oil and gas unit of production values to assessors, producers, county directors and interested parties before the tentative roll date.
Early April	-	ORPTS requests the completion of economic profile reports from producers for submission by April 30.
Late April to Early May	-	Receive completed reports from producers and update database.
May to November	-	Process the economic reports for the purpose of review and analysis. As a result of this analysis, unit of production values are derived and documented. Derive discount rate and calculate unit of production values with documentation to establish tentative values.

DEPARTMENT OF ENVIRONMENTAL CONSERVATION:

February to March	- NYSDEC receives and summarizes annual production and well permit data from producers.
March to April	- NYSDEC provides a list identifying and containing all oil and gas drilling well permits issued by the department during the immediate preceding calendar year to each designated County Director of Real Property Tax Services.

PRODUCERS/OPERATORS:

January to Mid March	- Producers send reports to each assessor with the total amount of oil and gas produced in the production year for each oil and gas well. In addition, the physical structures and buildings that the operator considers to be part of the economic unit(s) are to be reported to the local assessor before the tentative roll date. The operator and/or producer, if requested by the assessor, must supply maps and other information indicating the location of gas and oil wells, pipeline and other equipment and fixtures. The operator and/or producer must notify the appropriate assessor in writing of the conversion or alteration of any producing well within an economic unit to a storage well or the plugging and abandonment of a well.
February to March	- Producers attend and/or comment at ORPTS public hearing on tentative unit of production values.
Early to Mid March	- Final oil and gas unit of production values are distributed to producer/operators.
Late April to early May	- Producers complete and return economic profile reports per request as received from ORPTS.

SCHOOL AUTHORITIES AND LOCAL OFFICIALS:

May - July - Any local officer, including school authorities, having custody and control of the assessment roll when final unit of production values are certified by Valuation Services Bureau is allowed to make any changes that may occur as a result of such certification.

SUMMARY

In summary, the methodology for the valuation of producing gas and oil properties can be stated: First, attain the production decline rate of a field from past operation and the current production for the year of the appraisal to calculate the total production over the economic life of the well or property; Second, use the price per barrel of oil or thousand cubic feet (MCF) of gas and the expense for production of the oil and gas to project the income stream for the economic life of the well; Third, apply the rate of return (or discount rate) to the income stream to yield the value of the reserve.

At this point, it should be noted: The unit of production value, when multiplied by the annual production for the "economic unit", yields the full value of the "economic unit". This value is the value of the reserve, not the value of the annual production, but a function of the production.

CONCLUSION

The New York State Office of Real Property Tax Services is presently employing the methodology as described in this text. This methodology has the ability to accommodate old, new, and mature fields, and ownership by small independent or large national producers.

This text offers a reasonable and concise method of the appraisal of gas and oil producing properties with emphasis toward property tax purposes. Adherence to its principles should produce equity for the assessment of petroleum properties and the distribution of property taxes.

APPENDIX (DEFINITION OF OIL AND GAS TERMS)

Discounted Net Cash Flow:

This is an income method of valuation that estimates the present worth of future income streams or earnings.

Deep Well:

Well drilled 5,280 feet or deeper in order to access natural gas, also referred to as a Trenton Black River well.

Dry Hole Cost:

The cost of drilling a well that turns out to be non-productive, even though the field where it is drilled is productive. This charge does not allow for the cost of non-productive wells drilled during exploration. This includes all costs associated with the drilling and completion of a well which was intended to produce oil or gas, but does not.

Economic Life:

Economic life of an oil or gas well or field can be determined by attaining the production decline rate, the price of petroleum, and the future annual operating costs. Using these three items, the economic life is equal to the economic limit of a petroleum property as a function of the production rate at the time that the operating cost per barrel becomes equal to the gross income per barrel. For example, if a well costs $5,000 per year to operate or $14 per day, and produces oil that is worth $15.00 a barrel, it will reach its economic limit/life as production declines to 0.9 barrels a day.

Economic Profile:

A net cash flow analysis of a summary of financial data of typical oil or gas economic units based on average or typical income and expense items pertaining to one or more economic units of one or more producers.

Economic Unit:

Includes all real property subject to taxation and assessed pursuant to Title 5, including oil and gas reserves, oil and gas rights, all equipment, fixtures and pipeline, which is necessary to drill, mine, operate, develop, extract, produce, sell or deliver the oil or gas to a point of sale to a commercial purchaser or the pipeline or equipment of a user, including wells, well-head equipment, pipes, compressor stations, related equipment and buildings used to store equipment.

Each economic unit may include either a single well and the associated property, or a group of wells and the associated property under common ownership and operated as a unit. Physical structures and buildings designated by the producer and accepted by the assessor to be part of the economic unit shall be assessed within the economic unit and not separately.

In the event that an oil or gas economic unit is located within two or more assessing units, the appropriate county directors shall certify to the assessors the percentage of capital investment in property located within each assessing unit. The assessor apportions the assessment of economic unit among school districts based upon the percentage of capital investment located in each district.

Enhanced Recovery Wells:

Oil wells using secondary recovery methods including the fluid injection process. The operating expenses for this process are significantly higher than the operating expenses for the primary recovery method.

Exercise of Oil and Gas Rights:

An act of drilling, mining, operating, developing, extracting, producing, collecting, delivering or selling oil or gas located on or below real property and other acts for the proper operation and development of oil and gas wells.

Gathering Lines:

Pipes used to transport oil or gas from the producing area to the main pipeline in the area. When oil is used, the lines run from holding tanks to a central pumping station at the beginning of the main pipeline. If gas is used, the flow is continuous from the wellhead to the ultimate consumer or point of purchase.

Gross Income:

Revenue generated by selling the gas and oil at the well or field. The gross income is related to the price per barrel of oil or per thousand cubic feet of gas. These prices are the actual prices paid to the producers.

Income Taxes and Property Taxes:

Income taxes and property taxes are dealt with separately as a rate and function within the net cash flow analysis.

Independent Oil Producer:

In the previous calendar quarter a taxpayer is neither (1) a retail seller of oil or natural gas nor (2) a refiner of crude oil and (3) does not exceed the production of 1,000 barrels per day.

Integrated Oil Producing Company:

A taxpayer that produces oil and is either a "retailer" or "refiner".

MCF:

This stands for one thousand cubic feet of gas.

Oil and Gas Producing Property:

Oil and gas wells, pipelines, reserves, etc. which produce oil and gas. See definition of economic unit.

Oil and Gas Rights:

These rights include any right to drill, mine, operate, develop, extract, produce, collect, deliver or sell oil or gas located on or below real property.

Oil and Gas Rights Identification Code:

This code is a number which uniquely identifies oil and gas rights not capable of being identified by a tax map land parcel number as defined in Section 196.1 of the Rules for Real Property Tax Administration.

Operating Expenses:

Annual costs incurred at the well or cost related to running the field and necessary to maintain the production of income from operation of the oil or gas property. These costs may include the following:

- Operating Labor
- Social Security Pensions, Insurances, and Fringe Benefits
- Electrical Power
- Truck and Tractor Expenses
- Water, Steam, and Compressor Plant Costs
- Engineer and Related Supervision Costs
- General Materials and Supplies
- District Overhead that Applies Strictly to the Property being Appraised

The operating expenses are very difficult to estimate; therefore, it is necessary to request operator/owners to submit actual operating expenses for further analysis and study. These expenses may vary due to pressure and depth of well.

The initial drilling and developmental costs are not a part of the operating expenses because they are considered a one-time capital cost and not an annual cost like operating expenses.

Other Wells:

Wells utilizing only pumping equipment to recover the oil. The annual production of the field is typically more than 3,650 barrels per year.

Overriding Royalty Interests (ORI):

This is defined as a fractional interest in the gross production of oil and gas under a lease, in addition to the usual royalties paid to the lessor, free of any expense for exploration, drilling, development, operating, marketing and other costs incident to the production and sale of oil and gas produced from the lease. It is an interest carved out of the lessee's share of the oil and gas, ordinarily called the working interest, as distinguished from the owner's reserved royalty interest as described above.

While usage varies, any royalty created out of the working interest in a lease is overriding royalty. Many people also refer to any royalty reserved by the lessor in addition to the usual one-eighth royalty as overriding royalty.

Producer:

This is any person, partnership, corporation or other association or entity owning or operating the working interest in any oil or gas property.

Production:

The extraction of oil or gas from the land in commercially marketable quantities for commercial and industrial purposes.

Production Decline Rate:

Production of oil and gas is unique in the fact that productive ability of an oil and gas field begins to decline from the time that it is first put on production. As a result, the prospective gross income is immediately in a declining position. Oil and gas productivity and production decline are directly related to its pressure. As the petroleum is extracted, reservoir pressure is constantly reduced and, therefore, the production is reduced proportionately. An oil reserve can be repressurized by applying gas, water, or steam into the oil field to maintain adequate pressure.

So, petroleum reservoirs are unique with their inability to resist the decline of gross or net income due to decrease in production.

Once the oil or gas well has been producing for a few years, a production decline rate can be established for a well or proven reserve. For valuation purposes, the definition of the American Petroleum Institute for "Proved Reserves" is used:

"These are the volumes of crude oil and natural gas which geological and engineering information indicate, beyond reasonable doubt, to be recoverable in the future from oil and gas reservoirs under existing economic and operating conditions. They represent strictly technical judgments and are not knowingly influenced by policies of construction or optimism. They are only by the definition of the term 'proved'. They do not include what are commonly referred to as 'probable' or 'possible' reserves."

The production decline rate can be difficult to predict when wells are producing at less than capacity or produced erratically for various economic reasons or are being subject to a secondary recovery method that can alter the normal or natural decline rate. However, establishing production decline rates is still the most practical method of predicting proved reserves.

Production Year:

The calendar year immediately preceding the applicable taxable status date, except for final city assessment rolls required to be filed between January first and May first, and for all final village assessment rolls, production year means the second calendar year preceding the applicable taxable status date.

Royalty:

A reservation to the lessor (landowner) of a certain portion of the oil or gas found and extracted, or of the proceeds from the sale, at no cost to the lessor.

The usual royalty rate negotiated between the landowner (lessor) and exploration company is 1/8 or 12 ½ percent of the Gross Income. Until oil and gas extraction begins, a small or minimal yearly rent is paid to the landowner for the land under lease.

Oil and gas fluid in nature can flow underground from one landowner to another; therefore, oil and gas in the ground cannot be sold directly from one owner to another. The landowner has the "right" to remove oil and gas from beneath his land. This right becomes absolute ownership, only when the oil or gas is brought to the surface. The owner may sell that right, and a lease is the legal method to transfer oil and gas rights to others. This lease gives the leaseholder the right to explore for oil and gas. If gas and oil is discovered, the lease allows the leaseholder to remove the gas or oil, in return for a "royalty" payment consisting of a percentage of the oil or gas found. The Office of Real Property Tax Services considers this royalty payment an installment payment for the "oil and gas rights", which were wholly conveyed in the lease agreement. Therefore, the royalty owner is not assessed under the new law, and the royalty payment is excluded from the producer's income or included in the expense statement for valuation purposes. The royalty owner's land is assessed separately from the "oil and gas rights" of the lessee or operator.

Stripper Wells:

Stripper wells produce oil and gas at a rate of less than 10 barrels per day of oil or 60,000 cubic feet per day of natural gas.

Transmission Lines:

These are pipelines extending from a producing area to a refinery terminal or connecting to gathering lines or delivery point of purchase. These lines are used for longer distance transportation of gas.

Unit of Production Value:

Title 5 of Article 5 of the Real Property Tax Law authorizes the issuance of a unit of production value expressed in dollars per MCF of gas per year and dollars per barrel of oil per year.

The unit of production value is the value of each MCF of gas or barrel of oil produced in the production year.

A unit of production value represents the value of a gas or oil economic unit and includes such items as the well, wellhead equipment, tanks and pipes (gathering lines). Note: See definition of an economic unit.