Exhibit No.: 1110
Issues: Gas Costs
Witness: Joseph M. O'Donnell
Sponsoring Party: Aquila Networks-MPS
[redacted]
Case No.: ER-2004-0034 &
[redacted]

Before the Public Service Commission
of the State of Missouri

Rebuttal Testimony

of

Joseph M. O'Donnell

Exhibit No. 1110
Case No(s). ER-2004-0034
Date 3-1-04 Rptr tt

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REBUTTAL TESTIMONY OF
JOSEPH M. O'DONNELL
AQUILA, INC. D/B/A AQUILA NETWORKS-MPS
[redacted]
CASE NOS. ER-2004-0034 [redacted]

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI
REBUTTAL TESTIMONY OF JOSEPH M. O'DONNELL
ON BEHALF OF AQUILA, INC.
D/B/A AQUILA NETWORKS-MPS AND AQUILA NETWORKS-L&P
CASE NOS. ER-2004-0034 AND HR-2004-0024 (CONSOLIDATED)

Q. Please state your name.

A. My name is Joseph M. O'Donnell.

Q. By whom are you employed and in what capacity?

A. I am employed by Aquila, Inc., 20 West 9th Street, Kansas City, MO 64106 as the Director of Market Analysis.

Q. What is the purpose of your rebuttal testimony in this case before the Missouri Public Service Commission ("Commission")?

A. I will address certain matters contained in the direct testimony of staff witness Graham Vesely, Office of the Public Counsel witness James A. Busch, and Brubaker & Associates, Inc. witnesses Robert R. Stephens and Maurice Brubaker involving the determination of an appropriate level of natural gas fuel costs for generation.

Q. What is your understanding of the method used by Mr. Vesely to arrive at his recommended gas price for this case?

A. Mr. Vesely uses the average of the actual gas cost incurred, on a plant-by-plant basis, over a 21-month period running from January 2002 through September 2003.

Q. Why did he use this approach?

A. His stated reason is that this method was used to levelize the volatility of the actual monthly costs without bias to the results.

Q. Do you have any comments with respect to Mr. Vesely's method?

A. Yes, in my view his method is inappropriate.

Q. Please explain.

A. Costs from 2002 are not representative of what Aquila has paid in 2003 or what it expects to pay in the future. In this regard, it appears that Mr. Vesely made no attempt to analyze the current condition of the U.S. natural gas market.

Q. Why do you say that gas prices from 2002 are not representative with respect to current prices or in estimating the future prices of gas?

A. During 2003, the average price of New York Mercantile Exchange ("NYMEX") natural gas futures, for natural gas to be delivered in calendar year 2004, was $4.958 per MMBtu and ranged between a low of $4.359 on Jan. 27, 2003 to a high of $5.678 on Dec. 18, 2003.[1] At no time during 2003, would Aquila have been able to purchase NYMEX natural gas, for 2004 consumption, below these prices. (See Schedule JMO-1)

The U.S. Energy Information Administration ("EIA"), in its January 2004 Short Term Outlook, projected that "...spot prices well above $5 per million Btu remain likely over the next few months if normal, or colder, weather prevails, especially with oil prices remaining at relatively high levels.[2]" The

[1] Source: New York Mercantile Exchange (NYMEX), http://www.nymex.com/jsp/markets/ng_fut_histor.jsp? , Average price of the 12 month calendar 2004 futures strip (contracts for Jan '04 through Dec '04 delivery).

[2] U.S. Energy Information Administration, http://www.eia.doe.gov/emeu/steo/pub/pdf/jan04.pdf

EIA also projects prices above $6.00 per MMBtu, which might occur if cold weather persists and oil prices remain high[3]. (See Schedule JMO-2)

Q. Please discuss the NYMEX Exchange

A. The NYMEX exchange provides natural gas market participants with several important benefits as set out below:

Price Discovery

NYMEX prices are observable on a minute-by-minute basis. The NYMEX exchange is an efficient market that provides the economic function of price discovery, helps market participants understand the price effects of supply and demand conditions, and allows market participants to make production or consumption decisions based upon market prices. The NYMEX price is also the price at which market participants can purchase natural gas for future delivery at a fixed price quoted in advance. The price at which a particular contract is trading can be known instantly by all participants from anywhere in the world.

A Robust Market

During 2003, a monthly average of 3.38 trillion cubic feet (Tcf) of natural gas, to be delivered in calendar 2004, was traded on the NYMEX. During 2003, a total of 40.56 Tcf of natural gas, to be delivered in 2004, was traded on the exchange, which amounted to about 180% of total U.S. consumption. (See schedule JMO-3, JMO-4, & JMO-5)

Short-Term Energy Outlook, January 2004, Page 2
[3] U.S. Energy Information Administration, http://www.eia.doe.gov/emeu/steo/pub/pdf/jan04.pdf *Short-Term Energy Outlook, January 2004*, Figure 8-Page 11

Risk Transference

The NYMEX futures exchange provides risk transference, which is a mechanism to transfer price risk from those who are unwilling to bear this risk to those market participants who are willing. It provides a financial "hedging" mechanism to help minimize price volatility.

Elimination Of Counter-Party Credit Risk

The NYMEX exchange also guarantees contractual performance, which eliminates counter-party credit (default or bankruptcy) risk that is associated with bi-lateral or Over-The-Counter ("OTC") type transactions.

NYMEX Is A Regulated Exchange

The NYMEX and its Members operate in accordance with the requirements and regulations of the U.S. Commodity Futures Trading Commission ("CFTC"), which requires the observance of the highest standards of service and contract security to the benefit of all users. Trading on the NYMEX is continuously monitored and irregularities are quickly detected. Audit trails and surveillance systems support compliance with CFTC federal regulations. Although it is possible that the spot price of natural gas in July of 2004 will differ from the price that is currently being quoted in the futures markets, I strongly advocate the use of NYMEX energy futures as a tool to help minimize price volatility and financial risk. There are many market participants with access to considerable information about supply, demand and the market prices.

Q. What is the current state of the U.S. natural gas market?

A. The current state of the U.S. natural gas market could be characterized as a market that is constrained by available supply and balanced by industrial demand destruction. The U.S. natural gas market could also be described as operating under an economic scarcity-pricing scenario and subject to severe price shocks.

Q. Please discuss the fundamental economic factors influencing U.S. natural gas prices.

<u>Limited natural gas supply response to price signals.</u>

A. Recent U.S. natural gas production has been observed to be relatively price inelastic. A significant production response to repeated price shocks and rising prices has not been observed. The NYMEX prompt month natural gas futures price increased 86% from an annual average of $2.32 per MMBtu in 1999 to annual average of $4.32 per MMbtu in 2000. The NYMEX natural gas price also peaked at $9.98 per MMBtu on Dec. 27, 2000. However, total U.S. natural gas production increased only 1.9% from an annual daily average of 52.4 billion cubic feet per day (Bcf/d) in 1999 to 53.9 Bcf/d in 2000. (See Schedule JMO-6)

<u>U.S. Natural Gas Production Is Insufficient To Meet U.S. Demand</u>

Regarding the production issue, total productive capacity of the mature U.S. natural gas basins has been declining. U.S. natural gas production has been on a treadmill and barely adequate to meet annual U.S. demand. During the period 1992 to 2002, annual U.S. dry natural gas production increased from

17,840 Bcf to 19,047 Bcf, an average annual increase of 0.6%. More recently, annual natural gas production declined 630 Bcf, or –3.2%, from 19,676 BCF in 2001 to 19,047 Bcf in 2002[4].

Q. <u>What is the situation with respect to U.S. natural gas reserves?</u>

A. During the period from 1977 to 2002, U.S. operators have had an average net reduction in U.S. natural gas reserves of 1,013 billion cubic feet (Bcf) per year.[5] During the period from 1992 to 1999, proved natural gas reserves increased only slightly from 165,015 Bcf to 167,406 Bcf respectively[6], an average annual increase of less than 0.2%. During the period from 1999 to 2002, proved natural gas reserves increased from 167,406 Bcf to 186,946 Bcf respectively[7], an average annual increase of about 3.6%. Much of this increase, 50%, can be attributed to reserve recovery appreciation (or extensions) of existing natural gas wells.

The relationship between proved reserves and production levels, expressed as the ratio of reserves to production (R/P ratio), is a useful analytic tool. From 2001 to 2002 the U.S. average R/P ratio for natural gas increased from 9.2 to 9.4.[8] Although this was an improvement over the prior year, reserves are

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[4] U.S. Energy Information Administration (EIA), http://www.eia.doe.gov/emeu/mer/natgas.html December 2003 Monthly Energy Review, Natural Gas Production Data, Table 4.2

[5] U.S. Energy Information Administration (EIA), U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves, 2002 Annual Report published December 2003, Page 9

[6] U.S. Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves, 2002 Annual Report published December 2003,* Page 4 – Table 1 & Page 6-Figure 3.

[7] U.S. Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves, 2002 Annual Report* published December 2003, Page 4-Table 1 & Page 6-figure3

[8] U.S. Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves, 2002 Annual Report* published December 2003, Page 15 & Page 16-Figure 12

much lower than in the mid 1980's when the R/P ratio was above 12 and well below the R/P ratio of 20 that was observed in the 1960's. (See Schedule JMO-7).

Several major gas producing regions, Texas, the Gulf of Mexico Offshore, and Oklahoma, have R/P ratios below the National average. The area with the largest decline in proven reserves has been in the Shallow Water Gulf of Mexico, LA/TX ("SWGOM"). In this region, reserves declined by 1,221 Bcf, or 6.5%, from a total of 19,721 Bcf as of Dec. 31, 2001 to 18,500 Bcf the following year[9]. Areas with higher R/P ratios than the National average are in the Western U.S. and include the Pacific Offshore, Rockies, Wyoming, and Colorado. The pipeline infrastructure to move substantial amounts of Rockies and Wyoming gas supply across the Continental Divide and into the Midwest has not been developed yet.

Q. What is the situation with respect to the United States' ability to import natural gas and increase the available domestic supply?

A. The U.S. relies on imported natural gas to make up its annual consumption deficit and most of it is imported from Canada via pipeline. (See Schedule JMO-8) Unlike the crude oil industry, the U.S. lacks significant capacity to import natural gas from other regions of the world and is predominately reliant on mature North American supply basins. Although Liquefied Natural Gas ("LNG") has been imported into the United States for more than three decades, in 2001 LNG imports represented about only 6% of total U.S. gas

[9] U.S. Energy Information Administration (EIA), *U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves, 2002 Annual Report* published December 2003, Table 8, Page 30

imports[10]. Only four U.S. marine facilities currently exist that can receive LNG and the combined daily send out capacity of these four facilities is less than 4% of average U.S daily consumption.[11] (See Schedule JMO-9)

Q. <u>When can we expect additions to the U.S. natural gas supply?</u>

A. It will be years before there is any significant addition to the North American Natural Gas Supply and sustained higher prices will be required to attract the required capital investment. North American natural gas reserves exist in "frontier" regions such as the Alaskan North Slope, the Artic Canadian MacKenzie Delta, the Nova Scotian shelf, and in the Deep Water of the Gulf of Mexico ("DWGOM"). It is industry consensus that new supplies from the Deep Water Gulf of Mexico are needed to simply offset the decline in Shallow Water Gulf of Mexico production previously discussed. Deep water drilling requires considerable capital and technical competence. On July 3, 2000, ExxonMobil announced the start-up of the world's deepest water drilling and production platform, to drill in the Hoover Diana fields located 200 miles South of Houston, TX, in 4,800 feet of water, at a cost of $1.1 billion dollars[12]. Sustained higher natural gas prices will be required to attract these capital-intensive investments. Natural gas production from the Alaskan

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[10] Energy Information Administration, *Natural Gas Monthly*, May 2002, Table 5
[11] U.S. Energy Information Administration,
http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2003/lng/lng2003.pdf
LNG Markets and Uses, January 2003, Page 6, Table 1

[12] *IRVING, TX – July 3, 2000* ExxonMobil Press release,
http://www2.exxonmobil.com/Corporate/Newsroom/Newsreleases/Corp_xom_nr_030700.asp
World's Deepest Water Drilling and Production Platform Completed by ExxonMobil

North Slope and the Canadian MacKenzie delta is not expected to occur until later in this decade.

Q. <u>What is the situation regarding United States' demand for natural gas?</u>

A. Regarding natural gas demand issues, residential natural gas is primarily used as a home heating fuel. Homeowners need to keep warm and residential consumption is more highly correlated to temperature (weather) than price. Residential natural gas consumption increased in 2003 relative to the prior year even while wellhead prices increased considerably. (See Schedule JMO-10)

Industrial consumption of natural gas is used primarily in manufacturing or chemical feedstock processes and is highly price sensitive. Industrial consumption of natural gas has declined from a high of 8,511 bcf in 1997 to 7,203 Bcf in 2002, an average annual decline of 3.3% per year. During the natural gas price shock that occurred in the Winter of 2000-2001, industrial consumption of natural gas declined by 779 Bcf, or 9.6%, from 8,142 in 2000 to 7,363 in 2001[13] and is illustrative of how the natural gas market is being balanced. Industrial consumption declined even further in 2002 to 7,203 Bcf. Schedule JMO-11 illustrates the monthly average consumption of natural gas by the industrial sector and illustrates this decline and price sensitivity.

Q. Are there other reasons why historical prices do not reflect current market conditions?

[13] S. Energy Information Administration (EIA), http://www.eia.doe.gov/emeu/mer/natgas.html December 2003 Monthly Energy Review, Natural Gas Production Data, Table 4.4

A. Yes, during the period from 1999 through 2003, more than 195,000 Megawatts of new electric power generation capacity was added in the lower 48 U.S. states[14]. This is enough new electric power generation capacity to power a city that is twenty-four times as large as New York City, N.Y. on its peak summer day[15] and more than 95% of this new capacity uses natural gas as its primary fuel. Total U.S. electric production tends to be highly correlated to the real U.S. gross domestic product and the U.S. economy was in a recession during 2001. Total annual U.S. electric output declined 0.6% from 3,648,596 Gigawatt-hours (GWh) in 2000 to 3,627,684 GWh in 2001[16]. This is another reason why historical 2001 prices do not reflect current market conditions.

Q. Does the status of the U.S. economy impact this issue?

A. Yes, unlike 2002, we now see a rebounding economy and a marketplace that has already absorbed most of the demand destruction and fuel switching that is likely to take place. It is the consensus of the top U.S. economists that 2004 will see the largest calendar increase in real GDP in 19 years. The current consensus GDP forecast is 4.6% this year and would be the largest increase since 1984.[17] Total U.S. electric production can be expected to increase in 2004 along with demand for natural gas. (See Schedule JMO-12)

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[14] Platts Powerdat database, Nov. 2003

[15] Con Edison Report, *CON EDISON FACTS for the periods ended December31, 2002 and 2001*, http://www.coned.com/about/about.asp?subframe=facts , 2002 NY peak customer load 7,874 Megawatts

[16] Edison Electric Institute, http://www.eei.org/products_and_services/descriptions_and_access/wkly_elec_output.htm, Weekly *Electric Output*

[17] Blue Chip Economic Indicators, *Top Analysts' Forecast Of The U.S. Economic Outlook For The Year Ahead*, Vol. 29, No. 1 January 10, 2004

Q. Do crude oil prices impact this issue?

A. Yes, crude oil and fuel oil prices have risen considerably over the last year, driven in part by a decline in the U.S. dollar relative to the EURO. (See schedules JMO-13, & JMO-14)

A senior Iranian oil official, Hossein Kazempour Ardebili, who is Iran's Organization of Petroleum Exporting Countries (OPEC) governor, recently reported that, "...compared with a year ago, each barrel of oil has lost $5 of value (USD) because of the drop in the dollar...I don't think that the price in real terms is high."[18] Iran is OPEC's second largest oil producer.

Saudi Arabia, the world's largest oil exporter, announced its intention to keep oil shipments unchanged. Ali al-Maimi, Saudi Arabia's oil minister, said last month that OPEC would be unlikely to boost output in response to higher oil prices.[19]

Referring back to the EIA's January 2004 natural gas projections, "...spot prices well above $5 per million Btu remain likely over the next few months if normal, or colder, weather prevails, especially with oil prices remaining at relatively high levels." Total U.S. crude oil inventories are currently well below the five-year average and are at a five-year low (See Schedule JMO-15) and it is highly probable that high oil prices will be sustained throughout 2004.

Again, the consequence of these conditions is a natural gas market that is constrained by available supply, balanced by industrial demand destruction

[18] Bloomberg News, Jan. 05, 2004, *Iran Official Say Weaker U.S. Dollar Justifies High Oil Prices*
[19] Bloomberg News, Jan. 13, 2004, *Saudi Aribai Keeps U.S. Oil Shipments Unchanged in February*

and subject to severe price shocks. (See Schedule JMO–16). In an effort to effect this demand destruction, natural gas prices have risen above the price of alternative fuels, and are likely to remain above fuel oil prices until the supply outlook improves considerably. The spot price of residual fuel oil[20] averaged $4.91 per MMBtu over the last year. As long as the U.S. supply of natural gas remains constrained with marginal total inventories, it is likely that natural gas prices will remain above the price of the alternative, #6 fuel oil. Schedule JMO-17 illustrates the relative price of fuels observed during 2003 in U.S. dollars per MMBtu.

Q. <u>What is the status of U.S. Natural Gas Inventories?</u>

A. The U.S. natural gas market can be characterized as a market that is very sensitive to the adequacy of natural gas in storage required to meet winter demand. Schedule JMO-18 is a scatter plot that illustrates the sensitivity of prices to the total U.S. natural gas storage surplus (deficit) in Bcf relative to the five-year average. The historical correlation is over 73%.

For the week ending January 16, 2004, the U.S. Energy Information reported that total U.S. natural gas in storage was 2,258 Bcf, or 9.3% above the five-year average. For the week ending Jan 18, 2002, the U.S. Energy Information reported that total U.S. natural gas in storage was 2,522 Bcf, or 22.9% above the five-year average. In contrast to current conditions, total U.S. natural gas in storage remained at a five-year maximum level throughout most of 2002. (See Schedule JMO-19)

[20] Source: Platts Spot #6 Fuel Oil Price, 1% Sulphur, New York Cargo with $3.50 per barrel NY tax adder

Q. What has been the political reaction to high natural gas prices?

A. Alan Greenspan, Chairman of The U.S. Federal Reserve System, in his testimony to the U.S. Joint Economic Committee in the spring of 2003, summarized the condition of the U.S. natural gas market. He said "And if, on the one hand, we have encouraged, as we have, very significant growth in domestic demand for natural gas, but very readily constrained by our ability to increase supply, then something has got to give. And what is giving, of course, is price. And price, now its $6 per million MCF is pressing down, ..., on a number of industries which rely very heavily on natural gas. ... And we have, I'd say, contradictory federal policy." [21]

Mr. Greenspan later testified on the natural gas industry before the House Energy and Commerce Committee and said, "Today's tight natural gas markets have been a long time in coming, and futures prices suggest that we are not apt to return to earlier periods of relative abundance and low prices anytime soon.[22]"

In this same testimony, Mr. Greenspan also commented "...our limited capacity to import liquefied natural gas ("LNG") effectively restricts our access to the world's abundant supplies of gas. Our inability to increase imports to close a modest gap between North American demand and production (a gap we can almost always close in oil) is largely responsible for the marked rise in natural gas prices over the past year."

Q. Please summarize your rebuttal to Mr. Vesely.

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[21] Bloomberg L.P., *Greenspan Testimony to Joint Economic Committee: Q&A Part VI*, May 21, 2003
[22] Bloomberg L.P, Text *of Fed Chairman Greenspan's Testimony on Natural Gas*, Jun 10, 2003

A. Summarizing, natural gas production will likely remain constrained until the latter half of this decade. Natural gas supply relief will occur only if U.S. LNG import capacity is increased or if the frontier natural gas regions are developed. Sustained higher natural gas prices will be required to affect this increase in supply.

The economy is rebounding and electric power production and natural gas demand should increase accordingly. In the interim, market prices will most likely continue to be very sensitive to the adequacy of natural gas storage levels required to meet winter heating demand. Should storage levels decline below the five year average, then natural gas prices well above $5.00 per MMBtu are plausible as noted by the EIA in its January 2004 Short term Outlook.

In his testimony, Mr. Vesely notes that the price of natural gas tends to fluctuate up and down, and that it is common to use some kind of averaging method.[23]

I agree with Mr. Vesely but would recommend the use of cost averaging in the NYMEX futures markets where prices are more reflective of current market conditions and price expectations rather than using historical data. This methodology would result in a 2004 average price of $4.958 that was observed in 2003.

James A. Busch Testimony

Q. What is your understanding of the method recommended by Mr. Busch to determine the price of natural gas in this case?

[23] Direct Testimony of Graham A. Vesely to the Missouri Public Service Commission, Page 9

A. Mr. Busch uses a four-year average of historical and future prices weighted by the actual average monthly volumes of gas burned by Aquila. Three of the four years are historical using NYMEX settled prices for 2001, 2002, and 2003. The fourth year is the 2004 NYMEX futures strip. He calculated a recommended price of $3.99/mcf including the average basis between NYMEX Henry Hub and Williams Natural Gas ("WNG") of $0.179/mcf (negative with respect to the Hub). To restate the recommended price at NYMEX, the basis must be removed to arrive at $4.169/mcf.

Q. Do you have any comments regarding Mr. Busch's method and recommendation?

A. Yes, Mr. Busch's use of the NYMEX futures price on Nov. 20, 2003 is very subjective, is below the average observed in 2003 and represents a single data point in a larger data series. (See schedule JMO-1) Also, the prices from 2001 and 2002 are not meaningful for setting rates in this case for the same reasons I discussed earlier with respect to Mr. Vesely's testimony. Historical prices are not indicative of future market prices.

Q. Do you have other comments concerning Mr. Busch's testimony?

A. Yes, Mr. Busch used "weighted" monthly average prices using historical plant consumption data. Weather patterns can vary greatly over a ten-year period and actual monthly plant fuel consumption can vary greatly year-over-year, especially in the winter, spring and fall months when extended periods of warm (or cold) weather can greatly reduce (or increase) plant fuel consumption.

Beginning on page 5, line 22, Mr. Busch describes the Energy Information Agency ("EIA") as being optimistic about the price of gas this winter and expecting prices between $4.50 and $5.00/mmBtu. As previously discussed, the latest EIA Short Term Energy Outlook, dated January 7, 2004, forecasts prices at or above $5.00 per MMBtu if the winter weather is warmer or colder than normal. The report also warns, in its 2005 forecast, that "Without gains in new supply over the next 2 years, increasing pressure from the economy is likely to translate into renewed increases in natural gas prices." Based on the economic issues previously discussed, the likelihood of additional supply seems to be poor.

Robert R. Stephens Testimony

Q. Please describe your understanding of the method recommended by Mr. Stephens for determining the price of natural gas used in this case.

A. Mr. Stephens used a combination of the NYMEX futures for 2004 through 2006 and the forecast for 2004 from the EIA to calculate at a recommended price of $4.35/mcf. Mr. Stephens also used a 10-day average of the NYMEX futures to smooth out any volatility in prices and derived a price of $4.709/mcf by taking the average of the 2004 through 2006 futures. The EIA price used by Mr. Stephens was $3.99/mcf at the wellhead. The recommended price of $4.35/mcf is the average of the EIA and average futures prices.

Q. Do you have any comments concerning Mr. Stephens's method and recommendation?

A. Yes, the use of EIA wellhead price is not appropriate as it is not comparable to the Henry Hub based NYMEX. Mr. Stephens should use a market price at the Henry Hub to avoid unrealistically low price calculations. In addition, the use of a ten-day average is very subjective as the time-period that Mr. Stephens selected is below the average price of $4.958 observed during 2003.

Q. Is there more recent information that has a bearing on this issue?

A. Yes, after Mr. Stephens prepared his testimony, the EIA revised its 2004 forecast upward to a composite spot of $5.14/mcf. If Mr. Stephens were to re-file his testimony using December 19th data and the current EIA forecast, his recommended price would be $5.07/mcf.

<u>Maurice Brubaker Testimony</u>

Q. What comments do you have with respect to Mr. Brubaker's testimony?

A. On Page 4, Lines 16-20, Mr. Brubaker states:

> *"I recommend that a more recent outlook for natural gas prices be used. Mr. Stephens presents one such outlook in his testimony, and I expect other witnesses will do so as well. When the Commission makes its final decision, it should decide what is the most realistic outlook for natural gas prices at that time, and incorporate those numbers into the fuel model for purposes of determining the base values (i.e., the values before adding 50¢ per Mcf to gas prices) for the average cost of fuel..."*

I completely agree that the most realistic and most up-to-date price information should be used for ratemaking. That would exclude the use of historical costs from 2001 or 2002.

Q. In summary, what is your current recommendation for gas prices?

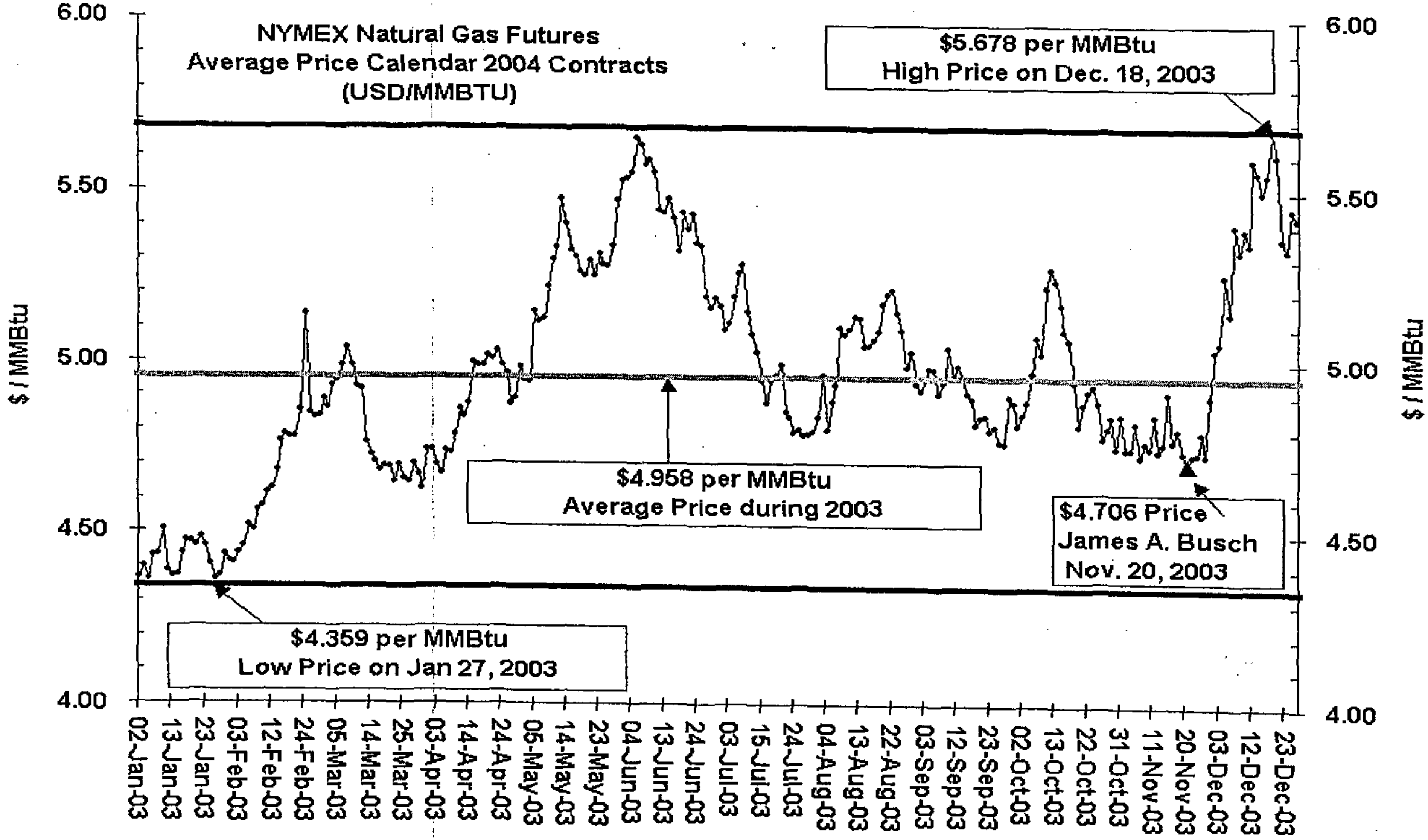
A. I can see no reason to abandon the \$5.14/mcf originally requested in this case.

Q. Does this conclude your testimony?

A. Yes.

Aquila

Schedule JMO-1

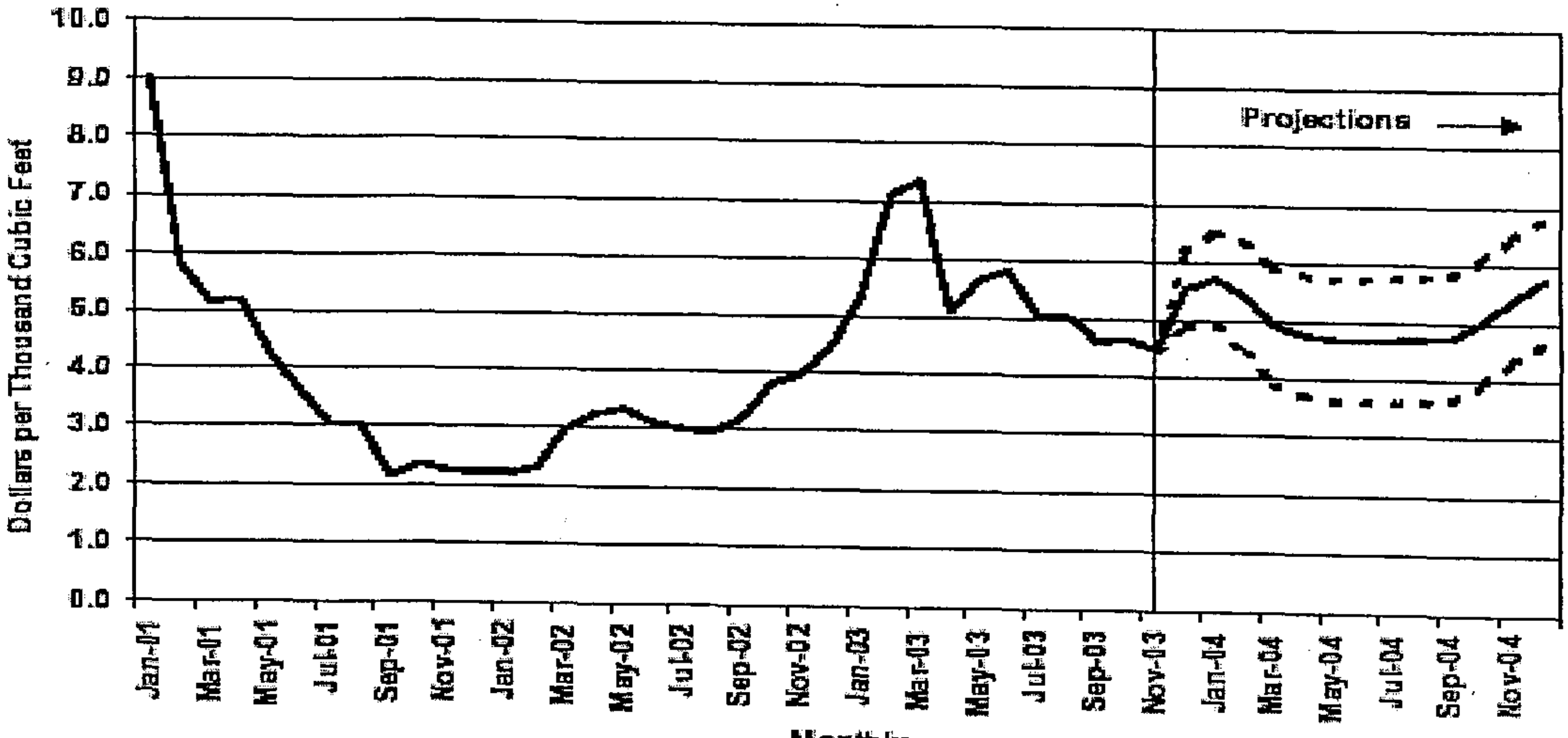


Schedule JMO-2

Aquila

EIA Short Term Energy Forecast Jan. 2004

Figure 8. Natural Gas Spot Prices
(Base Case and 95% Confidence Interval*)



*The confidence intervals show +/- 2 standard errors based on the properties of the model. The ranges do not include the effects of major supply disruptions.

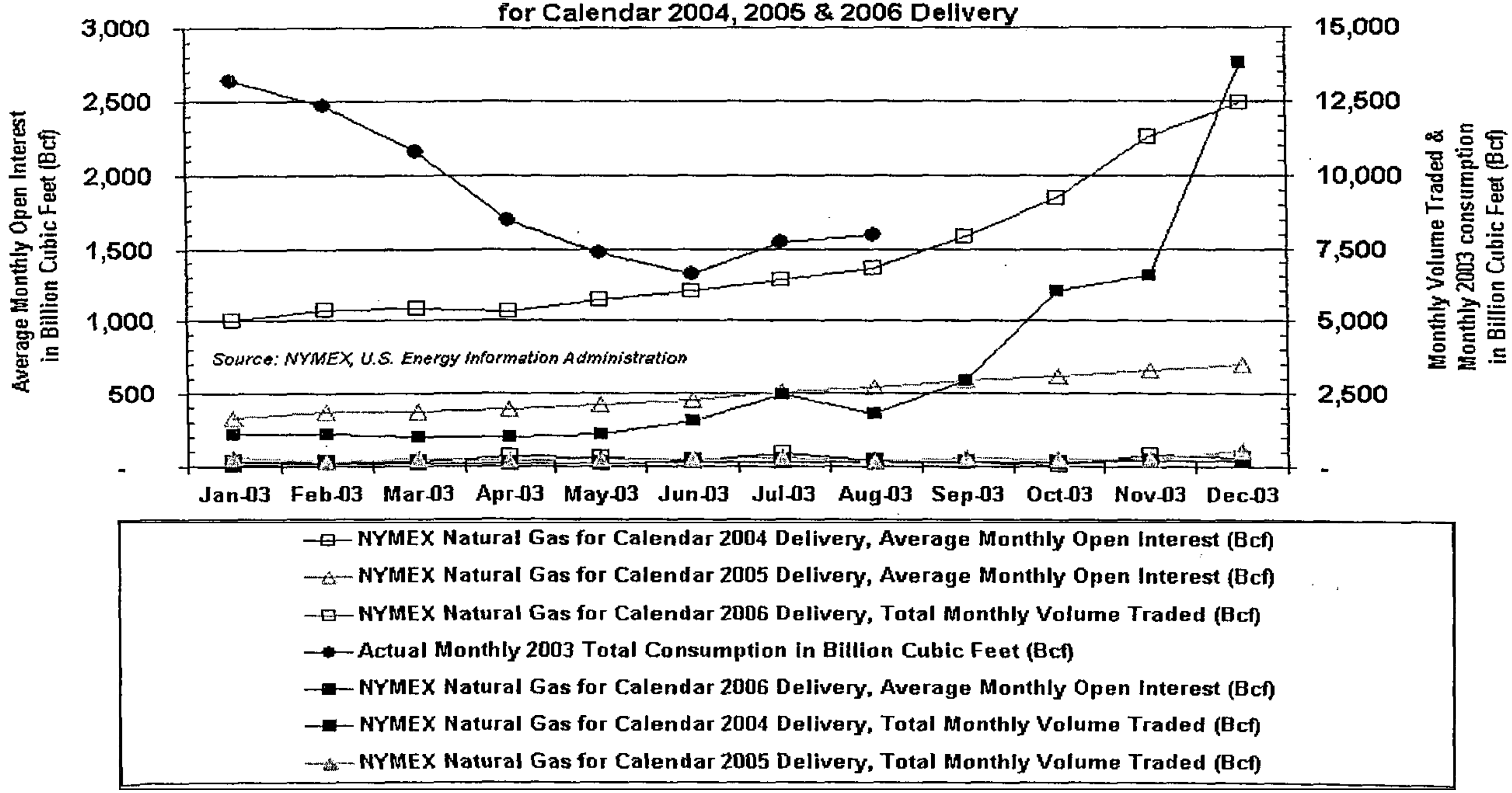
Sources: History: Natural Gas Week; Projections: Short-Term Energy Outlook, December 2003.

eia www.eia.doe.gov

Aquila

Schedule JMO-3

U.S. Monthy Natural Gas Consumption in 2003
versus
NYMEX Futures Monthly Total Volume and Average Open Interest for Calendar 2004, 2005 & 2006 Delivery

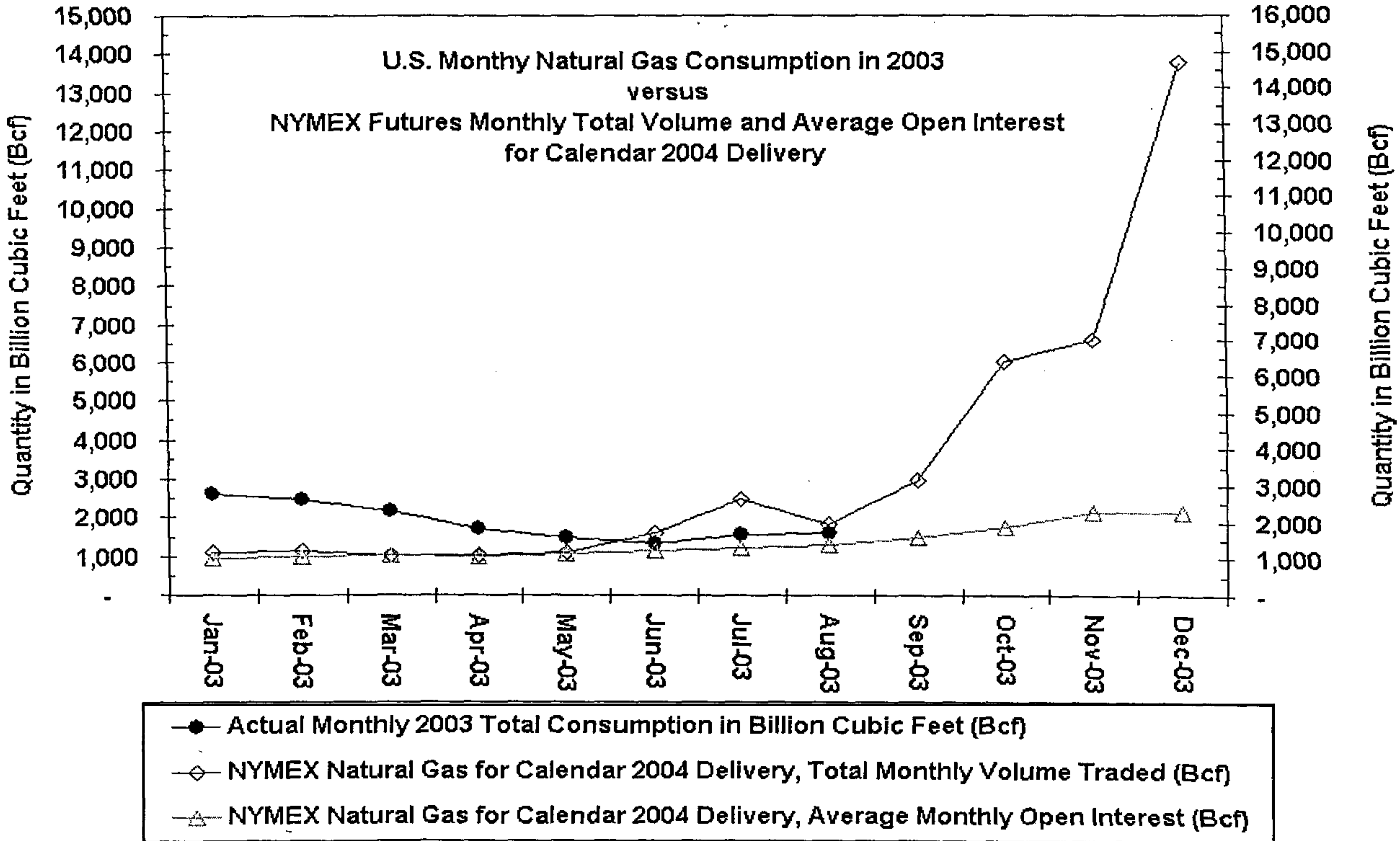


Aquila

Schedule JMO-4

Month	NYMEX Natural Gas for Calendar 2004 Delivery, Average Monthly Open Interest (Bcf)	NYMEX Natural Gas for Calendar 2004 Delivery, Total Monthly Volume Traded (Bcf)	Actual Monthly 2003 Total Consumption in Billion Cubic Feet (Bcf), Source EIA
Jan-03	1,007	1,113	2,636
Feb-03	1,073	1,125	2,467
Mar-03	1,080	1,020	2,155
Apr-03	1,065	1,020	1,697
May-03	1,139	1,112	1,477
Jun-03	1,204	1,577	1,321
Jul-03	1,286	2,464	1,550
Aug-03	1,369	1,815	1,593
Sep-03	1,590	2,963	N/A
Oct-03	1,845	6,009	N/A
Nov-03	2,259	6,557	N/A
Dec-03	2,490	13,789	N/A
2003 Average	1,451	3,380	
	2003 Total	40,563	

Schedule JMO-5



Source: U.S. Energy Information Administration, Department of Energy (EIA-DOE), NYMEX

Aquila

Schedule JMO-6

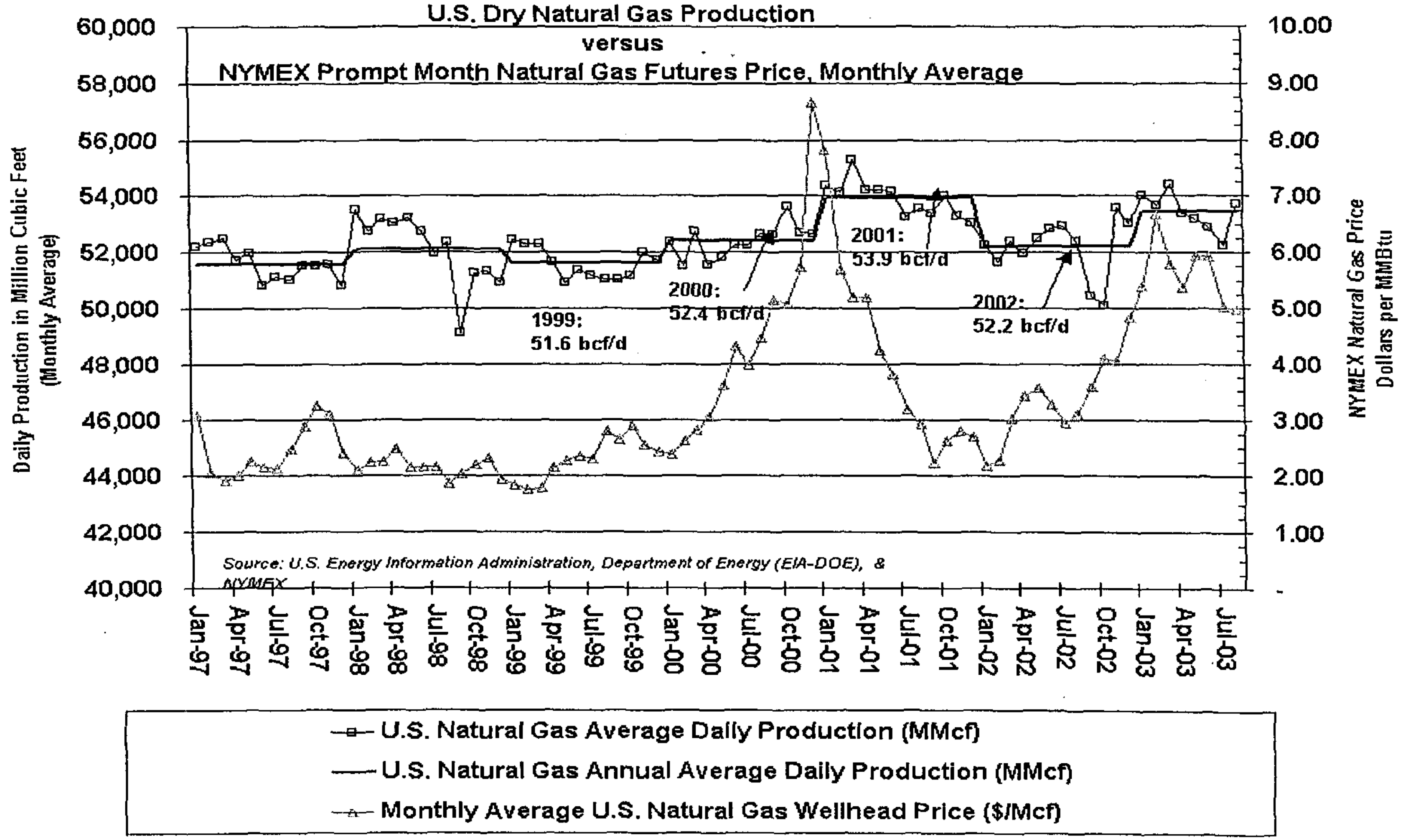
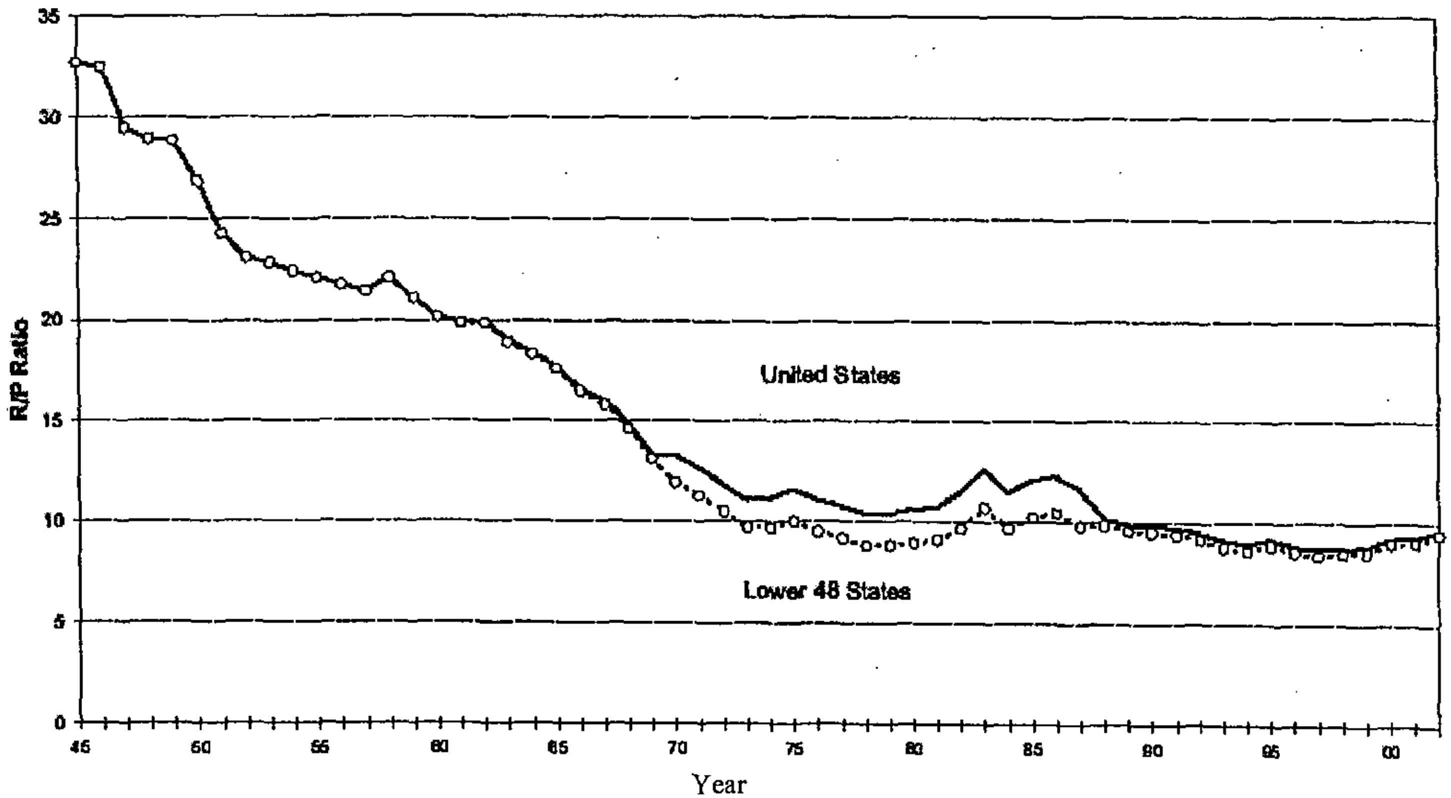


Figure 12. Reserves-to-Production Ratios for Wet Natural Gas, 1945-2002



Sources: Annual reserves and production - American Petroleum Institute and American Gas Association (1945–1976) (32) and Energy Information Administration, Office of Oil and Gas (1977–2001)(1-25). Cumulative production: *U.S. Oil and Gas Reserves by Year of Field Discovery* (1977-1988) (33)

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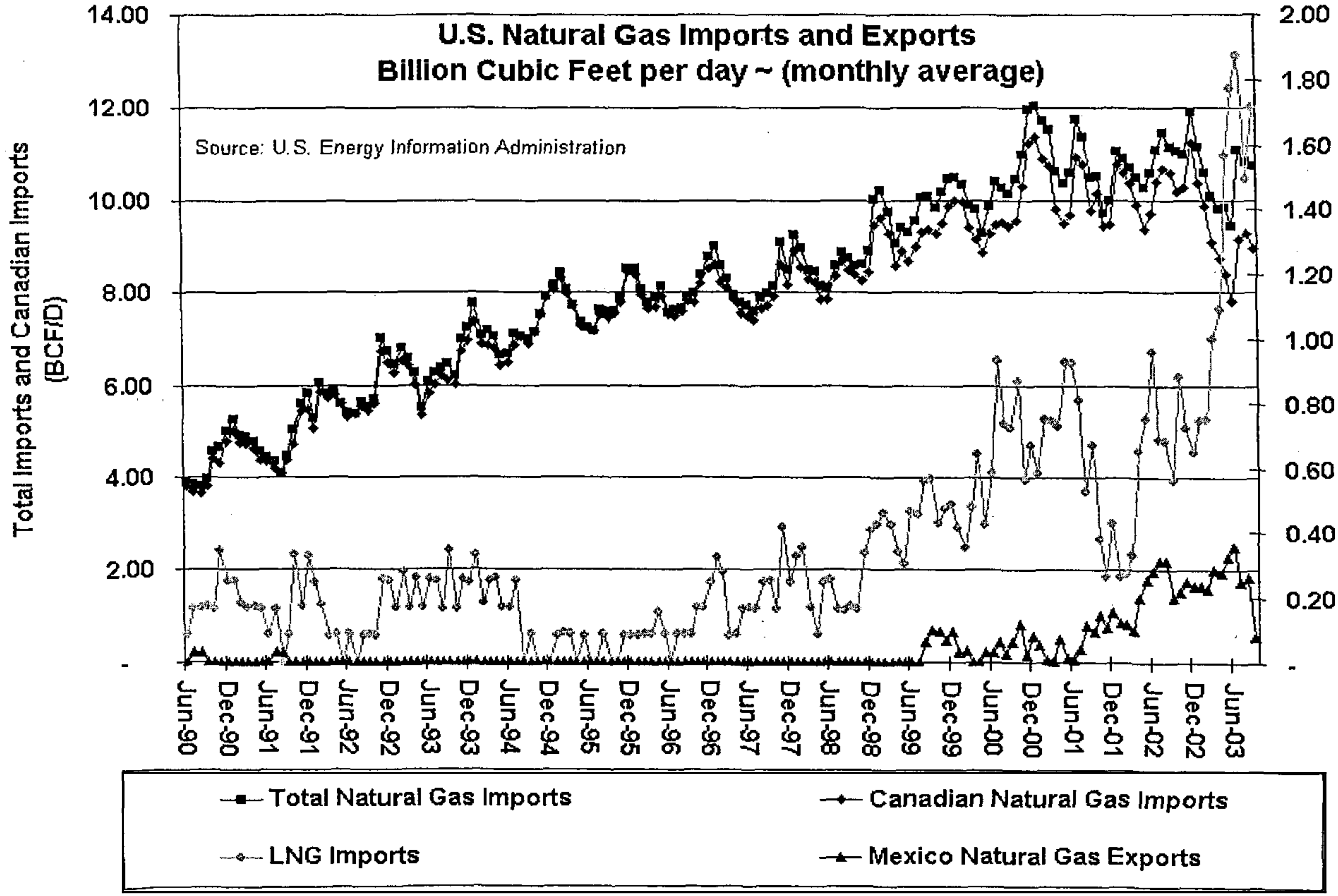
Schedule JMO-8



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Schedule JMO-9

U.S. Baseload Marine Import Facilities	Daily Sendout (Bcf/d)			Max Storage (Bcf)	
	Current	Expanded		Current	Expanded
Everett, MA	0.435	0.915		3.50	4.35
Cove Point, MD	0.750	1.000		5.00	7.80
Savanna, GA	0.446	0.806		4.00	7.30
Lake Charles, LA	0.630	1.200		6.30	9.30
Total U.S Marine LNG Import Capacity (Bcf/d)	2.261	3.921		18.80	28.75
as percent of U.S. daily average consumption	3.70%	6.41%		30.73%	47.00%
Total U.S Marine LNG Import Capacity (Bcf per month)	68.77	119.3			

U.S. Liquified Natural Gas Import / Exports Bcf / Month	Apr-03	May-03	Jun-03	Jul-03	Aug-03
Algeria LNG Import Volumes	10.89	4.19	2.79	5.46	2.77
Malaysia LNG Import Volumes	-	-	-	2.70	-
Nigeria LNG Import Volumes	2.60	11.29	11.24	2.77	8.13
OMAN LNG Import Volumes	-	-	-	2.79	2.65
QATAR LNG Import Volumes	-	-	-	2.99	-
Trinadad & Tobago LNG Import Volumes	**19.18**	**30.34**	**33.89**	**44.56**	**35.47**
Unitied Arab Emeratees LNG Import Volumes	-	-	-	-	-
Total Monthly U.S. LNG Imports (Bcf)	32.68	45.81	47.91	61.28	49.01
Total U.S. LNG Imports as percent of daily Consumption	1.8%	2.4%	2.6%	3.2%	2.6%
Total U.S. LNG Imports as percent of Maximum Daily Sendout	48.2%	65.4%	70.6%	87.4%	69.9%
Japan LNG Export Volumes	5.61	3.80	3.50	6.55	5.15
Mewxico LNG Export Volumes	0.03	0.03	0.02	-	-
Total U.S. LNG Exports	**5.64**	**3.83**	**3.52**	**6.55**	**5.15**

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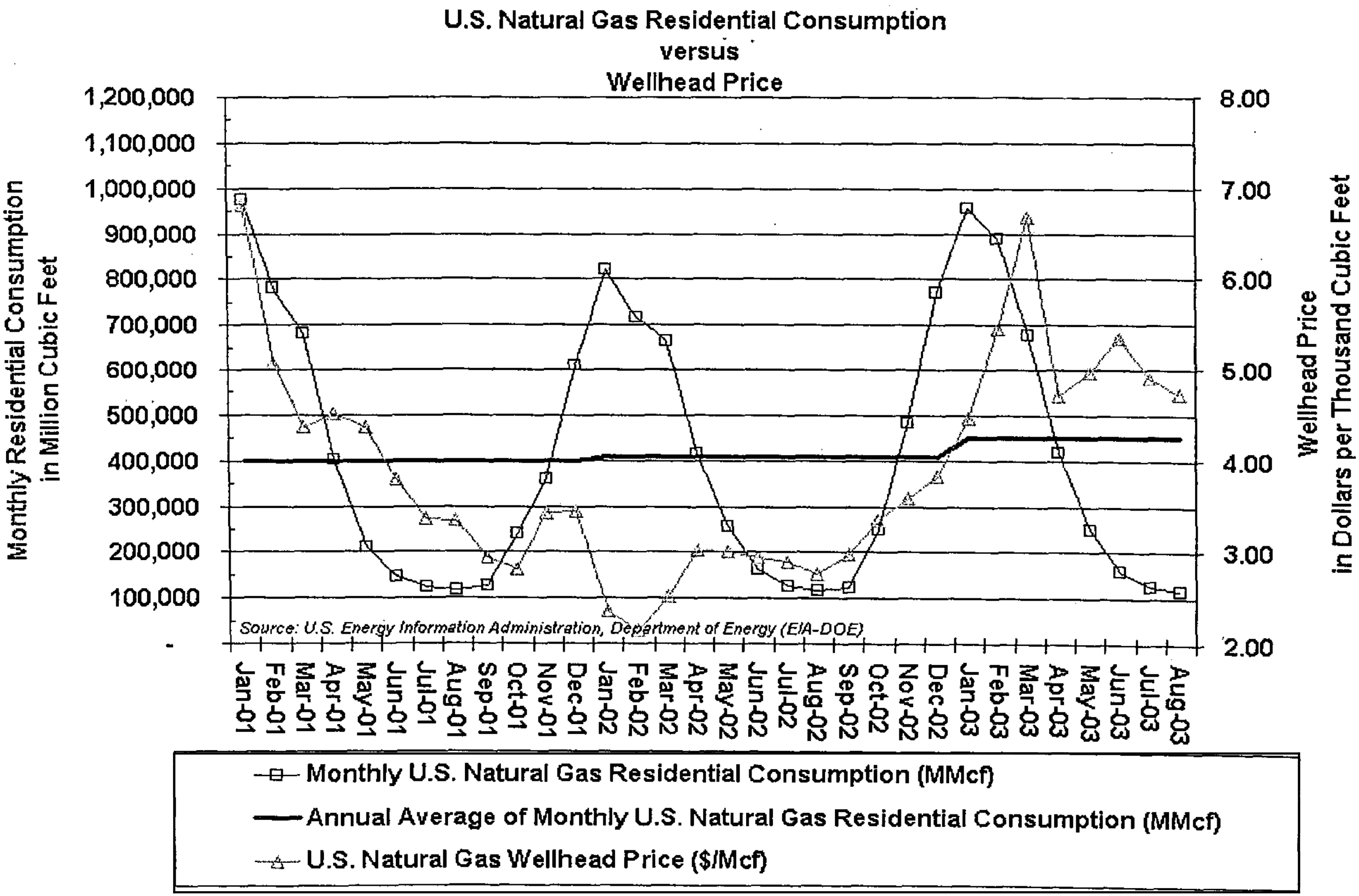
Schedule JMO-10



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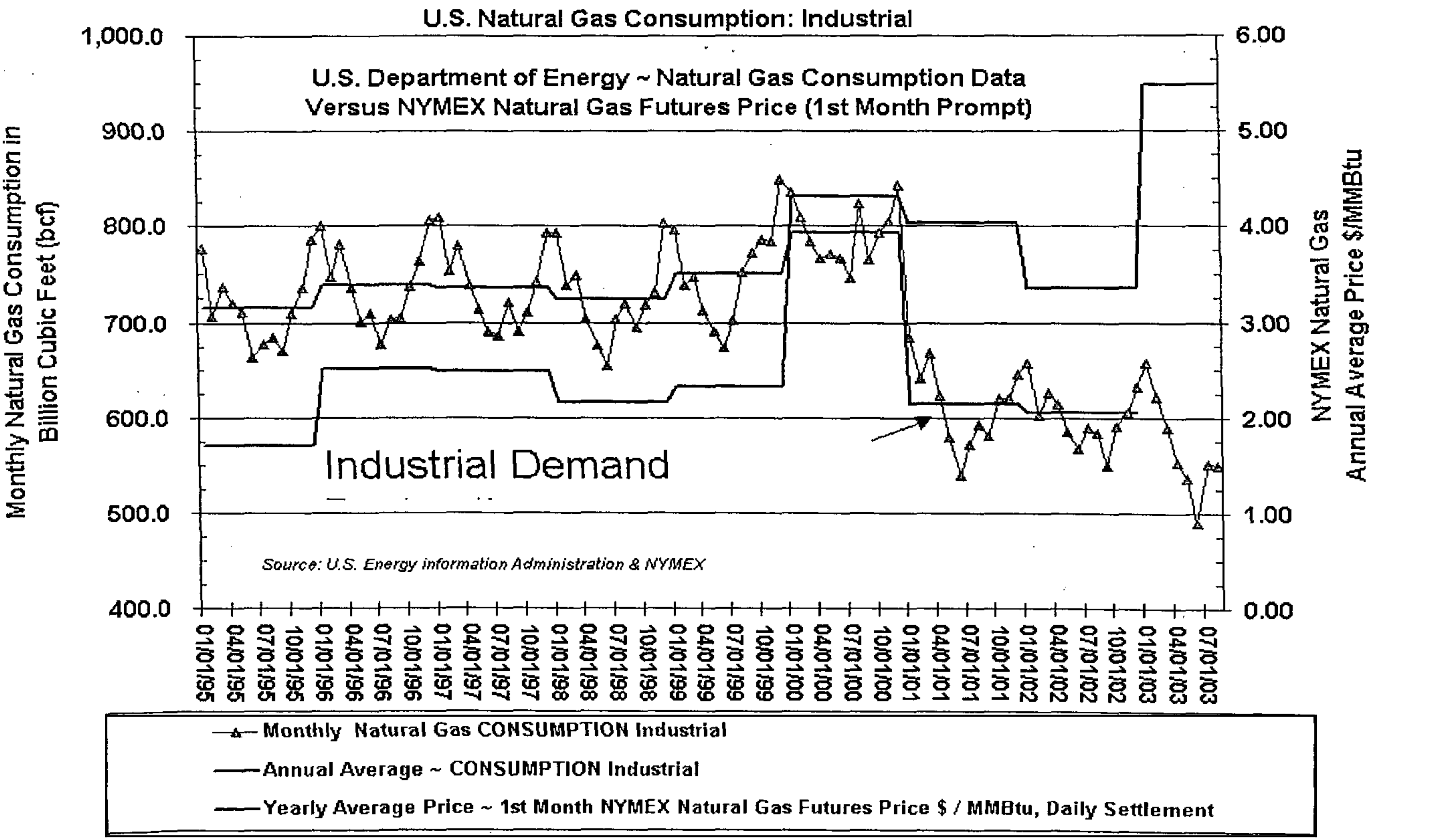
Schedule JMO-11



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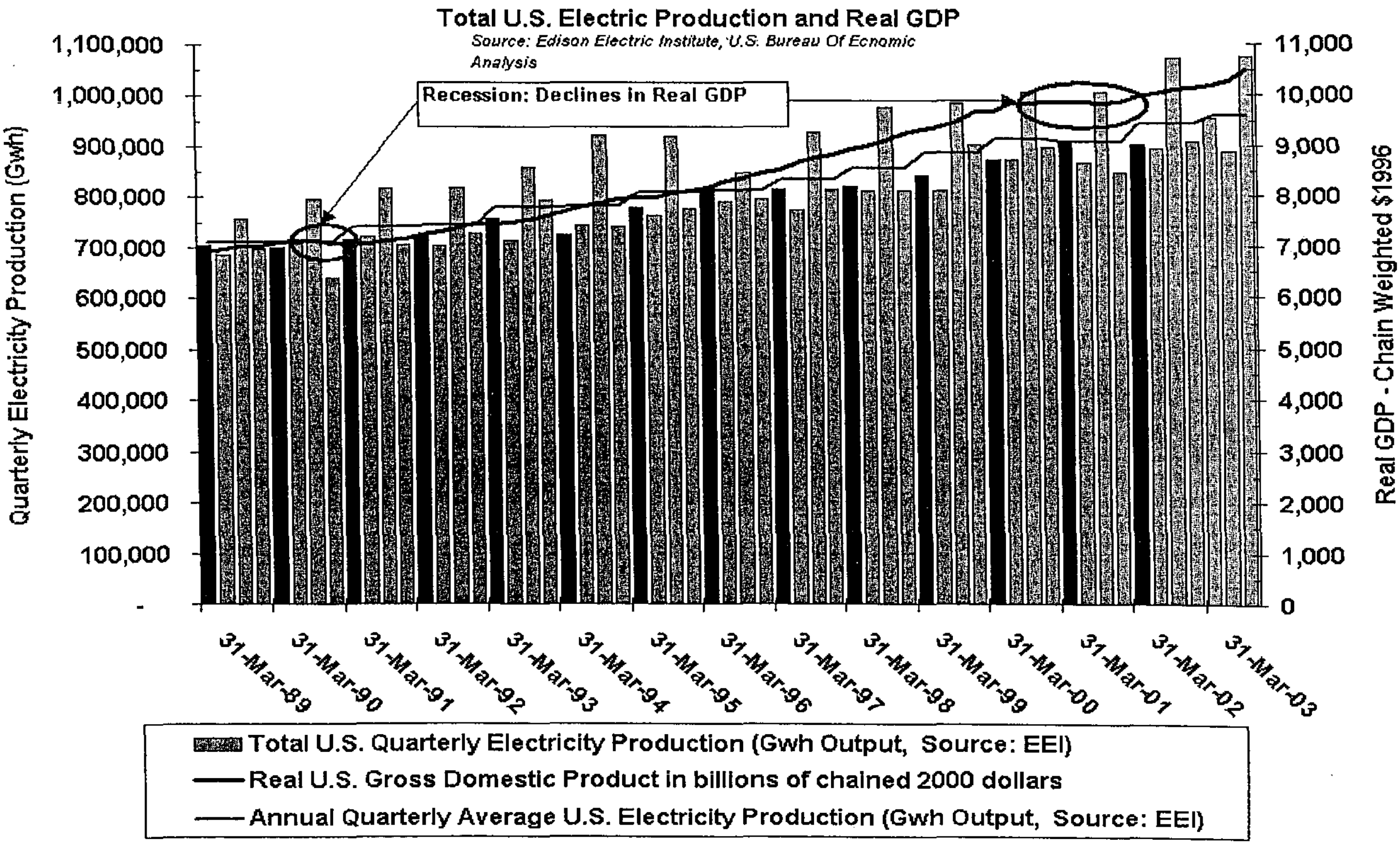
Schedule JMO-12



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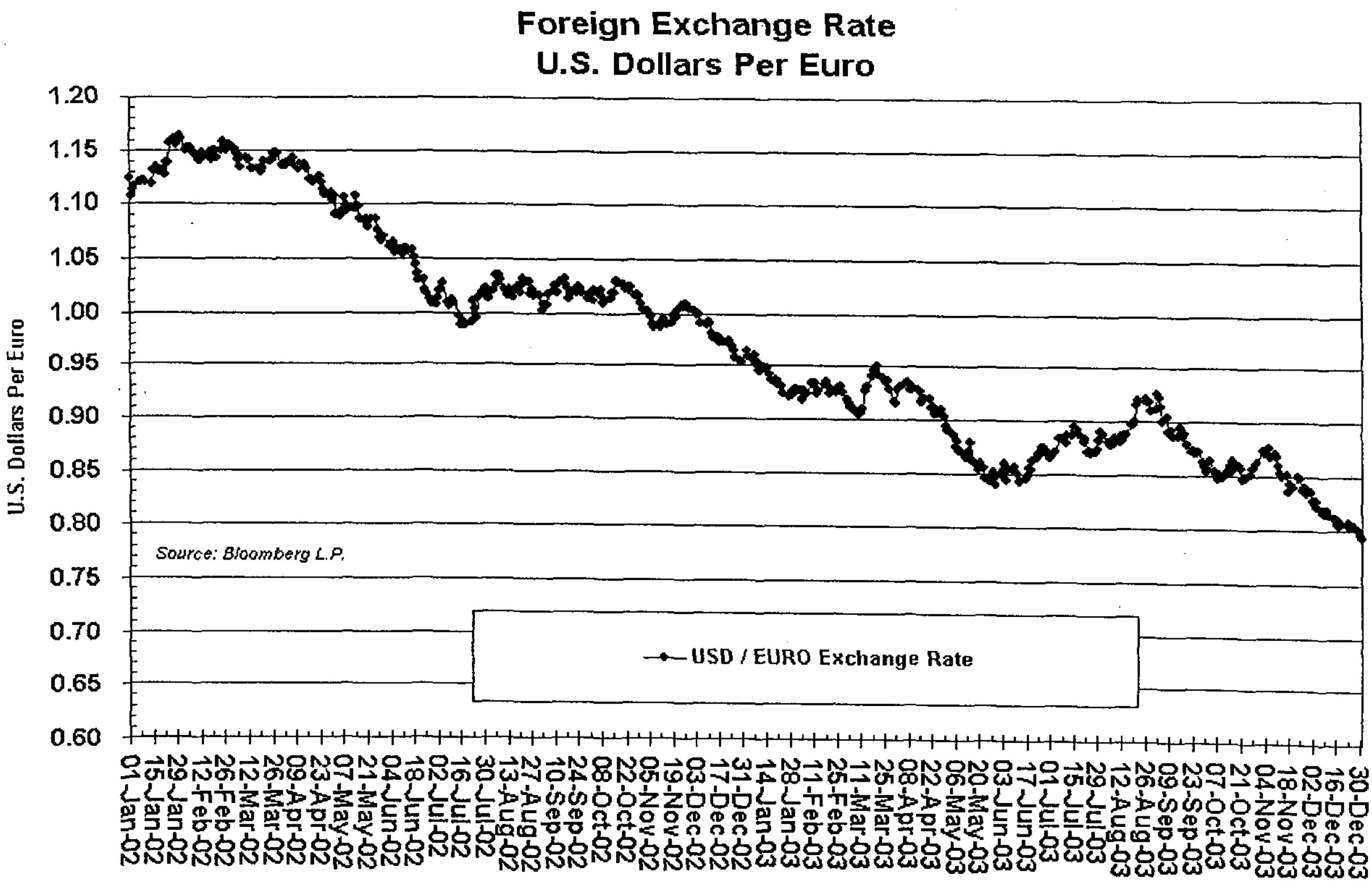
Schedule JMO-13



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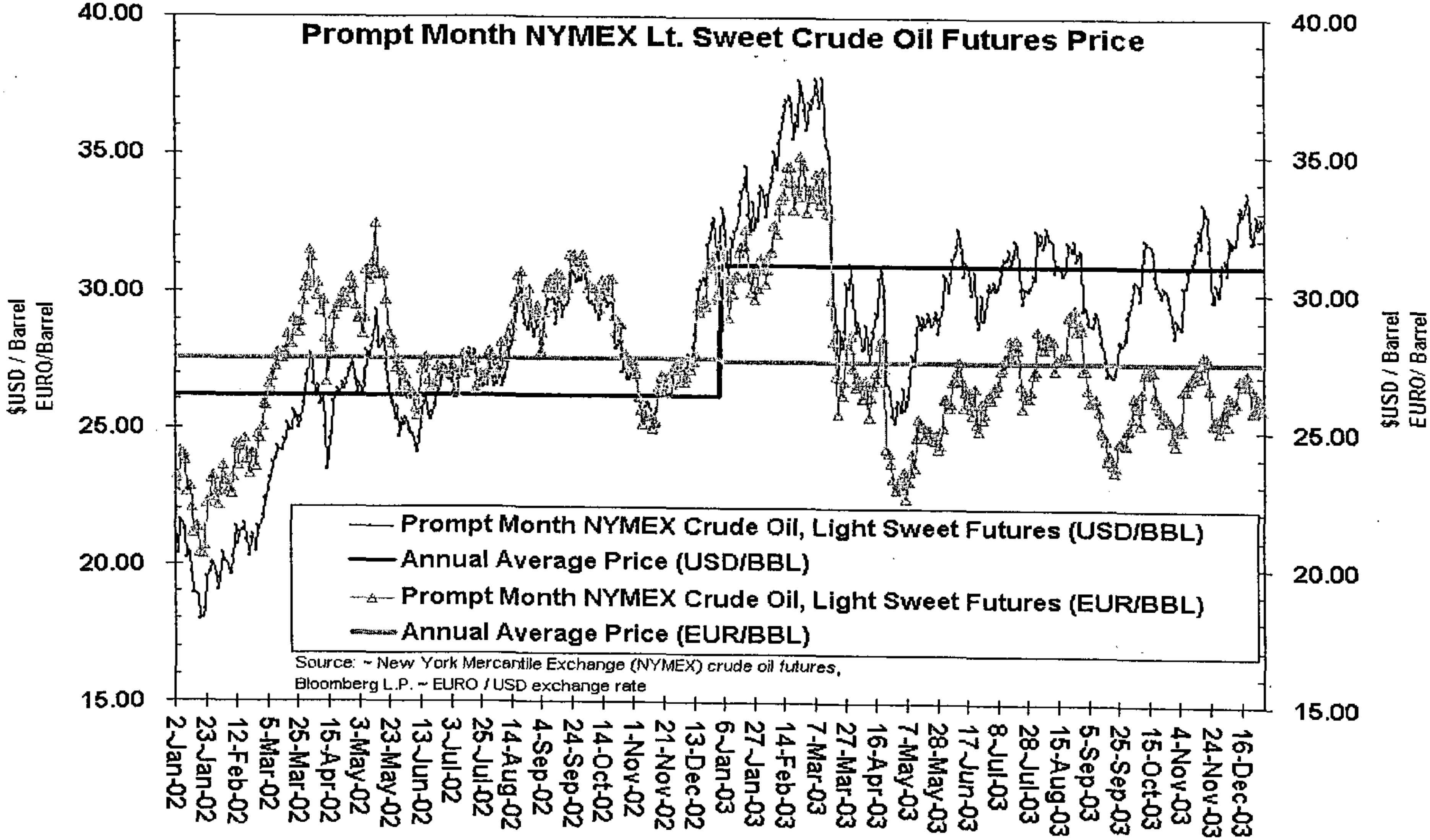
Schedule JMO-14



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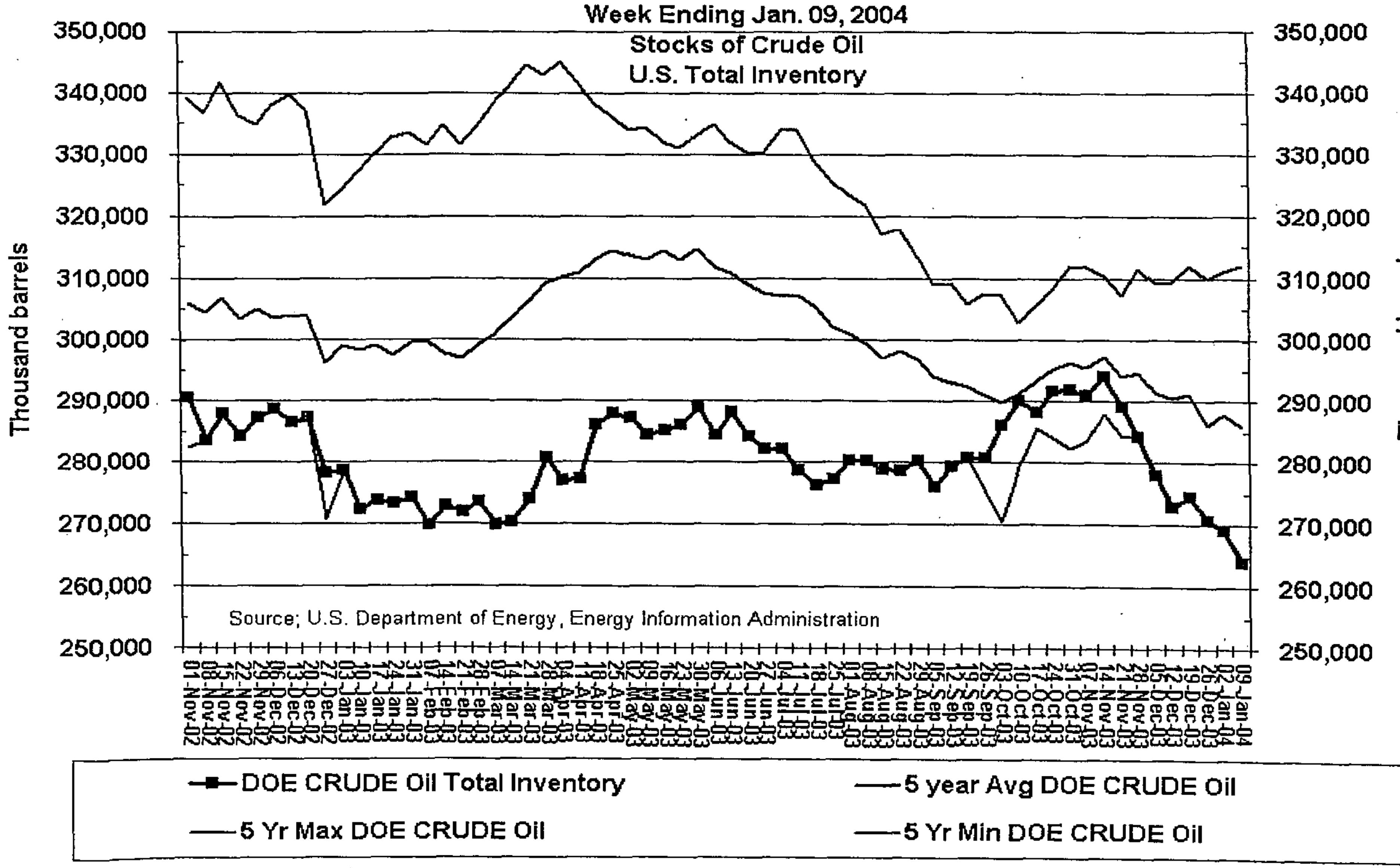
Schedule JMO-15



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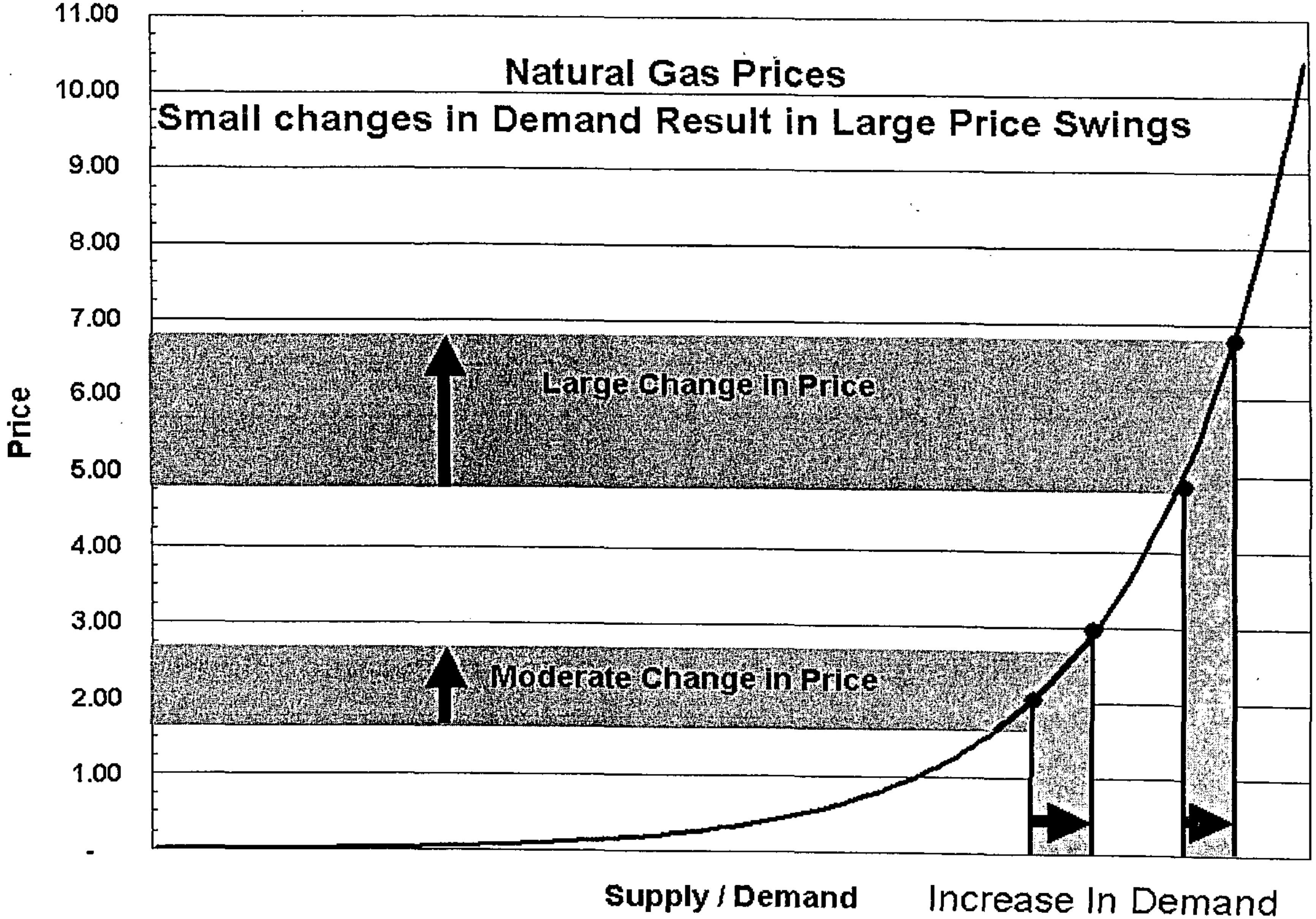
Schedule JMO-16



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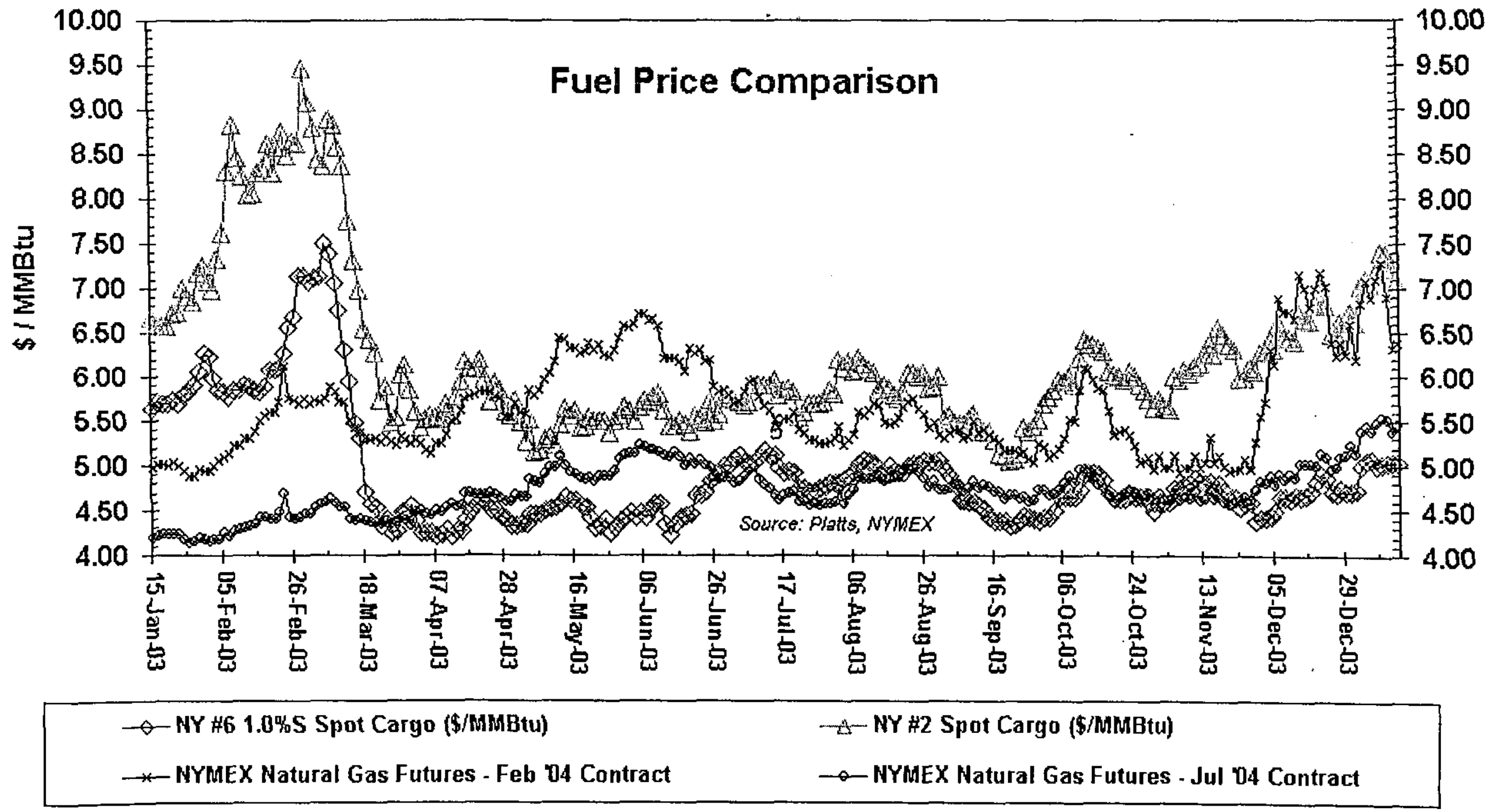
Schedule JMO-17



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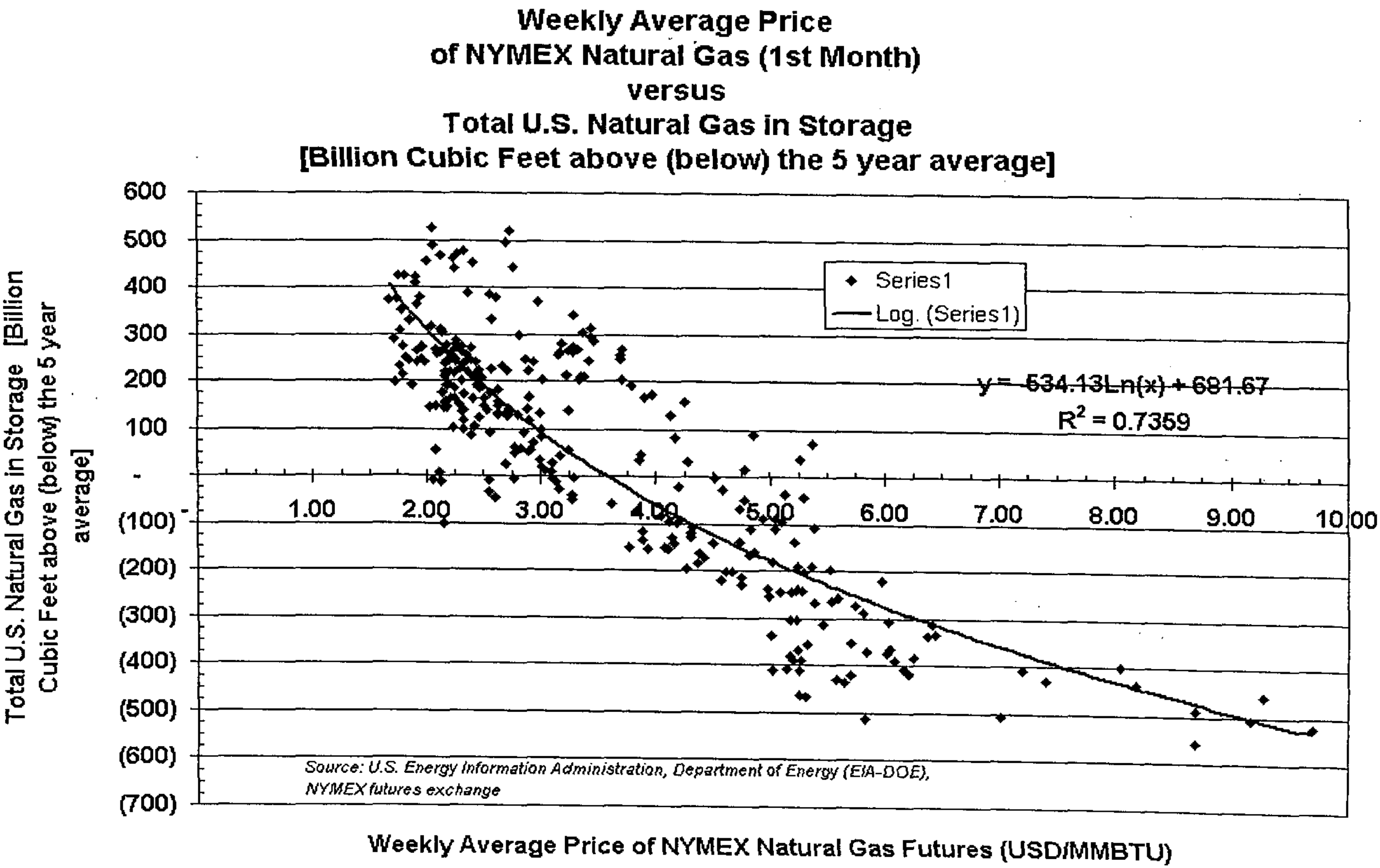
Schedule JMO-18



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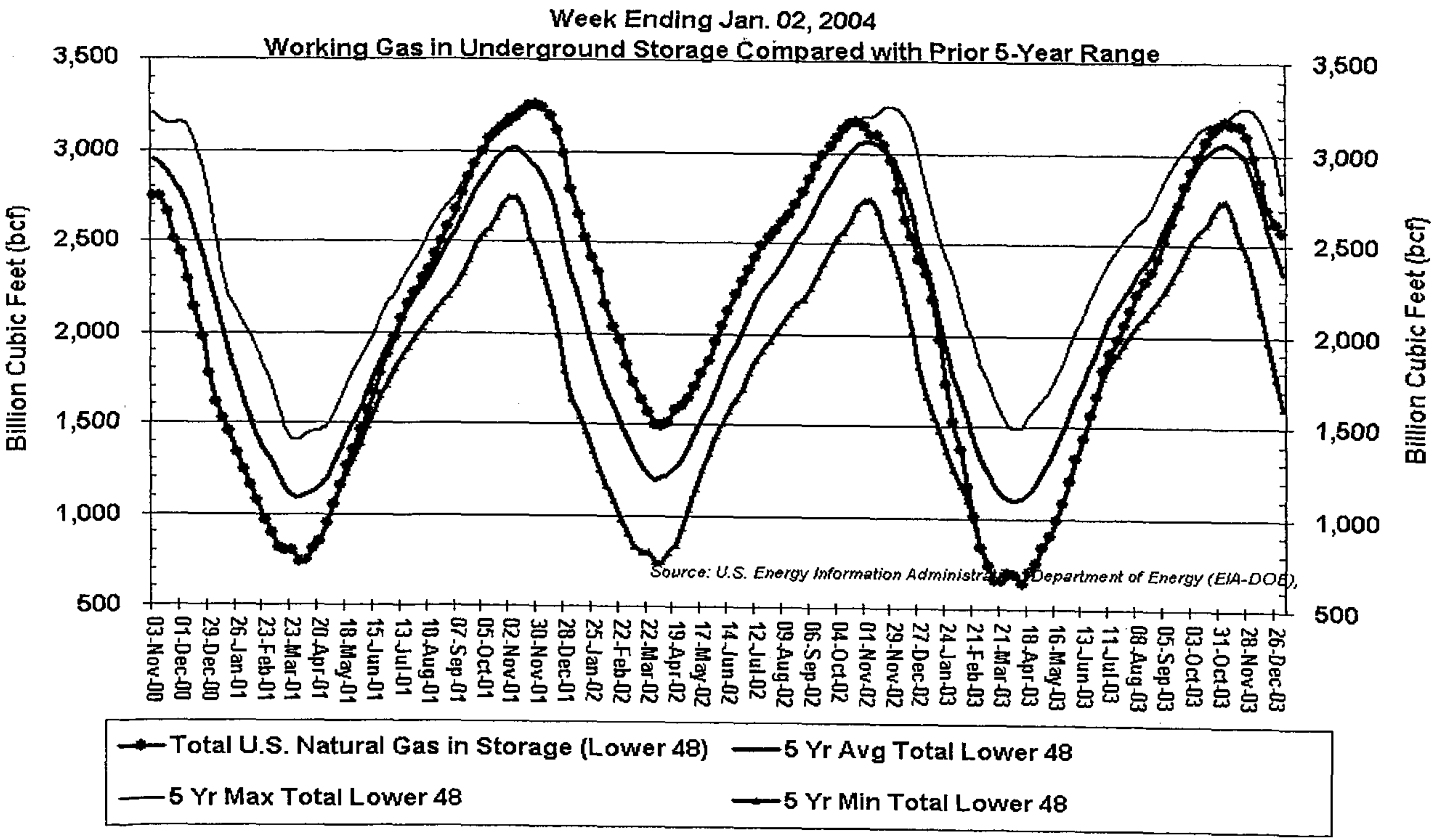
Schedule JMO-19



BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of Aquila, Inc. d/b/a Aquila Networks-MPS [redacted], for authority to file tariffs increasing electric rates for the service provided to customers in the Aquila Networks-MPS [redacted] area	))))))	Case No. ER-2004-0034
[redacted]	))))	[redacted]

County of Jackson)
) ss
State of Missouri)

AFFIDAVIT OF JOSEPH M. O'DONNELL

Joseph M. O'Donnell, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony entitled "Rebuttal Testimony of Joseph M. O'Donnell;" that said testimony was prepared by him and under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge, information, and belief.

Joseph M. O'Donnell
Joseph M. O'Donnell

Subscribed and sworn to before me this 26th day of January, 2004.

Terry D. Lutes
Notary Public
Terry D. Lutes

My Commission expires:
8-20-2004

TERRY D. LUTES
Jackson County
My Commission Expires
August 20, 2004