Oil and Gas Resources of the West Siberian Basin, Russia

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Preface

Oil and Gas Resources of the West Siberian Basin, Russia is part of the Energy Information Administration's (EIA's) Foreign Energy Supply Assessment Program (FESAP). The primary objective of this study is to assess the oil and gas potential of the West Siberian Basin of Russia. The study does not analyze the costs or technology necessary to achieve the estimates of the ultimate recoverable oil and gas.

This is the second report on an oil and gas province in the former Soviet Union. The first, *Oil and Gas Resources of the Fergana Basin (Uzbekistan, Tadzhikistan, and Kyrgyzstan)*, was published in January 1995.

Russia's West Siberian Basin contains sufficient oil and natural gas to affect world petroleum markets. The basin supplies approximately 70 percent of the oil and 90 percent of the gas production for Russia. Decreases in produced volumes from the basin would require that the demand for petroleum in Russia be met from other sources. Likewise, increases in production would increase the amount of oil or gas for export into international markets.

This study uses reservoir data to estimate recoverable oil and gas quantities which were aggregated to the field level. Field totals were summed to a basin total for discovered fields. An estimate of undiscovered oil and gas, from work of the United States Geological Survey (USGS), was added to give a total basin resource volume. Recent production decline points out Russia's need to continue development of its discovered recoverable oil and gas. Continued exploration is required to discover additional oil and gas that remains undiscovered in the basin.

The estimates of recoverable oil and gas for the regions of the basin, the individual fields, and the geologic intervals are intended as a guide to organizations such as oil and gas operating companies, financial institutions, and government agencies. In addition to the estimates of maximum recovery, the reported and estimated reservoir parameters are a valuable reference source. The appendices contain the estimates of ultimate recovery by field and frequency distributions of the reservoir data. Additionally, a computer diskette contains the reported and estimated parameters for each productive reservoir.

Several independent petroleum engineers and geologists with experience in West Siberia have reviewed the analysis and contributed many useful suggestions which have been incorporated in the report. Retired and current staff of the USGS also assisted in reviewing this report. The assistance of all of these professionals is gratefully acknowledged. Special thanks is given to Dr. James W. Clarke and Dr. James A. Peterson, USGS retired, who contributed Appendix A, Petroleum Geology in its entirety.

Publication of this report is in keeping with responsibilities given the Energy Information Administration (EIA) in Public Law 95-91/Section 205(a) and Section 657(2)a for estimating foreign energy supply information. General information about this publication may be obtained from Joan Heinkel, Director of the Reserves and Natural Gas Division, (202) 586-6090, or John Wood, Director of the Dallas Field Office, (214) 720-6150. Specific information regarding the content or preparation of this report may be obtained from Floyd Wiesepape, (214) 720-6166, fax (214) 720-6155, or E-mail fwiesepa@eia.doe.gov.

Diskette Information

Reservoir-level data are available in a self-expanding, compressed file on a 3.5-inch diameter diskette. The diskette also contains a text file describing the data file and instructions for opening the data file. The data file expands into an EXCEL spreadsheet XLS file. The data encompass estimated and reported reservoir parameters and resulting volumetric analyses of oil and gas. The file contains data for 10 regions plus data for fields of unknown location in the West Siberian Basin.

Contents

	Page
Executive Summary	ix
1. Overview of the West Siberian Basin	1
Background	1
Geographic Setting	1
Geology	1
Production History	1
Economic Significance	2
Largest Fields	3
2. Analysis Discussion	4
Basic Methods and Categories	4
Basin Subdivisions	4
Production by Area	6
3. Data Description	9
Available Data	9
Estimated Data	9
Data Correlations	10
4. Ultimate Recovery Determination	11
Methodology	11
Oil Reserves	11
Primary Recovery	11
Improved Recovery	11
Recovery Efficiency	11
Producing Fields	12
Nonproducing Fields (Undeveloped)	12
Discovered Fields	12
Undiscovered Resources	12
Remaining Resources	12
Gas Recovery	12
Producing Fields	12
Nonproducing Fields (Undeveloped)	12
Discovered Fields	12
Undiscovered Resources	12
Remaining Resources	13
Condensate Recovery	13
Field Size Distribution	14
Geographic Distribution	16
5. Production Projections	17
Future Discoveries	17
Future Production	17
Oil and Condensate	17
Gas	21
6. Summary	24

	Page
References	26
Appendices	
A. Petroleum Geology	29
B. Data Analysis	97
C. Calculation Procedures	131
D. Field Summaries	139
Glossary	219

Tables

1. Regions Within Areas of the West Siberian Basin	6
2. Geologic Units Combined Within Productive Areas of the West Siberian Basin for Data Analysis ..	6
3. Stratigraphic Chart Linking Geologic Age with Pay Zone Identifiers, by Area and Region, West Siberian Basin	7
4. Percentage of Reservoirs with Data Available within Major Geologic Intervals of the West Siberian Basin	10
5. Average Reservoir Recovery by Regions of the West Siberian Basin as a Percent of Original Oil or Gas in Place	11
6. Estimated Oil and Condensate Resources in the West Siberian Basin, End of 1994	13
7. Estimated Natural Gas Resources in the West Siberian Basin, End of 1993	14
8. Discovered Oil and Gas by Region and Area, West Siberian Basin	16

Figures

1. Location of the West Siberian Basin in Russia	2
2. Map of the Oil and Gas Regions of the West Siberian Basin	5
3. Location of Oil and Gas Fields in the West Siberian Basin	8
4. Crude Oil Field Size Distribution for Discovered Fields, West Siberian Basin	15
5. Gas Field Size Distribution for Discovered Fields, West Siberian Basin	15
6. Cumulative Discovered Crude Oil, West Siberian Basin	18
7. Cumulative Discovered Natural Gas, West Siberian Basin	18
8. Ultimate Oil and Condensate Discoveries and Theoretical Production, West Siberian Basin	19
9. Projected Oil Production, West Siberian Basin	20
10. Projected Cumulative Oil and Condensate Production, West Siberian Basin	20
11. Ultimate Gas Discoveries and Theoretical Production, West Siberian Basin	22
12. Projected Gas Production, West Siberian Basin	23
13. Projected Gas Cumulative Production, West Siberian Basin	23

Executive Summary

This analysis, prepared in cooperation with the U.S. Geological Survey (USGS), is part of the Energy Information Administration's (EIA's) Foreign Energy Supply Assessment Program (FESAP). The purpose of the program is to review the potential of major oil and gas provinces around the world. This report aggregates calculated reservoir-level results to field and then to basin level. The production projections establish a possible range of potential.

By area and resources, the West Siberian Basin is the largest oil and gas producing province in the Russian Federation of the former Soviet Union. Approximately 70 percent of the oil and 90 percent of the gas produced in Russia come from the West Siberian Basin. Petroleum consumption in Russia in 1995 of approximately 1.07 billion barrels of oil and 14.5 trillion cubic feet of natural gas was exceeded by production from the basin of approximately 1.5 billion barrels and 21 trillion cubic feet per year. The United States consumption of petroleum in 1995 was 6.5 billion barrels with production of 2.4 billion barrels of oil and 18.8 trillion cubic feet of gas. Production from the basin supplies Russia, other parts of the former Soviet Union, and Europe as well as other parts of the world. World supplies would have to be redirected to maintain a balance of supply if oil and gas production were not available from the basin.

Discoveries in the basin total 634 oil fields and 147 gas fields. Individual reservoir data are available in 70 percent of the fields. The data represents over 1500 reservoirs or approximately three productive reservoirs per field that has data reported. The decline of oil production from the producing fields from 3.1 to 1.5 billion barrels per year (8.5 to 4.1 million barrels per day) between 1988 and 1994 and a slight decline from 22.6 to 21.9 trillion cubic feet per year (61.9 to 60.0 billion cubic feet per day) of gas between 1991 and 1993 cause concern about the potential of the basin as a long term supplier of oil and gas. However, the sum of the estimated ultimate recovery (EUR) from discovered fields by EIA and undiscovered resources estimated by the USGS indicate that significant potential remains in the West Siberian Basin (Table ES1).

Remaining oil and condensate EUR are 65.5 billion barrels. Remaining EUR of undeveloped fields and undiscovered resources of oil and condensate total

101.4 billion barrels. Production projections for oil based on maintaining the current rate or returning to the previous peak producing rate indicate that sufficient oil volume exists to maintain those rates for 35 to 50 years. Recent production decline and maximum estimates of ultimate recovery cause this producing time to be optimistic and longer than the production time estimated for gas. However, to accomplish this ultimate recovery requires significant development of new fields, continued maintenance and development of producing fields, and the application of advanced technology. Continued development will require significant amounts of money and technology advancements. Economic factors are not included in this analysis.

The potential also exists for significant natural gas production. The EUR of developed reserves are 551 trillion cubic feet with 341 trillion cubic feet in undeveloped fields. Undiscovered resources are 1084 trillion cubic feet. The development of the remaining potential could arrest the current decline and maintain production at the current rate for another 32 years. The length of time that the peak rate could be maintained is less than the estimates of time that a peak oil rate could be maintained because the recent gas rate decline has not been as severe as the decline of the oil rate. The gas producing fields are located in the northern portion of the basin, north of the Arctic Circle, and additional development potential exists offshore in the Kara Sea. High development costs and logistical problems can be expected to delay the development of some of the possible and undiscovered gas resources.

Significant condensate production potential exists in the basin. Ultimate recovery was estimated where data were available. Five billion barrels of discovered condensate and four billion barrels in the undiscovered category represent a minimum potential for the basin and are reported as a portion of the EUR. Condensate production was not separated from crude oil production.

The analysis of the oil and gas resources of the West Siberian basin provides a view of the potential of a major resource in Russia which has global implications in a world economy. The included basic data also provide a source of information for additional study in more detail for areas, fields or geologic intervals of interest.

**Table ES1. Estimated Crude Oil, Condensate, and Natural Gas Resources of the West Siberian Basin,
as of Year End 1994 (Oil) and 1993 (Gas)**

Resource Description	Oil and Condensate Billion Barrels	Natural Gas Trillion Cubic Feet
Cumulative Production Developed Fields	49.3	214
Remaining Estimated Ultimate Recovery	65.8	551
Discovered Undeveloped Fields		
Estimated Ultimate Recovery	51.0	341
Undiscovered Resources (USGS, Mean Value)	50.4	1084
Basin Total Resources	216.5	2190

Source: Energy Information Administration, Office of Oil and Gas.

1. Overview of the West Siberian Basin

Background

The Energy Information Administration (EIA) in cooperation with the U. S. Geological Survey (USGS), has assessed the resources, reserves, and production potential of 14 major oil and gas producing regions outside the United States. This series of assessments was done under EIA's Foreign Energy Supply Assessment Program (FESAP). The basic approach used is to combine historical drilling, discovery, and production data with EIA estimates of ultimate recovery and USGS generated undiscovered resource estimates. Field-level data for discovered oil and gas were used for the previous assessments. Supply projections through depletion were typically formulated for the country or major producing region.

EIA has prepared an assessment of oil and gas resources of one province in the former Soviet Union (FSU). A report on the oil and gas resources of the Fergana Basin¹ in the republics of Uzbekistan, Tajikistan, and Kyrgyzstan was published in January 1995.

Geographic Setting

In terms of the geographic area and recoverable oil and gas, the largest oil and gas producing province in the FSU is the West Siberian Basin in the Russian Federation (Russia). Not only is it the largest in the FSU but it also is one of the largest in the world, from about 52° N. to 73° N. latitude and about 60° E. to 90° E. longitude (**Figure 1**). The basin covers an area of approximately 1.3 million square miles, more than twice the size of the entire state of Alaska. The basin extends eastward from the Ural Mountains to the Yenisey River and northward from the Kazakh Uplands and the Altai and Sayan Mountains into the Kara Sea, a distance of roughly 1,500 miles. A comparison of similar latitudes to North America would place the West Siberian basin from Vancouver Island (off the northwest coast of the state of Washington) north to latitudes in the Beaufort Sea, off northern Alaska.

Topographically, the basin forms a nearly perfect plain, with an imperceptible slope to the north. This is the world's largest area of unbroken flat terrain. It is characterized by waterlogged soils, shallow lakes, and extensive swamps. Winters last seven to nine months with mean temperatures ranging from about +5° to -20° F (degrees Fahrenheit).

Geology

Structurally, the West Siberian Basin is a broad, relatively gentle downwarp filled with 10,000 to 33,000 feet of post-Paleozoic marine, near shore marine, and continental clastic sedimentary rocks. The underlying basement is composed of Precambrian and Paleozoic fold systems with large areas of partly metamorphosed Paleozoic carbonate and clastic rocks and numerous areas of Paleozoic granite and igneous bodies. In the central part of the Basin, the basement is cut by an extensive, northerly-oriented Triassic rift system. Oil source rocks are mainly marine Jurassic and Lower Cretaceous bituminous shales. Trapping is structural and stratigraphic. The petroleum geology of the West Siberian Basin is discussed by Peterson and Clarke in their report titled "West Siberian Oil-Gas Province" (**Appendix A**).

Production History

The initial discovery in the basin, the Berezovo field, was made in 1953. It is a gas field in the northern Urals region. Production was not established until 1963 because of its remote location. The first major oil discovery was the Samotlor field in 1961. It is one of the largest oil fields in the world with an estimated ultimate oil recovery of 24.7 billion barrels. Samotlor production began in 1964.

Development of oil production in the 1970s was followed by development of gas resources in the northern portion of the Basin in the 1980s. In recent years, basin production has exceeded reserves replacement. Oil production has declined since 1988, and gas production began to decline in 1991.

Figure 1. Location of the West Siberian Basin in Russia

Source: Earth Science Associates, Arlington, TX.

Oil and condensate production in Russia has declined from a peak of 4.2 billion barrels in 1988 (11.5 million barrels per day) to 2.2 billion barrels in 1994 (6.0 million barrels per day). Production has stabilized with 1996 oil production approximately the same as in 1994. West Siberian Basin oil production has dropped from a peak of 3.1 to 1.5 billion barrels (8.5 to 4.1 million barrels per day) during the same time. Peak gas production in Russia occurred in 1991 at 22.6 trillion cubic feet (62.2 billion cubic feet per day) and had declined to 21.9 trillion cubic feet (60.0 billion cubic feet per day) in 1993 with approximately 20.3 to 20.1 trillion cubic feet (55.6 to 55.2 billion cubic feet per day) from the West Siberian Basin.

Economic Significance

Approximately 70 percent of the oil and 90 percent of the gas produced in Russia come from the West Siberian Basin. As Russia increasingly participates in the global economy, the importance of its oil and gas resources will increase. Russia exports a significant

amount of oil and gas to Europe and the republics of the FSU. Hard currency-generating exports to non-FSU countries have increased over the last several years as delinquent payments from FSU republics increased. A significant amount of Russia's oil and gas is consumed within Russia. Russia is the world's second largest consumer² of natural gas and fourth largest consumer of petroleum liquids behind the United States, Japan, and China. In 1995, oil and gas consumption was 1.07 billion barrels of petroleum liquids and 14.51 trillion cubic feet of natural gas. In comparison, the United States consumed 6.47 billion barrels of petroleum liquids and 21.65 trillion cubic feet of natural gas in 1995. The Russian petroleum industry supplies the consumption requirements of Russia plus the oil and gas for export. Further decline of Russian production could cause changes in the world petroleum markets as well as effect the economy and development of Russia. An assessment of the oil and gas resources and the potential for development of those resources in the West Siberian Basin is provided herein.

Largest Fields

Several of the largest oil and gas fields in the world have been found in the basin. The five largest oil fields in this analysis represent approximately 30 percent of the discovered oil resources in the basin. The estimated ultimate recoverable oil from the largest oil field, Samotlor, is estimated as 24.7 billion barrels.

Cumulative production through 1993 is 17.9 billion barrels. The five largest gas fields contain 60 percent of the discovered nonassociated gas resources of the basin. The Urengoy field is the largest gas field in the basin with estimated total recovery of 269.6 trillion cubic feet and cumulative production of 108.5 trillion cubic feet through 1993.

2. Analysis Discussion

Basic Methods and Categories

The database constructed for this study contains information on 1538 separate reservoirs, an average of approximately three reservoirs per field that has reservoir data reported. Some reservoir designations represent various subdivisions of geologic intervals while others represent the entire geologic interval. Each reservoir with reported data was assumed to contain producible hydrocarbons unless noted as non-productive in the data source. The locations of fields within the basin and the location of fields that produce from selected common geologic intervals are shown in **Appendix B**.

The method used to estimate a recovery of oil and gas from each field involved the calculation of reservoir volumes within the individual fields. Known reservoir data were used to approximate any unknown information. Recovery was calculated for each reservoir indicated to be hydrocarbon bearing. The primary phase (gas or oil) was assumed to fill the entire reservoir; therefore, gas-oil contacts within individual reservoirs were not considered.

Volumetric methods used in the determination of reserves tend to produce optimistic estimates. Some of the estimates reflect data from initial discoveries or exploration prospects. Even though the method has limitations, it was chosen because sufficient field or reservoir performance data were not available to estimate the potential of the entire basin. Production history was considered unreliable for estimating recoverable oil and gas because recent performance may be the result of operational problems rather than natural depletion.

A recovery factor is applied to a volumetric estimate of original oil or gas in place in each reservoir within a field. The resulting quantity is defined as estimated

ultimate recovery. The Russian terminology would classify the volumes calculated in this analysis as $A + B + C_1$, with some volume in the C_2 category. "A" reserves are considered developed producing; "B" are drilled and tested but not producing; " C_1 " are partially evaluated, undeveloped, nonproducing; and " C_2 " reserves have not been delineated by drilling. The field area data of this report may include areas that have not been delineated by drilling; therefore, some C_2 reserves are likely in this report. The USGS estimate of undiscovered resources would be classified as $C_3 + D_1$ in the Russian system.

The estimated ultimate recovery (EUR) calculated in this analysis is not defined by performance, economic limits of production, or costs of development. Therefore, a comparison to U. S. Reserve classifications can not be made. Additional field studies would be necessary to evaluate operational methods and expenses and capital requirements for development.

Performance and economic evaluations could then be used to determine the amount of proved and probable reserves are in the producing fields. Additional analysis would also be necessary to classify undeveloped estimated ultimate recoverable oil or gas as probable or possible.

Basin Subdivisions

Regional boundaries within the Basin were described by Maksimov³ and others (**Figure 2**). The areal subdivision of the basin used in this study follows the method adopted by Maximov and Peterson and Clarke.⁴ The ten Regions identified can be combined into four Areas having common characteristics (**Table 1**). Common geologic intervals within the Areas were combined for data analysis (**Table 2**). The linkage of geologic age with geologic interval and the areal subdivisions is shown as **Table 3**.

Figure 2. Map of the Oil and Gas Regions and Areas of the West Siberian Basin

Source: Oil and Gas Fields of the U.S.S.R., Edited by S. P. Maksimov.

Table 1. Regions Within Areas of the West Siberian Basin

Area	Region
North	Yamal Gydan Nadym-Pur Pur-Taz
West	Frolov Near Urals
South	Kaymaysov Vasyugan Paydugin
Middle Ob	Middle Ob

Source: Department of the Interior, U.S. Geological Survey.

Table 2. Geologic Intervals Combined Within Productive Areas of the West Siberian Basin for Data Analysis

Combined Geologic Intervals	Productive Areas
Upper Cretaceous	All Areas
Albian - Aptian (North)	North
Albian - Aptian (South)	Middle Ob, West, & South
Neocomian (North)	North
Neocomian (South)	Middle Ob, West, & South
Jurassic (North)	North
Jurassic (South)	South
Jurassic (West)	West
Jurassic (Ob)	Middle Ob
Triassic-Paleozoic	All Areas

Source: Energy Information Administration, Office of Oil and Gas.

Production by Area

The northern portion of the basin produces primarily nonassociated gas and gas condensate from Upper Cretaceous. More than 90 percent of the discovered nonassociated gas in the basin is located in this area. The volume of discovered oil in the North Area ranks second to the Middle Ob Area.

The Middle Ob Region, in the central portion of the basin, is considered a single area. It is the major oil producing area of the basin. All but one field in the Middle Ob Area are considered primarily oil fields.

The West Area is productive in the Lower Cretaceous and Jurassic intervals. The West Area is generally gas productive in its northern portion and oil productive in its southern portion. Production in the South Area is predominantly oil from Jurassic intervals with some production from Lower Cretaceous intervals.

The number of fields in each of the four Areas is about evenly distributed, from 18 percent in the South Area to 34 percent in the Middle Ob Area. The locations of less than 2 percent of the fields are unknown. The database includes 634 oil and 147 gas fields for a total of 781 fields in the basin. Seven fields of the Ust-Yenisey Region, which adjoins the Gydan Region along the northeastern edge of the basin, are included in the Gydan Region. Other sources may give a different count for the number of fields because of name changes, combining of fields within areas, or different translations of field names. Field locations are shown in **Figure 3** with gas fields in red and oil fields in green.

Table 3. Stratigraphic Chart Linking Geologic Age with Pay Zone Identifiers, by Area and Region, West Siberian Basin (Maksimov reference)

		NORTH BASIN AREA		WEST BASIN AREA	SOUTH BASIN AREA	MIDDLE OB BASIN AREA
SERIES	AGE	Pay Zones, Yamal and Gydan Regions	Pay Zones, Nadum-Pur and Pur-Taz Regions	Pay Zones, Frolov and Near-Ural Regions	Pay Zones, Kaymysov, Vasyugan, and Paydugin Regions	Pay Zones, Middle Ob Region
UPPER CRETACEOUS	Maastrichtian					
	Campanian					
	Santonian					
	Coniacian					
	Turonian		Gazolinian			
	Cenomanian	PK1-PK6	PK0-PK6		PK1, PK11	PK1
LOWER CRETACEOUS	Albian	TP1-TP8	PK15 TP10, TP-11 PK16-PK21	PK2, PK21	PK12, PK14, PK15, PK18	PK21
	Aptian	TP12-TP14				
	Barremian	TP15-TP18	AV1-AV3			AV1 AV1, AV2, AV3, AS4-AS6, B19-B22 AV2-AV8, AS7-AS12, B3, BV0
	Hauterivian	TP18-TP24 TP25-TP27, NP2-NP4	AV6-AV8, AU7-AU11 AV-8, BV4-BV6, BP9, BS0-BS8, BT3, BT4, BU0-BU6, BN4 BV5-BV7, SD4 BV8-BV13, BP6-BP15, BS9-BS12, BT7-BT12, BU7-BU16, BN9-BN16, SD8	N1, N2	A10	BV0-BV4, BS1-BS6 BV4-BV7, BS-8
	Valanginian	MBU16, NP10, NP11	BT16-BT18, BU16, Achimov BV18-BV20, BP18, BP19, Achimov	B16-B20	B5, B7-B9, B12-B14, BV9 B16-B20 B16-B20	B6, B10, BV7-BV12, BS8-BS12 BS16-BS18 BV18-BV20, BS18-BS22
	Berriasian	Achimov				
UPPER JURASSIC	Volgian		Yu0	P0-P3, Yul-YulV P0-P3, Yul-YulV P1(F), P0-P3(&P3F), Yul-YulV	Yu0, Yu1, Yu1(1), Yu1(3-4)	Yu0
	Kimmeridgian				Yu1, Yu1(1), Yu1(3-4)	
	Oxfordian	Yu1(1)	Yu1, Yu1(1), Yu1(2)	P0-P3(&P3F), Yul-YulV	Yu1, Yu1(1), Yu1(3-4), Yu2	Yu1(1)
	Callovian			P0-P3(&P3F), Yu1-Yu7(&Yu2F), Yu11, Yu12, Yul-YulV	Yu1, Yu1(1-4), Yu2	Yu1, Yu1(1-3), Yu2
	Bathonian	Yu2	Yu2	P0-P3, Yu1-Yu7(&Yu2F), Yu11, Yu12, Yul-YulV	Yu1, Yu2, Yu4, Yu7-Yu9, M	Yu2
	Bajocian	NP5-NP9 NP5-NP9	Yu3		Yu1-Yu9	
	Aalenian					
	Toarcian					
	Pliensbachian	Yu2, Yu7	Yu2	Yu1-Yu3, Yu6, Yu7, Yu11, Yu12, Yul-YulV	Yu1, Yu2, Yu6	
	Sinemurian			(Yu1 listed as Lower-Upper Jurassic in only two fields)		
	Hettangian			YuIV		
PALEOZOIC SYSTEM		F			M (undifferentiated Paleozoic) M3 & M11 (Up. & Mid. Devonian) M23 (Lower Devonian) S2 (Upper Silurian)	M (undifferentiated Paleozoic)

Notes: Apparent Russian alpha-numeric use for pay zone identifiers is to alpha-abbreviate names of formations, formation groups, series, or systems, then separate into numeric pay zones, analogous to formations and members.

Pay zones listed in between-age rows indicate age ranges (such as TP10 as Aptian-Albian age). The numbered pay zones increase with age (depth).

For Jurassic pay zones, the numbers in parentheses indicate further separations into sub-pay zones, again, increasing with age (depth). Other sub-pay zone designations are not listed, here. Gazolinian and Achimov formations are not abbreviated and not differentiated into numerical pay zones, here. Most Jurassic (Yu) pay zones are not differentiated beyond series combinations (such as Lower-Middle Jurassic).

Partial abbreviations, various geologic units: M = "crust" (weathered paleosurface?); P = ? (P0-P3 in the Near-Ural is equivalent to Yu2 in other Regions; PK = Pokur formation; Yu = Jurassic System; Yu0 = Bazhenov Shale formation; Yu11-Yu12 = Sherkalin member (by many investigators).

Source: Extracted from reservoir-level listings in *Oil and Gas Fields of the USSR--Volume II*, edited by S.P. Maksimov, 1987.

Figure 3. Location of Oil and Gas Fields in the West Siberian Basin.

Source: Earth Science Associates, Arlington, TX.

3. Data Description

Available Data

Reservoir data were acquired from several published sources. Agreement was found between the data sources, suggesting a single original source. Where differences were noted, the most recent information was used. Differences in translation and nomenclature and additional development between reporting dates of data account for some data differences. Multiple discoveries combined into single fields as development progressed and fields combined under Regional geologic province names may also account for some duplication of information. Primary data sources are listed below.

Oil and Gas Fields of the USSR (In Russian), edited by S.P. Maksimov, 1987.

Gas and Condensate Fields - Reference Book (in Russian), by I. P. Zhabrev, 1983.

Atlas of Key Hydrocarbon Basins of the Former Soviet Union, Compiled by K. L. Talley, 1993.

Field and reservoir data from Petroconsultants S.A., Geneva, Switzerland, August 1995.

Conversation with G. Ulmishek, USGS, Denver, CO, 1997.

The West Siberian Basin's fields can be divided into three groups according to the available data. Most of the fields had very little data missing so few assumptions or data constructions were needed to develop an estimate of recoverable oil and gas. These fields represent 94 percent of the estimated discovered oil volume and 98 percent of the calculated discovered gas volume of the basin.

The second group had significant data missing for some fields but the available data were sufficient to apply correlations to estimate missing data. Little information was known about the third group of fields. Low confidence in the calculated oil or gas volume of these few fields resulted. Less than 0.02 percent of the estimated ultimate recovery falls in this low-confidence category.

Most of the reported reservoir parameter data were represented as reservoir averages. Ranges of data were reported for reservoirs within some fields. When a range of data was reported, an average value was used to represent the reservoir. Often, data used to represent a field was taken only from the discovery well. Calculated reserves were reported in data sources for some fields but were used only to compare with values calculated here.

As an indicator of data availability, the amount of available area, gross pay, net pay, porosity, and permeability data were calculated as a percentage of the number of reservoirs in each geologic interval (**Table 4**).

Estimated Data

Estimates of some reservoir data were necessary for all fields to accomplish volumetric calculations. The available data were sufficient to make reasonable engineering estimates of missing information. Except for reservoir temperature and pressure, those estimates were made within geologic intervals over common analogous areas. Graphical displays of data were used to visually evaluate the consistency or variations in the data. Details of the methods used in estimating data are reported in **Appendix B**.

A single linear function of depth was used to estimate unknown pressures in all Regions of the basin. A linear equation was developed for each of the four Areas of the basin to calculate reservoir temperature as a function of depth.

All other properties were determined within geographic boundaries described by Maksimov and combinations of geologic intervals described by Peterson and Clarke. Much of the data were reported for subdivisions of the major geologic intervals. Missing information was determined by averaging and analyzing data within major geologic intervals. Distributions of the data within the areal and geologic subdivisions of the basin were graphed and analyzed to evaluate consistency and to choose the best value to represent the combination of location with geologic interval.

Data Correlations

Reservoir fluid volume factors were determined using correlations programed for personal computer spreadsheet software⁵. The West Siberian Basin oil and gas characteristics presented no special problems in the determination of fluid properties. The oil is a medium to high API gravity and does not contain sufficient hydrogen sulfide or other impurities that would affect the use of correlations to determine fluid properties. The nonassociated gas is primarily methane without significant inert impurities or intermediate components. Correlations can be used to calculate solution gas-oil ratios and bubble point pressures that match available data and reservoir performance.

Some volumetric calculations could be in error using the reported field productive areas. Reported areas may be from seismic interpretations or exploration mapping. Many fields are not completely developed; therefore, areas are not accurately defined. Area data were reported as the total field areal extent, the area of the largest reservoir, or the area of each individual reservoir. Area data were not reported for some fields. A method, described in **Appendix B**, assigned an area to each individual reservoir in a field for the calculation of initial oil or gas in place.

More data for gross pay thickness were available than for net pay thickness data. A net-to-gross ratio was calculated when both net and gross data were known. The average net-to-gross ratio of a Region was used to estimate net pay when gross pay was reported. The net pay values that could not be calculated from gross pay were assumed to be equal to the average net pay of the Region.

Very little water saturation data were available. A correlation developed by Schlumberger⁶ was used to calculate irreducible water saturation for each reservoir for which an average permeability was reported. The distribution of calculated water saturation was plotted to examine the results. The calculated water saturation for some combinations of parameters was outside the normal range of saturations anticipated for productive reservoirs. To screen out these values, the mode of the calculated saturations was used in the volumetric estimates of original oil and gas in place.

Porosity was the reservoir parameter most often available among those reservoir parameters used to calculate oil or gas in place. Missing porosity data were estimated from distribution graphs using the method described in **Appendix B**.

Table 4. Percentage of Reservoirs with Data Available within Major Geologic Intervals of the West Siberian Basin

Geologic Interval	Area	Gross Pay	Net Pay	Porosity	Permeability
Upper Cretaceous (All Areas)	92	98	57	74	68
Albian - Aptian (N)	89	100	24	52	39
Albian - Aptian (S)	79	91	30	76	73
Neocomian (N)	88	95	28	71	65
Neocomian (S)	77	95	42	80	77
Jurassic (N)	100	100	56	80	76
Jurassic (S)	95	99	68	99	95
Jurassic (W)	90	97	43	95	90
Jurassic (Middle Ob)	85	95	55	79	77
Triassic - Paleozoic (All Areas)	94	80	43	100	80

Note: N, S, W, and Middle Ob refer to the four Basin areas of Table 2.

Source: Energy Information Administration, Office of Oil and Gas.

4. Ultimate Recovery Determination

Methodology

Estimated ultimate recovery was determined for each reservoir within the discovered fields using the procedures described in **Appendix C**. The EUR represents the maximum expected recovery of oil or gas from a productive reservoir without regard for economic limitations. The methodology used can be applied to all fields in a consistent manner. The basic method requires a volumetric determination of original oil or gas in place. A recovery efficiency is then applied to determine the recoverable oil. For gas, an abandonment pressure is assumed for estimating the recovery efficiency. Recovery estimates are summed to produce a total EUR for each field. The average recovery efficiencies are reported for each Region of the basin in **Table 5**. Results are also tabulated by field producing status for oil and gas (**Tables 6 and 7**).

Table 5. Average Reservoir Recovery by Regions of the West Siberian Basin as a Percent of Original Oil or Gas in Place

Region	Primary Oil Recovery	Total Oil Recovery	NA Gas Recovery
Yamal	19.3	38.6	79.7
Gydan	16.8	33.6	78.2
Nadym-Pur	19.5	39.0	78.5
Pur-Taz	18.8	37.6	79.1
Frolov	15.3	30.6	77.8
Near Urals	18.3	36.3	61.4
Kaymysov	17.2	35.2	78.2
Vasyugan	18.8	37.6	79.3
Paydugin	19.2	38.4	79.5
Middle Ob	17.5	35.0	79.6
Average	18.1	36.2	77.1

Note: NA Gas is nonassociated gas.

Source: Energy Information Administration, Office of Oil and Gas.

Oil Recovery

Recovery from oil reservoirs was estimated for primary depletion and improved recovery efficiency. The total recovery was the sum of the estimated primary recovery

with improved recovery volumes added based on the assumptions listed below.

Primary Recovery

Primary recovery averaged 18.1 percent of the original oil in place across the basin. Primary recovery is the sum of the recovery from the initial pressure to the bubble point pressure as calculated by fluid expansion and the recovery below the bubble point pressure calculated using a statistical correlation from the American Petroleum Institute (API).⁷ This correlation is provided in **Appendix C**. Although the validity of this correlation is questionable, the results are within an expected range for the properties of the basin. The correlation provides a method that can be applied to account for reservoir property changes within the basin and to obtain consistent results across the basin.

Improved Recovery

Improved recovery assumed that all oil reservoirs would be subjected to improved recovery techniques (such as waterflooding) except those reservoirs below the Jurassic section or with permeabilities less than 10 millidarcys. Oil reservoirs within predominantly gas fields and reservoirs in the Bazhenov shale formation were also excluded. API statistical correlations for water drive recovery that assume full development and continuity within the reservoir, calculated an average ultimate recovery of 54.5 percent of the original oil in place. This calculated recovery was assumed not to be representative of recovery from an improved recovery project. Field recovery was reduced because of geographic and environmental limitations. Reservoir stratification and discontinuities were also assumed to reduce the recovery efficiency. The incremental improved oil recovery was reduced to a value equal to the calculated primary recovery in reservoirs that would be subject to an improved recovery process.

Recovery Efficiency

The average total oil recovery efficiency, including potential improved recovery, from fields in the basin was 36.2 percent of the original oil in place.

Producing Fields

The fields that are currently producing have an estimated original recoverable oil and condensate volume of approximately 115.1 billion barrels. No improved recovery oil was included for fields currently producing under primary depletion. Cumulative oil and condensate production through 1994 was 49.3 billion barrels leaving 65.8 billion barrels to be produced from fields that are currently producing.

Nonproducing Fields (Undeveloped)

The discovered fields that are not on production contain an estimated 51.0 billion barrels of recoverable oil and condensate. This value includes 20.6 billion barrels of oil added for potential improved oil recovery. Primary oil recoverable from discovered, nonproducing fields is estimated to be 30.4 billion barrels.

Discovered Fields

Total discovered ultimate recoverable oil and condensate in the basin are about 166.1 billion barrels. Subtracting cumulative production of 49.3 billion barrels of oil and condensate results in remaining reserves of all classes of 116.8 billion barrels. Assuming only primary recovery from nonproducing fields reduces the volume to 96.2 billion barrels. This volume includes five billion barrels of condensate to be produced with nonassociated gas. No probability of attaining the calculated recovery (risk) was applied to any of the estimates of discovered reserves. Therefore the range of recovery from discovered fields is 96.2 to 116.8 billion barrels.

Undiscovered Resources

Undiscovered resources are the mean value of the USGS⁸ assessment of undiscovered oil and condensate totaling 52.4 billion barrels. Two billion barrels discovered since the estimate was made in 1993, which are included in the current database of discovered oil, have been subtracted from the estimate of undiscovered resources.

Remaining Resources

Adding the undiscovered resources to the discovered EUR yields a maximum remaining future potential for the basin of between 146.6 and 167.2 billion barrels of oil and condensate to be discovered, developed, and produced. The original resources of the basin were estimated to be 216.5 billion barrels of oil and condensate.

Gas Recovery

Estimated ultimate recovery for gas reservoirs was calculated from an initial pressure to an abandonment pressure of 0.1 psi per foot of depth to the reservoir. This does not represent an economic limit but serves as a consistent lower pressure limit applied across the basin. Calculated recoveries range from 61.4 percent to 79.9 percent of the initial gas in place (Table 7).

Producing Fields

Fields that are producing contained estimated ultimate recoverable gas of 765 trillion cubic feet of gas. Of this total, nonassociated gas fields account for 711 trillion cubic feet and associated-dissolved gas from oil reservoirs accounts for 54 trillion cubic feet. The remaining estimated gas reserves of fields that are currently producing are 551 trillion cubic feet after subtracting 214 trillion cubic feet of produced gas.

Nonproducing Fields (Undeveloped)

Discovered, undeveloped reservoirs contain 341 trillion cubic feet of recoverable gas to be developed and produced. Of this volume, 322 trillion cubic feet are in nonassociated gas reservoirs and 19 trillion cubic feet are associated-dissolved gas in undeveloped oil fields.

Discovered Fields

The total discovered EUR gas, including 73 trillion cubic feet of associated-dissolved (AD) gas from oil reservoirs and 1,033 trillion cubic feet of nonassociated (NA) or gas well gas, are 1,106 trillion cubic feet. Subtracting cumulative gas production of 214 trillion cubic feet through 1993 from the total leaves 892 trillion cubic feet to be recovered from discovered reservoirs. The volume does not include gas from the Leningradskoye and Rusanovskoye fields in the Kara Sea. Other sources estimate recovery potential of between 85 and 282 trillion cubic feet from these two fields. Sufficient information was not available to make an independent estimate of these offshore discoveries; they are included only as a comment.

Undiscovered Resources

A statistical mean value of undiscovered nonassociated gas resources of 1,090 trillion cubic feet was estimated by the USGS as of 1993. The current data base includes six trillion cubic feet of gas discovered after 1993. The remaining undiscovered resources therefore are 1,084 trillion cubic feet.

Remaining Resources

Future gas potential in the basin is 1,975 trillion cubic feet, the sum of the remaining recoverable discovered gas and the USGS mean estimate of undiscovered gas. The original gas resource potential of the basin is estimated to be 2,189 trillion cubic feet. No probability of occurrence or risk was applied to the estimates of the discovered gas volume.

Condensate Recovery

Ultimate condensate recovery was calculated for those gas fields where the liquid content of the produced gas was reported. A volume of five billion barrels from the fields that are on production was calculated. The USGS estimate of undiscovered resources includes four billion barrels of condensate. Reported production of oil includes condensate; therefore, the estimated volume of condensate was added to the oil volume in this analysis.

**Table 6. Estimated Oil and Condensate Resources in the West Siberian Basin, End of 1994
(Billion Barrels)**

Resource Description	Total Recovery	Remaining Recovery
Discovered		
Producing Fields		
Primary Producing Fields	13.8	-
Improved Recovery Producing Fields	96.3	-
Condensate	5.0	-
Subtotal	115.1	65.8
Nonproducing Fields		
Primary Recovery	30.4	-
Potential Improved Recovery	20.6	-
Subtotal	51.0	
Total Discovered	166.1	116.8
Undiscovered		
Oil	46.4	-
Condensate	4.0	-
Total Undiscovered	50.4	50.4
Total Basin Resources	216.5	167.2
Cumulative Production	-49.3	

Note: Original USGS estimates of undiscovered oil and condensate were 52.4 billion barrels. The database of discovered fields includes two billion barrels discovered since the USGS estimate.

Sources: Discovered - Energy Information Administration, Office of Oil and Gas
Undiscovered - U. S. Geological Survey, "Estimated Petroleum Resources in the Former Soviet Union," G. Ulmishek and C. Masters, Open-File Report 93-316, March 1993, Denver, Colorado.

Table 7. Estimated Natural Gas Resources in the West Siberian Basin, End of 1993
(Trillion Cubic Feet)

Resource Description	Total Recovery	Remaining Recovery
Discovered		
Producing Fields		
Nonassociated	711	-
Associated-Dissolved	54	-
Subtotal	765	551
Nonproducing Fields		
Nonassociated	322	-
Associated-Dissolved	19	-
Subtotal	341	
Total Discovered	1,106	892
Undiscovered	1,084	-
Total Basin	2,189	1,975
Cumulative Production	-214	

Note: Original USGS estimate of undiscovered gas was 1090 trillion cubic feet. Discovered database includes 6 trillion cubic feet discovered since estimate.

Source: Discovered - Energy Information Administration, Office of Oil and Gas, Undiscovered - U. S. Geological Survey, "Estimated Petroleum Resources in the Former Soviet Union," G. Ulmishek and C. Masters, Open-File Report 93-316, March 1993, Denver, Colorado.

Field Size Distribution

The average field size in the basin is 248 million barrels for oil fields and 5.3 trillion cubic feet for nonassociated gas fields. The giant fields of the basin cause the average to be much larger than the mode of the field size distribution. Giant fields, defined as those that contain more than 500 million barrels of recoverable oil or the equivalent in gas (roughly 3 trillion cubic feet). Although the potential exist to discover additional giant fields, many smaller fields that are included in this analysis may not be developed for economic reasons. The field size distributions (**Figures 4 and 5**) show a mode of approximately 25 million barrels or 400 billion cubic feet of recoverable oil or gas.

Figure 4. Crude Oil Field Size Distribution for Discovered Fields, West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

Figure 5. Gas Field Size Distribution for Discovered Fields, West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

Geographic Distribution

The estimated recovery for each Region in the basin is tabulated in **Table 8**. Totals for each Area are also presented. The field summaries tabulated in **Appendix D** are sorted alphabetically. Also included are

tabulations of the field data by Regions of the basin. The information includes field location, discovery date, production status, and primary product. The complete data base and the calculated results for each reservoir are available on a computer diskette in a self-extracting spreadsheet file. To obtain a copy, contact the **EIA Dallas Field Office at (214) 720-6150**.

Table 8. Discovered Oil and Gas by Region and Area, West Siberian Basin
(Million Barrels Oil and Condensate; Billion Cubic Feet Gas)

Region Area	Number of Fields		Ultimate Recovery		Ultimate Recovery	
	Oil	Gas	Oil	AD Gas	NA Gas	Condensate
Yamal	0	27	141	35	194,998	590
Gydan	2	22	282	221	71,419	52
Nadym-Pur	58	29	28,170	23,022	581,721	2,742
Pur-Taz	34	20	11,973	5,908	152,278	1,057
North Area	94	98	40,566	28,965	1,000,416	4,441
Frolov	59	7	10,505	3,045	1,286	16
Near Urals	65	25	2,733	1,080	6,119	67
West Area	124	32	13,238	4,125	7,405	83
Kaymysov	73	3	4,812	4,489	3,663	78
Vasyugan	61	6	3,919	2,155	14,153	334
Paydugin	6	4	349	92	840	21
South Area	140	13	9,080	6,736	18,656	433
Middle Ob	263	2	98,227	33,160	6,720	61
Unknown	13	2	26	13	30	0
Total Basin	634	147	161,137	73,220	1,033,227	5,017

Note: AD Gas is associated-dissolved gas and NA Gas is nonassociated gas.
Source: Energy Information Administration, Office of Oil and Gas.

5. Production Projections

Future Discoveries

In 1993, the USGS mean estimate of the undiscovered oil and gas resources of the West Siberian basin were 52.4 billion barrels of oil and condensate and 1,090 trillion cubic feet of gas. Condensate included was four billion barrels. Most of this additional supply will likely be found in stratigraphic traps and structures smaller than those currently known. Some new production will come from less productive and deeper reservoirs. Adding these amounts (adjusted for discoveries after 1993) to the estimated amounts discovered provides the resources for the basin of 216 billion barrels of oil and condensate and 2,189 trillion cubic feet of gas. Subtracting production leaves 167 billion barrels and 1,975 trillion cubic feet to be produced, developed, and discovered.

To project a schedule of the future discoveries, a modified method of Dr. M. King Hubbert⁹ was used, utilizing a modified logistic function developed by the EIA.¹⁰ EUR discovered oil and gas plotted at the date of discovery with an end point equal to the total basin resources are fit¹¹ with the logistic function (**Figures 6 and 7**). The function obtained by the curve fit was then used to schedule future discoveries for the amount of the basin resources. The total basin recovery used in the calculation was the sum of the EIA estimate of discovered fields and the USGS estimate of undiscovered resources.

Future Production

Theory suggests that production should follow discoveries with an appropriate time lag for development. Production in the West Siberian basin has not followed this model because of the remote arctic environment and unique problems associated with Russian development practices (full field delineation before beginning production development). Another method, described in **Appendix C**, was therefore developed to project future production. A declining ratio of the

remaining EUR divided by the annual production (R/P ratio) was used to schedule production based on the discovery schedule developed using the logistic function.

Oil and Condensate

The oil resources in the basin should support production greater than the production rate that existed before the decline that began in 1988 (from 3.1 to 1.5 billion barrels per year or 8.5 to 4.1 million barrels per day in 1994). A theoretical peak annual production rate of 4.1 billion barrels per year (11.2 million barrels per day) was calculated to be possible in the years 2006 to 2009 before a decline begins (**Figure 8**). Three forecast cases were projected to show the range of production potential beginning at the 1994 annual rate of 1.46 billion barrels (**Figures 9 and 10**).

The most severe case (*Continued Decline Case*) assumes that production continues to decline at the recent rate of 16 percent per year to 100 million barrels (MMbbls) in the year 2010. Remaining recovery would be less than 10 billion barrels. This is less than, but approximates, the remaining estimated primary recovery of 15 billion barrels in the fields that are currently producing. As depletion occurs, the decline of the producing rate could decrease or become hyperbolic, extending the producing life, and approaching the 15 billion barrel estimate.

A second case (*No New Discoveries Case*) assumes that oil production can be stabilized at the current rate for a period of time and will then decline at the theoretical rate to a recovery of the remaining 96.2 billion barrels from discovered fields. Only primary recovery of 30.4 billion barrels from nonproducing fields was considered. No additional discoveries would occur. In this case, the current rate of approximately 1.46 billion barrels per year (4.0 million barrels per day) could be maintained until the year 2051 before the decline begins.

Figure 6. Cumulative Discovered Crude Oil, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas

Figure 7. Cumulative Discovered Natural Gas, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

Figure 8. Total Oil and Condensate Discoveries and Theoretical Production, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

Figure 9. Projected Oil Production, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

Figure 10. Projected Cumulative Oil and Condensate Production, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

The third case (*Total Recovery Case*) assumes exploration and development return to higher levels and cause production to increase to the historical peak rate of 3.1 billion barrels (8.5 million barrels per day) produced in 1988. To reach this peak rate, it is assumed that the current oil production rate would be maintained through the year 1998 and production would then increase over the next five years to the peak rate. Production is then maintained at 3.1 billion barrels per year until the cumulative production plus the amount produced on decline from 3.1 billion barrels per year is equal to the remaining recoverable resource of 167.2 billion barrels. The result is total recovery of 216.5 billion barrels from the basin.

Gas

Total recoverable gas was estimated to be about 2,189 trillion cubic feet with peak production of approximately 24 trillion cubic feet per year (65.8 billion cubic feet per day) in the years 2012 to 2019 (**Figure 11**). Estimates of gas volume development and production were calculated by using the same method as for oil. The estimates are from the cumulative discoveries curve calculated by using the logistic

function and production is based on an assumed decline of the R/P ratio. Gas production has declined since 1992, probably as a result of reduced development activity influenced by the changes that have occurred in Russia since the breakup of the Soviet Union.

Two projections were made to examine potential gas production from the basin. One case (*No New Discoveries Case*) assumed no additional discoveries and remaining potential of 892 trillion cubic feet, the remaining EUR of the discovered fields. Production was declined at the rate of the theoretical production schedule to depletion in approximately 75 years.

The second case (*Total recovery Case*) assumed full development of the basin's estimated remaining producible gas of 1,975 trillion cubic feet. The peak historical rate of 20.5 trillion cubic feet per year (56.2 billion cubic feet per day), attained in 1992, was maintained until the cumulative production plus the production from the decline portion of the theoretical projection equaled the total gas resource of the basin of 2,189 trillion cubic feet. In this case, the peak rate could be maintained for 32 years before decline begins (**Figures 12 and 13**).

Figure 11. Ultimate Gas Discoveries and Theoretical Production, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

Figure 12. Projected Gas Production, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

Figure 13. Projected Gas Cumulative Production, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

6. Summary

The largest oil and gas producing province by area and resources in the former Soviet Union is in western Siberia. The West Siberian Basin is also one of the largest in the world. The geographic location of the basin north of 52 degrees north latitude and the topography of gently sloping lowlands of permafrost and extensive swamps cause significant operational problems.

Oil production from the basin has declined from approximately 3.1 billion barrels in 1988 to 1.5 billion barrels in 1994 (8.5 to 4.1 million barrels per day), and gas production has declined from 22.6 trillion cubic feet of gas in 1991 to 21.9 trillion cubic feet in 1993 (61.9 to 60.0 billion cubic feet per day). Cumulative production was 49.3 billion barrels of oil through 1994 and 214 trillion cubic feet of gas through 1993. Production data by individual field are not complete or reliable; therefore, oil and gas recoveries were calculated by volumetric methods.

A database was constructed containing all available information necessary to calculate reserves volumetrically for 634 oil fields and 147 gas fields with over 1,500 separate reservoirs. Missing data were imputed based on information from similar or nearby geologic intervals. The estimated ultimate recovery (EUR) was calculated for each reservoir identified as productive and summed to a field totals. The EUR can not be compared to U.S. Reserves that are defined as economically recoverable since economic parameters were not considered in this analysis. The EUR therefore, represents a maximum potential for the basin. To achieve this potential would require full development of all identified fields and the application of the latest available technology. Undiscovered resources were estimated by the USGS. The undiscovered volume was added to the estimated ultimate recoverable volumes of individual fields to yield a total basin resource.

Of the 166.1 billion barrels of oil and condensate discovered through 1994, 115.1 billion barrels are in producing fields and 51.0 billion barrels are in fields to be developed. Subtracting the 49.3 billion barrels of production from the EUR of the producing fields yields

remaining EUR of 65.8 billion barrels of oil and condensate. Estimated ultimate recovery in undeveloped fields ranges from 30.4 billion barrels of primary oil to 51.0 billion barrels of oil including improved recovery potential.

The mean estimate of the undiscovered oil and condensate is reported as 50.4 billion barrels by the USGS. Estimate of ultimate basin resources is 216.5 billion barrels of oil and condensate with between 146.6 and 167.2 billion barrels remaining to be discovered, developed, and produced after 1994.

The natural gas discovered through 1993 was 1,106 trillion cubic feet. Producing fields contained 765 trillion cubic feet of EUR with nonproducing fields containing 341 trillion cubic feet of EUR to be developed. Remaining recoverable gas is 551 trillion cubic feet in producing fields after subtracting 214 trillion cubic feet of cumulative production. Adding 341 trillion cubic feet in discovered, undeveloped fields sums to 892 trillion cubic feet of remaining, discovered EUR gas. The mean estimate of undiscovered gas resources reported by the USGS is 1,084 trillion cubic feet. The basin's total original gas resources are therefore 2,189 trillion cubic feet with 1,975 trillion cubic feet remaining to be discovered, developed, and produced after 1993.

The average field size in the basin is 248 million barrels of oil or 5.3 trillion cubic feet of gas. The averages are influenced by the very large fields in the basin. The most likely field size is 25 million barrels of oil or 400 billion cubic feet of gas. Economic conditions will influence the development of the smaller fields.

Discovered oil volumes are sufficient to maintain the current production rate of approximately 1.5 billion barrels per year (4.1 million barrels per day) for over 50 years before production begins to decline. If developed, total resources of the basin are sufficient to maintain the historical peak rate of 3.1 billion barrels per year (8.5 million barrels per day) for over 35 years before decline begins. Gas production could be maintained for over 30 years at approximately 21 trillion cubic feet per year supported by the remaining gas resources of the basin.

These production projections are limited scenarios with many variables not considered. However, this analysis shows the potential of the West Siberian Basin as a significant future producer of oil and gas if maintenance and development of the resources continues. The

production decline of the past several years is the result of reduced development and maintenance indicating that only a fraction of the potential resources would be recovered if development and exploration in the basin were to cease.

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Appendix A

Petroleum Geology

Appendix A

Petroleum Geology

The petroleum geology discussion is copied from a section of Open-File Report 89-192 of the Department of the Interior, U. S. Geological Survey, *West Siberian Oil - Gas Province* by James A. Peterson of Missoula, Montana and James W. Clarke of Reston, Virginia

(1989). The page numbers correspond to the page numbering of the EIA report, but figure numbers have not been changed from the original USGS report by Peterson and Clarke.

PETROLEUM GEOLOGY

Introduction

The West Siberian oil-gas province has been subdivided into oil-gas regions in various ways by different authors. The subdivision adopted in this report follows that of Maksimov and others (1987) (fig. 56). The oil and gas fields of the entire province are plotted at a small scale on figure 57, and those of each oil-gas region at a larger scale on figures 58-60.

The basin has four major productive areas based on age of the reservoir rocks, type of trap, and kind of hydrocarbons produced. These are 1) the Middle Ob, 2) Near-Ural, 3) Southern Basin, and 4) Northern Basin.

Middle-Ob (includes the Middle Ob region of figure 56) - Most of the production in this area is oil from Lower Cretaceous clastic rocks, mainly in anticlinal traps within a deltaic-marine transitional sedimentary complex. Stratigraphic trapping is also a major component of the trapping mechanisms. Two large regional uplifts dominate this area, the Surgut and Nizhnevartov arches (fig. 18), which yield a major share of the oil produced in the West Siberian basin. The supergiant Samotlor field and other supergiant oil fields are located in this area.

Near-Ural (includes the Near-Ural and Frolov regions of figure 56) - Production in the Near-Ural region in the western part of the basin is primarily from Upper Jurassic clastic rocks; there is some production also from Lower Cretaceous clastic reservoirs and some from weathered basement. The trapping mechanism is paleostructural-stratigraphic; reservoir rocks pinch out against high-standing basement rocks. The Near-Ural area is mainly oil-productive in the south and gas-productive in the north.

Southern Basin (includes the Kaymysov, Vasyugan, and Paydugin regions of figure 56) - Most of the production here is oil and oil-gas from Jurassic clastic reservoirs mainly on anticlines or arches inherited from basement highs. Some production also is obtained from middle and upper Paleozoic carbonate reservoirs.

Northern Basin (comprises the Yamal, Gyda, Nadym-Pur, and Pur-Taz regions of figure 56) - Gas and gas-condensate are produced from mainly Upper Cretaceous (Cenomanian) clastic rocks on anticlinal traps. Urengoy, the world's largest gas field, and several other supergiant gas fields are located in this area.

In general, the timing of trap development was somewhat different for these four major productive areas. In most of the basin, uplifted basement blocks were present prior to the deposition of the Jurassic and Cretaceous reservoir rocks. In the Near-Ural and southern basin areas, Jurassic reservoirs commonly pinch out against these blocks. In the northern basin area, the paleostructural traps probably formed early in

Figure 56

Figure 56. Petroleum regions of the West Siberian basin (from Maksimov and others, 1987)

Figure 57. West Siberian oil-gas province (from Maksimov and others, 1987)

a-Schematic map, b-geologic profile.

Very large tectonic features: I-Ural fold belt, II- Kazakh shield, III- Siberian craton, IV- Yenisey-Khatanga mega-downwarp. Large tectonic features: 1-Sredneyamal arch, 2-Nurmin mega-arch, 3-Yuzhno-Yamal mega-arch, 4-Yurats arch, 5-Gyda arch, 6-Napalkov mega-arch, 7-Nizhnemessoyakha, mega-arch, 8- Urengoy mega-arch, 9-Medvezh mega-arch, 10-Severnyy arch, 11-Russko-Chasel mega-arch, 12-Surgut arch, 13-Salym arch, 14-Nizhnevartov arch, 15-Aleksandrov mega-arch, 16-Katmysov arch, 17-Srednevasyugan mega-arch, 18-Pudin mega-arch, 19-Mezhov mega-arch, 20-Nyurol depression, 21-Krasnoleninsk arch, 22-Shaim mega-arch, 23-Berezovo monocline, 24-Khanty-Mansiysk depression, 25-Kharampur monocline, 26-Bol'sheuk monocline, 27-Parabel mega-arch, 28-Khadyr'-Yakhin monocline, 29-Dem'yan mega-arch, 30-Severo-Surgut monocline. Oil-gas regions: A-Yamal, B-Gyda, C-Nadym-Pur, D-Pur-Taz, E-Middle Ob, F-Frolov, G-Near-Ural, H-Vasyugan, I-Kaymysov, J-Paydugin.

Figure 58 a

Yamal (A) and Gyda (B) oil-gas regions (from Maksimov and others, 1987)

Figure 58 b

Nadym-Pur (C) and Pur-Taz (D) oil-gas regions (from Maksimov and others, 1987)

Figure 58a Fields of Yamal oil-gas region (A) and Gyda gas region (B)
(from Maksimov and others, 1987).

Large tectonic features: 1'-Severo-Yamal mega-arch, 2'-Sredneyamal arch, 3'-Nurmin mega-arch, 4'-Yuzhno-Yamal mega-arch, 5'-Shuch'yan high, 6'-Yuribey monocline, 7'-Olen'ya saddle, 8'-Yurats saddle, 9'-Gyda arch, 10'-Napalkov mega-arch, 11'-Nizhnemassoyakha mega-arch.

Oil-gas areas. Yamal oil-gas region: a-Malygin prospective gas-oil area, b-Tambey gas area, c-Nurmin gas-oil area, d-Yuzhno-Yamal oil-gas area, e-Shuch'in prospective oil-gas area. Gyda gas region: a-Severo-Gyda gas area, b-Gyda gas area, c-Napalkov gas area, d-Messov gas area.

Fields: 1-Kharasavey, 2-Kruzenshtern and Yuzhno-Kruzenshtern, 3-Bovanenkov, 4-Neytin, 5-Arkticheskoye, 6-Nurmin, 7-Sredneyamal, 8-Maloyamal, 9-Novoportov, 10-Yuzhno-Tambey, 11-Severo-Tambey, 12-Verkhneteutey, 13-Antipayutin, 14-Semakov, 15-Geofizicheskoye, 16-Gyda, 17-Utren.

Figure 58b. Fields of Nadym-Pur oil-gas region (C) and Pur-Taz oil-gas region (D) (from Maksimov and others, 1987).

Large tectonic features: 1'-Yarudey mega-arch, 2'-Tanlov depression, 3'-Medvezh mega-arch, 4'-Yamburg mega-arch, 5'-Urengoy mega-arch, 6'-Tanlov mega-arch, 7'-Severnny arch, 8'-Verkhnepur mega-arch, 9'-Vengapur mega-arch, 10'-Var'yegan-Tagrin mega-arch, 11'-Khadyr'-Yakhin monocline, 12'-Russko-Chasel mega-arch, 13'-Krasnosel'kup mega-arch, 14'-Bol'shekhet depression, 15'-Kharampur monocline, 16'-Ver'yegan arch, 17'-Nadym monocline, 18'-Yurkharov arch, 19'-Nizhnetazov mega-downwarp.

Oil-gas areas. Nadym-Pur oil-gas region: a-Nadym, b-Urengoy, c-Yarudey, d-Gubkin, e-Vengapur. Pur-Tazov oil-gas region: a-Tazov, b-Sidorov, c-Tol'kin.

Fields: 1-Nadym, 2-Medvezh and Nydin, 3-Pangodin, 4-Yamburg, 5-Kharvutin, 6-Yurkharov, 7-Nakhodkin, 8-Severo-Urengoy, 9-Urengoy and Yen'yakhin, 10-Samburg, 11-Yuzhno-Samburg, 12-Vostochnoye Urengoy, 13-Yevo-Yakhin, 14-Pyrey, 15-Yubiley, 16-Yamsovey, 17-Severo-Komsomol, 18-Verkhnepurpey, 19-Muravlenko, 20-Pul'puyakh, 21-Surtomon, 22-Krayneye, 23-Vostochno-Pyakutin, 24-Komsomol, 25-Gubkin, 26-Severo-Gubkin, 27-Zapadno-Tarkosalin, 28-Tarasov, 29-Yetypur, 30-Vengayakhin, 31-Novogodneye, 32-Vengapur and Yuzhno-Vengapur, 33-Yarayner, 34-Tagrin, 35-Novomolodezh, 36-Severo-Var'yegan, 37-Var'yegan and Zapadno-Var'yegan, 38-Van'yegan, 39-Pestsov, 40-Vostochno-Tarkosalin, 41-Yuzhno-Pyrey, 42-Suzun, 43-Tazov and Vostochno-Tazov, 44-Zapolyar, 45-Zapadno-Zapolyar, 46-Russkoye, 47-Yuzhno-Russkoye, 48-Kyn, 49-Verkhnechasel, 50-Ust'-Chasel, 51-Kharampur, 52-Yuzhno-Kharampur, 53-Verkhnekolik'yegan, 54-Sandibin, 55-Beregov.

Figure 59a Fields of Middle Ob region (from Maksimov and others, 1987).

Large tectonic features: 1'-Severo-Surgut monocline, 2'-Surgut arch, 3'-Severo-Vartov monocline, 4'-Nizhnevartov arch, 5'-Yuzhno-Vartov monocline, 6'-Salym arch, 7'-Yugan depression, 8'-Yarsomov mega-downwarp, 9'-Chupal saddle, 10'-Koltogor mega-downwarp, 11'-Tundrin depression.

Oil-gas areas: a-Surgut, b-Vartov, c-Salym.

Fields: 1-Severo-Soimlor, 2-Karamov, 3-Kholmogor, 4-Ikilor, 5-Vostochno-Yagun, 6-Pogranich, 7-Byintoy, 8-Nizhnesortym, 9-Kochev, 10-Teylin, 11-Kogolym, 12-Konitlor, 13-Sorym, 14-Aypym, 15-Kamyn, 16-Alekhin, 17-Lyantor, 18-Taybin, 19-Tutlin, 20-Kar'yaun, 21-Vachim and Taplor, 22-Minchimkin and Severo-Minchimkin, 23-Saporkin, 24-Russkin, 25-Vystrin, 26-Savuy, 27-Fedorovo, 28-Raven 29-Zapadno-Surgut, Yaunlor, 30-Vershin, 31-Mamontovo, Ust'-Balyk 32-Teplov, 33-Yuzhno-Surgut, Saygatin, 34-Yuzhno-Balyk, 35-Malobalyk, 36-Srednebalyk, 37-Maysk, 38-Vostochno-Surgut, 39-Shirokov, 40-Vat'yegansk, 41-Povkhov, 42-Bol'shekotukhtin, 43-Kurragan, 44-Gun'yegan, 45-Tyumen, 46-Pylin, 47-Yershov, 48-Non'yegan, 49-Pokachev and Severo-Pokachev, 50-Yuzhno-Pokachev, 51-Yur'yev, Potoch, and Severo-Potoch, 52-Las'yegan, 53-Agan, 54-Bol'shechernogor, 55-Malochernogor, 56-Sorom 57-Strezhev, 58-Lokosov, Pokamasov, and Chimpas, 59-Severo-Pokur, 60-Samatlor, Megion, and Mykhpay, 61-Vatinsk, 62-Nizhnevartov, 63-Sovetsk, 64-Severo-Ostrov, 65-Ostrov, 66-Orekhov, 67-Yermakov, 68-Nezhdan, 69-Vartov-Sosnin, 70-Alenkin, 71-Kvartov, 72-Motyushkin, 73-Malorechen, 74-Novopokur, 75-Maloyugan, 76-Achinov, 77-Severo-Chupal, 78-Chupal, 79-Salym and Severo-Salym, 80-Tundrin, 81-Sredneshapshin, 82-Verkhneshapshin, 83-Pravdin, 84-Srednesalym, 85-Nizhneshapshin, 86-Verkhnesalym, 87-Ledov, 88-Studenoye, 89-Yuzhno-Yagun, 90-Grib, 91-Priob, 92-Petelin, 93-Ruf'yegan, 94-Nivagal.

Figure 59b. Fields of Kaymtsov oil-gas region (A), Vasyugan oil-gas region (B), and Paydugin oil-gas region (C) (from Maksimov and others, 1987).

Large tectonic features: 1'-Khanty-Mansiysk depression, 2'-Dem'yan mega-arch, 3'-Chupal saddle, 4'-Yugan depression, 5'-Kaymysov arch, 6'-Nyuroi depression, 7'-Mezhov mega-arch, 8'-Verkhnetar monocline, 9'-Lomov saddle, 10'-Srednevasyugan mega-arch, 11'-Pudin mega-arch, 12'-Olen saddle, 13'-Aleksandrov mega-arch, 14'-Okunev saddle, 15'-Lar'yak mega-downwarp, 16'-Parabel mega-arch, 17'-Ust'-Tym depression, 18'-Pyl'-Karamin mega-arch, 19'-Korlikov mega-downwarp, 20'-Karal'kin mega-arch, 21'-Tar monocline, 22'-Tym mega-arch, 23'-Vladimir arch.

Oil-gas areas. Kaymysov oil-gas region: a-Dem'yan, b-Kaymyson, c-Mezhov. Vasyugan oil-gas region: a-Aleksandrov, b-Vasyugan, c-Pudin. Paydugin oil-gas region: a-Paydugin, b-Sil'gin.

Fields: 1-Tukan, 2-Multanov, 3-Ayyrun, 4-Taylakov, 5-Urnen, 6-Usanov, 7-Pervomay, 8-Katyl'gin, 9-Ozer, 10-Olen'ye, 11-Lontyn'yakh, 12-Moiseyev, 13-Zapadno-Katyl'gin, 14-Poselkov, 15-Igol, 16-Talov, 17-Pon'zhev, 18-Glukhov, 19-Karay, 20-Zapadno-Karay, 21-Urman, 22-Gerasimov, 23-Nizhnetabagan, 24-Severo-Kalinov, 25-Kalinov, 26-Yuzhno-Tabagan, 27-Mezhov, 28-Vostochno-Mezhov, 29-Veselov, 30-Maloich, 31-Verkh-Tar, 32-Rakitin, 33-Tay-Das, 34-Kazan, 35-Luginets, 36-Severo-Ostanin, 37-Zapadno-Ostanin, 38-Ostanin, 39-Mirnoye, 40-Verkhnekambar, 41-Selimkhanov, 42-Shingin, 43-Festival, 44-Chvorov, 45-Yuzhno-Cheremshan, 46-Lomov, 47-Severo-Vasyugan, 48-Srednevasyugan, 49-Srednenyuroi, 50-Klyuchev, 51-Myl'zhinsk, 52-Yuzhno-Myl'zhinsk, 53-Verkhnesalat, 54-Rechnoye, 55-Severo-Siktor, 56-Severo-Khokhryakov, 57-Khokhryakov, 58-Permyakov, 59-Kolik'yegan, 60-Vakh, Severo-Vakh, and Yuzhno-Vakh, 61-Severnoye, 62-Protoch, 63-Chebach'ye, 64-Kondakov, 65-Vartov, 66-Nikol, 67-Liney, 68-Kiyev'yegan, 69-Chkalov, 70-Sobolinoye, 71-Severo-Sil'gin, 72-Ust'-Sil'gin, 73-Srednesil'gin, 74-Vonter, 75-Enitor.

Figure 60. Near-Ural (A) and Frolov (B) oil-gas regions of West Siberia

Figure 60. Fields of Near-Ural oil-gas region (A) and of Frolov oil-gas region (B) (from Maksimov and others, 1987).

Large tectonic features: 1'-Berezovo monocline, 2'-Verkhnepoluy monocline, 3'-Nadym depression, 4'-Pomut mega-arch, 5'-Yuil saddle, 6'-Vynglor depression, 7'-Krasnoleninsk arch, 8'-Zapadno-Lyamin mega-arch, 9'-Shaim mega-arch, 10'-Vostochno-Turin monocline, 11'-Turtas monocline, 12'-Pologrudov mega-arch, 13'-Khanty-Mansiysk depression, 14'-Bol'sheuk monocline, 15'-Tobol mega-arch, 16'-Gornoye, 17'-Verkhnekondin mega-downwarp, 18'-Sherkalin mega-downwarp.

Oil-gas areas. Near-Ural oil-gas region: a-Berezovo gas area, b-Shaim oil area, c-Karabash gas area. Frolov oil-gas region: a-Kazym gas area, b-Yuil prospective gas area, c-Krasnoleninsk oil area, d-Lyamin oil area, e-Tobol oil-gas area.

Fields: 1-Severo-Alyasov, 2-Pokhrom, 3-Yuzhno-Alyasov, 4-Demin, 5-Berezovo, 6-Chuel, 7-Tugiyar, 8-Severo-Igrim, 9-Yuzhno-Igrim, 10-Paul'Tur, 11-Nulin-Tur, 12-Vostochno-Syskonsyn'in, 13-Zapadno-Syskonsyn'in, 14-Yuzhno-Syskonsyn'in, 15-Pungin, 16-Gornoye, 17-Zapadno-Shukhtungort, 18-Vostochno-Shukhtungort, 19-Zapadno-Ozer, 20-Vostochno-Ozer, 21-Verkhnekondin, 22-Verkhnelem'in, 23-Danilov, 24-Lem'in, 25-Zapadno-Lovin, 26-Lovin, 27-Yakhlin, 28-Severo-Potanay, 29-Yuzhno-Potanay, 30-Zapadno-Kartop'in, 31-Filippov, 32-Kayumov, 33-Vostochno-Semividov, 34-Severo-Ubin, Zapadno-Ubin, Maloubin, and Yuzhno_ubin, 35-Srednemulym'in, 36-Tolumsko-Semividov, Yuzhno-Tolum, Vostochno-Tolum, 37-Severo-Tolum, 38-Kartop'ya-Okhan, 39-Severo-Mortym'in, Zapadno-Mortym'in, Mortym'in-Teterev, Severo-Teterev, Yuzhno-Mortym'in, Severo-Trekhozer, 40-Vostochno-Teterev, 41-Yuzhno-Teterev, 42-Mulym'in, 43-Trekhozer, 44-Severo-Kazym, 45-Lykhmin, 46-Severo-Sote-Yugan, 47-Yuzhno-Sote-Yugan, 48-Sosnovomys, 49-Yem'yegov, 50-Talin, Pal'yanov, 51-Ingin, 52-Lorbin, 53-Kamen, 54-Yelizarov, 55-Novoyendyr, 56-Srednenazym, 57-Aprel, 58-Khanty-Mansiysk, 59-Dekabr, 60-Verkhnyalyamin, 61-Taytym, 62-Tevriz, 63-Prirakhtov, 64-Karabash, 65-Lebyazh'ye, 66-Galyanov.

the Mesozoic and were enhanced by regional uplift in Tertiary time. In the Middle-Ob area, traps more commonly formed penecontemporaneously with reservoir rock deposition. Differential compaction may also have had a significant role on trap development in most areas. A significant stratigraphic facies aspect is important in reservoir, source rock, and trap development in almost all parts of the basin.

In addition to the main oil-gas occurrence in the Jurassic and Cretaceous fill of the basin, hydrocarbon pools have been found in several areas in pre-Jurassic (largely Middle and Late Paleozoic) sediments. Flows of oil have been recovered from such rocks in not less than 12 areas (Trofimuk, 1975), and commercial reserves have been proved. These oils are chemically distinct from Mesozoic oils and apparently were generated by Paleozoic sediments (Ryzhkova, 1976; Trofimuk, 1976; Rigassi, 1986). Deep seismic sounding indicates a great thickness of these unmetamorphosed or lightly metamorphosed rocks in several parts of the basin. In the Middle Ob region, they are 3 - 4 km (10,000 - 13,000 ft) thick (Aleksin and others, 1975), and are as much as 5 - 7 km (16,000 - 23,000 ft) thick in other parts of the basin (figs. 12-14, 17, 19).

The West Siberian basin covers an area of approximately 3,500,000 km² (1,300,000 mi²) and contains a Mesozoic-Cenozoic basin fill of approximately 16,000,000 km³ (4,000,000 mi³), including the South Kara basin area (figs. 9, 17). Thickness of the post-Triassic sedimentary cover ranges from 3 - 4 km (10,000 - 13,000 ft) in the central and south to 8 - 10 km (25,000 - 33,000 ft) or more in the north (figs. 16, 17-19). The main oil-gas complexes are in clastic sediments of the Jurassic, Neocomian, and Aptian-Cenomanian. Each of these complexes is overlain by thick regional shale deposits of Kimmeridgian-Valangian, Aptian-Albian, and Turonian-Oligocene ages, respectively. The chemistry of the oils indicates that each complex is an independent petroleum unit (Yermakov and Skorobogatov, 1984). Distribution of the oil and gas areas of the basin appears to be directly related to the type of organic material present in the different complexes. Thick and widespread source rock units of either the sapropelic or the humic type and mixtures of both are present in each of the complexes. Additional unexplored potential oil and gas complexes are present in clastic sediments of the Triassic in the northern region and in the Paleozoic-basement complex of the southern, central, eastern, and western basin areas.

Geothermal gradients in the basin are near normal in most areas (fig. 61). Lowest values (2.8 - 3.0°C per 100 m) are in the southeastern part of the basin; highest values (greater than 4.5°C per 100 m) are in the Near-Urals western region; values of 3.3 - 4.2°C per 100 m are characteristic of the remainder of the basin (Yermakov and Skorobogatov, 1984). Present-day temperatures at the top of the Middle-Upper Jurassic Tyumen Formation, based on 3,200 wells, range from 30-50°C near the line of pinchout to 100-130°C in the central and north parts of the platform (fig. 62). Values at the top of the Neocomian range from 30-60°C to 80-100°C; at top of Cenomanian from 10-20°C to

Figure 61. Geothermal gradient, °C/100 m (from Sergiyenko, 1978)

Figure 62. Present-day temperature ($^{\circ}\text{C}$) at top of Tyumen Formation (Middle-Upper Jurassic) (from Yermakov and Skorobogatov, 1984)

55°C (fig. 63). The time of maximum paleotemperature was at the end of the Chegan Stage of the early Oligocene, after which temperatures began to drop because of regional uplift (Yermakov and Skorobogatov, 1984). Pure gas pools (mainly methane) in Jurassic rocks are found for paleotemperatures below 80°C, and a variety of oil-gas-condensate accumulations are present in the 80°-145°C range. Above a paleotemperature of 150°C, the probability of oil being preserved is much less. No hydrocarbon deposits have yet been found in the West Siberian basin where paleotemperatures have exceeded 180°C (Yermakov and Skorobogatov, 1984e), although gas and gas-condensate pools are possible above 180°C.

Regionally, the distribution of oil and gas accumulations in the basin shows a relatively well defined pattern (figs. 56,64). Accumulations of predominantly gas or gas-condensate are found in the Yamal, Gyda, Nadym-Pur, Pur-Taz, northern Near-Ural and Ust-Yenisey regions; predominantly oil is found in the Middle Ob, Frolov, southern Near-Ural and Kaymysov regions; and mixed oil and gas in the Vasyugan and Paydugin regions. Mixed oil and gas are projected for the Taymyr potential oil-gas region (fig. 55).

The following sequence of petroleum generation and accumulation stages has been proposed for the Jurassic sediments (Yermakov and Skorobogatov, 1984; Lugovtsov and Moskvina, 1980):

1. Biogenic gas began to be generated in the Lower-Middle Jurassic sediments in the northern region in Middle Jurassic time. Much of this gas was lost because of lack of seals. The lower parts of the Jurassic section may have already been in the oil window by Late Jurassic time (figs. 17-19).
2. During Early Cretaceous time, the lower part of the Jurassic was involved in oil-gas generation over practically all of the West Siberian platform.
3. After Cenomanian time, the maturation process in the Jurassic sediments probably diminished and a large part of the north basin was at temperatures greater than 145-150°C.
4. Regional uplift and geothermal reversal in Neogene time caused a drop in reservoir pressures, some gas was released from solution, and the formation of new pools and redistribution of old pools occurred.

Intermediate Stage

The Intermediate Stage as used here consists of pre-Jurassic Paleozoic, weathered basement-surface, and Permian-Triassic-Liassic taphrogenic graben rocks in the basin area south of approximately 64° N. North of here, Paleozoic rocks become buried too deeply for economic plays at this time, other than possible gas deposits. Marine, lagoonal, and continental Triassic sedimentary rocks are widespread and thicken

Figure 63. Present-day temperature ($^{\circ}\text{C}$) near top of Cenomanian (Upper Cretaceous) (after Yermakov and Skorobogatov, 1984)

rapidly in the northern area (fig. 20). These rocks are more properly included with the Mesozoic-Cenozoic cover (Zhuravlev, 1984).

The Permian-Triassic-Liassic graben basins are filled with thick deposits of volcanic, volcanogenic-sedimentary, and some alluvial-lacustrine rocks; these are present in several areas of the Middle Ob and southern areas (figs. 11,17,18,20). These generally are not oil-gas prospective sequences, except as remote possibilities for hydrocarbons migrated into these rocks from post-unconformity Jurassic rocks, or in some cases Paleozoic carbonate or clastic rocks on adjacent uplifts. Petroleum accumulations in these basins are likely to be small and difficult to find.

These rift basins may be more widespread than originally thought. They are commonly not recognized without good deep seismic data. Well control is limited because deeper drilling thus far has generally been for Mesozoic reservoirs on uplifts rather than in the graben regions. Triassic rocks with vitrinite reflectance indicating paleotemperatures not exceeding the oil window have recently been reported along the Irtysh River near Omsk (fig. 17). Matured Carboniferous rocks have been reported to the southwest in the vicinity of Kurgan (Fomin, 1987).

In several parts of the middle and southern areas of the province, oil and gas shows are widespread, and commercial fields have been found in weathered and fractured rocks below the Jurassic unconformity, including Paleozoic reefs and other carbonate rocks. In some cases, particularly on the west side of the basin, accumulations are related to migration and trapping of oil or gas sourced by the overlying Jurassic or Lower Cretaceous organic rich rocks. However, in the southeastern basin area, oil and gas pools are present in Paleozoic carbonate and clastic reservoirs, apparently sourced by high-organic Paleozoic rocks (Ryzhkova, 1976; Trofinuk, 1976; Aleksin and others, 1975; Rigassi, 1986; Vyshemirskiy and others, 1972; Zapivalov and others, 1980; Krylov and others, 1981; and Sevost'yanov, 1980, 1982). Carbonate and clastic rocks of Middle and Late Paleozoic age have been drilled below the Jurassic unconformity in most parts of the central, southern, and eastern areas of the basin, particularly on structurally high areas adjacent to Late Permian-Triassic grabens. Most of these rocks are fractured and metamorphosed to varying degrees, but areas of relatively unaltered rocks also are reported (Krylov and others, 1981; Surkov and others, 1983; Vyshemirsky and others, 1972). A large area of particular interest is the Khanty-Mansiysk depression, where a central massif of Paleozoic age (fig. 13) has been outlined (Surkov, and others, 1983).

According to Sevost'yanov (1982), pre-Jurassic structure is very complex in most of the basin, and oil or gas pools will probably be small. In most areas, Paleozoic rocks have been over-heated, generally above 160°C. Two kinds of petroleum accumulations in Paleozoic reservoirs are possible: 1) on pre-Jurassic erosional highs, and 2) within isolated pre-Jurassic reservoirs. Three structural-stratigraphic complexes are recognized in the pre-Jurassic of the central and southern areas of the basin (Sevost'yanov, 1982): 1) a Paleozoic geosynclinal

complex; 2) a Paleozoic platform complex, in the Yenisey-Taz regions; and 3) the Triassic-Liassic taphrogenic complex, found in grabens south of the Triassic blanket cover of the north basin.

According to Zhuravlev (1984), areas of greatest promise for Paleozoic oil or gas include the Nyuroi, Khanty-Mansiysk, Yugansk (eastern part), Ust-Tyrreskaya, Nadym (north part), Tanlov, and Yenisey depressions, the development of which began in the Late Paleozoic and continued through the Triassic or later. Negative factors are as follows: (1) adverse thermal conditions, with high paleotemperatures and the probability that there would be widespread destruction of oils; (2) active tectonism for more than 100 my and widespread magmatic activity; these conditions would cause vertical migration or destruction of earlier oil accumulations; (3) poor reservoir quality in almost all rocks; (4) absence of good seals, such as evaporites and thick clays. Three possible objectives are listed: (1) Middle Paleozoic geosynclinal and platform (to the east) complex - very low potential, except for possibly the Yenisey-Taz block; (2) upper Paleozoic orogenic and platform (to east) complex - some (non-commercial) accumulations of gas and some oil are possible in the troughs in the Ob area and some in the Yenisey-Taz block, but it is very difficult to find these troughs; (3) Triassic-Liassic taphrogenic complex within narrow grabens - only non-commercial secondary accumulations of oil and gas may be present, and these will be difficult to find. The overall appraisal is that the intermediate section is poorly prospective.

Platformal Triassic

The Permian-Triassic taphrogenic rifts extend northward into and across the north basin area (fig. 20). In this area the rift deposits are overlain by thick lagoonal and marine sedimentary rocks, which cover most of the northern part of the basin (Zhuravlev, 1984). These platformal Triassic rocks thicken rapidly northward to more than 2 - 3 km (6,500 - 10,000 ft), possibly reaching more than 5 km (16,000 ft) in places (Kontorovich, 1975). These rocks are buried deeply beneath as much as 6 km (20,000 ft) or more of Jurassic and younger sediments north of the Urengoy-Yamburg region (figs. 15, 16, 17, 19). The lithologic nature of the Triassic rocks here is not yet well known. Wells drilled into the Triassic in the north basin have penetrated a section of alternating dark gray shales, siltstones, sandstones, and tuffaceous sandstones (Kontorovich and others, 1975). The presence of a large area of Triassic clastic deposits in the Khatanga downwarp near the Taymyr uplift (fig. 20) (Rudkevich, 1976) suggests that clastic reservoirs, in part marine, should be present to the northeast and perhaps in other parts of the northern region (fig. 20). A relatively thick section of Triassic rocks is identified on seismic sections across the South Kara basin to the northwest. The possibility of good clastic reservoirs and source rocks in the Triassic system of the north basin area appears to be reasonable, although, except for the northeastern region near the Taymyr uplift and in the Khatanga trough, these rocks may be buried in most places to depths within or below the thermal gas window. Good shale seals should be present within and overlying the Triassic beds in

all of this area, and adequate source rocks should be present in the Triassic marine, lagoonal, and lacustrine beds. According to Yermakov and others (1979), Triassic rocks in the north are definitely favorable for gas.

Jurassic

Sandstone and siltstone reservoirs of Jurassic age are productive in scores of oil and gas fields in the West Siberian province. Several fields also produce oil from fractured reservoirs of the highly organic, limy siliceous, argillaceous Bazhenov Formation. As many as 20 Jurassic plays are identified (Yermakov and Skorobogatov, 1984).

Jurassic rocks tend to be oil-prone, although a large area of gas production is present in the Berezovo area on the west side of the basin, and associated gas is commonly present in many of the oil fields (figs. 65-67). Gas and some oil also have been found in Jurassic sandstone and siltstone reservoirs in a few north basin fields, all of which also produce gas condensate from Cretaceous reservoirs. However, the Jurassic in the north basin area probably has not been heavily explored because of depth constraints in most areas, plus an abundance of already developed gas reserves in Cretaceous reservoirs.

Thus far, many more pools have been found in Upper Jurassic reservoirs than in the Lower and Middle Jurassic. Three main Upper Jurassic plays are recognized (Skorobogatov, 1980): 1) the Upper Jurassic Vasyugan Formation sandstones; 2) the Vogulkin Formation sandstones and limestones; and 3) the Bazhenov Formation organic-rich, sapropelic, siliceous, limy shale. Vasyugan sandstone and siltstone beds are important reservoirs in the southeastern, central and north regions of the basin. The Bazhenov Formation is commonly 10-40 m (33 - 100 ft) or more thick and is widespread over much of the interior basin. Important production is obtained from fractured reservoirs in this unit in parts of the central basin area, particularly in the Salym and adjacent areas. However, Bazhenov discoveries also have been made in recent years in the Tomsk region (fig. 8), in the north basin area, and in several other areas. Bazhenov reservoirs are fractured and generally over-pressured, particularly in areas of higher temperatures. Many of the associated production problems have not yet been resolved, and partly for this reason the Bazhenov has not been thoroughly explored. However, this unit is potentially one of the most promising future reserve plays of the basin as technology improves (Skorobogatov, 1984). Horizontal drilling may increase production significantly from the Bazhenov (Izvestiya, January 29, 1986). Promising areas are in the Salym and adjacent region, the Khanty-Mansiysk depression, the northern Middle Ob region, and the Yamal Peninsula.

Sandstones of the Jurassic system are moderately high in feldspar content (30-50 percent or more), contain 20-45 percent quartz, and 1-12 percent mica, becoming somewhat more micaceous in the northern region. Upper Jurassic sandstone reservoirs in the southeast part of the basin are associated mainly with an elongate south-north trend of deltaic and

Figure 65. Percent sandstone, Lower and Middle Jurassic rocks, showing areas of predominantly sapropelic organic matter, and general distribution of oil and gas fields producing from Lower and Middle Jurassic reservoirs (from Nesterov, 1976, Ronkina and Bro, 1984). Arrows show direction of transport

Figure 66. Percent sandstone, Upper Jurassic rocks, showing areas of predominantly sapropelic organic matter, and general distribution of oil and gas fields producing from Upper Jurassic reservoirs. (from Nesterov, 1976). Arrows show direction of transport of clastic sediments

POST-JURASSIC ROCKS
Thickness in hundreds of m.

foredelta facies extending along the eastern border of the Middle Ob region (figs. 25, 66). Within this belt are found the thickest and most porous sandstone reservoirs, many with a north-south channel-sand configuration. The deltaic facies grades westward into organic-rich marine argillaceous beds with a low sand content (Filina, 1974; Ovanesov and others, 1975). A similar deltaic facies is present in the Lower-Middle Jurassic Tyumen Formation, but much of this facies includes lacustrine and swamp deposits, and the sandstones are generally of low permeability and porosity, although some channel sandstones of higher porosity are present. Jurassic rocks, particularly those of the Upper Jurassic, are exceptionally high in organic material, predominantly sapropelic in the basin interior (figs. 21, 25, 28, 64-66). Lower-Middle Jurassic rocks are characterized by mainly humic organic material, with coal beds prominent in the central and southern basin, where lacustrine and swampy beds are common. Marine sapropelic organic matter is particularly abundant in Upper Jurassic rocks over much of the basin, except for the eastern and southern areas, where humic matter and some coals are present (fig. 66). The following table is from Yermakov and Skorobogatov (1984):

Average content of total organic carbon (percent) in Jurassic of West Siberia:

	Clays and argillites	Sandstones and siltstones
Volgian	6.85%	--
Kimmeridgian	2.85%	--
Callovian-Oxfordian	1.76%	1.12%
Lower & Middle Jurassic	2.62%	1.26%

Average total organic carbon content of Upper Jurassic rocks is also given as follows (Skorobogatov, 1980):

Vasyugan Formation & equivalents	1.91%
Georgiyev Formation	2.85%
Bazhenov Formation	7.12% (10-12% in the Mansiysk region; 3.4-5.5% in the north basin area)

Regional shale seals are present in the upper part of the Upper Jurassic section (Bazhenov and Georgiyev Formations and the upper part of the Tyumen Formation). Seals tend to be discontinuous in the Lower and Middle Jurassic section, although persistent clay or shale intervals are present in the middle and lower part of the Tyumen Formation.

Because of high quality source rocks, the Jurassic section has a high generating capacity, but because of poorer reservoir development, it contains much fewer large fields than does the Cretaceous section (Yermakov and Skorobogatov, 1984c). Because of better reservoirs and a better overlying seal (Bazhenov Formation and lower Neocomian shale), greater reserves are found in the Upper Jurassic Vasyugan Formation reservoirs and their equivalents than in the Lower and Middle Jurassic Tyumen Formation reservoirs.

Several main areas of Jurassic production or potential production are delineated in the West Siberian basin (Rudkevich and Ozeranskaya, 1983): Kaymysov, Vasyugan, and Paydugin regions - Sixty-five or more oil and oil-gas fields productive from Jurassic reservoirs or from weathered granitic- metamorphic rocks are located in these three regions in the southeastern part of the basin (figs. 55, 56, 64-66). Most of the fields are located on domal or anticlinal structures that reflect basement highs or buried hills beneath the Jurassic unconformity. Production is mainly from sandstone and siltstone reservoirs in the Vasyugan Formation (Upper Jurassic), and in some fields from Middle Jurassic sandstone or siltstone reservoirs of the Tyumen Formation. Reservoirs are present also as updip stratigraphic trap pinchouts on weathered granite hills beneath the unconformity. A few fields, particularly in the Nyuroi and southern Vasyugan regions, are also productive from Paleozoic carbonate reservoirs and weathered basement rocks. Some minor production in these regions comes from Neocomian sandstone or siltstone reservoirs.

Middle Ob and southern parts of Nadym-Pur and Pur-Taz Regions - A large number of fields produce oil or oil-gas from Jurassic sandstone and siltstone reservoirs in these regions of the central basin area (figs. 17, 18, 55, 56, 58, 59, 65, 66). The Lower-Middle Jurassic beds are mainly continental in this region (Brushtov and others, 1975; Filina, 1974), and pools are small. The Upper Jurassic beds are mainly marine and littoral-marine deltaic and foredeltaic deposits with relatively persistent sandstones, many with good porosity and permeability, interbedded with shale. Shale content increases rapidly from east to west across the region. The sandy facies is most prevalent on the Nizhnevartov arch and on other structures to the north and south, becoming increasingly discontinuous and more shaly toward the west in the area of the Surgut arch. Most of the oil pools are on the periphery of the Nizhnevartov arch, and traps are mostly stratigraphic-structural. Sandstone reservoirs commonly wedge-out updip on domes or anticlines, and at least half of the traps are classed as stratigraphic (Burshtk and others, 1975).

Organic-rich marine sapropelic beds are prominent in most of the Jurassic section across the entire Middle Ob area, particularly in the Upper Jurassic, where the Bazhenov Formation makes a regional seal as well as rich source rock for Jurassic oil (figs. 17, 18, 64-66). The

relatively thick overlying lower Neocomian shale section also provides an additional regional seal for Jurassic sandstone pools, as well as for fractured shale pools in the Bazhenov.

Near-Ural and Frolov regions - These productive regions occupy the western part of the West Siberian province. In the early 1950's, the first discoveries in this province were made here. The area stands apart geologically from the rest of the province in that the prolific deltaic and other nearshore sandstones of the central and northern regions are not present, having shaled out westward into the Mansiysk depression (figs. 55, 60, 65, 66). Parallel with the facies changes, however, is the appearance of a widespread Lower-Middle Jurassic western sandy reservoir facies of the Tyumen Formation that commonly pinches out against erosional residuals on the pre-Jurassic surface. These deposits are mainly continental sand-clay coal-bearing rocks derived from ancestral Ural highlands on the west. Toward the east, they grade into coastal plain and marine deposits. Overlying the Tyumen Formation are Upper Jurassic argillaceous rocks of the Vasyugan, Georgiyev, and Bazhenov Formations (Dikenshteyn, 1977). These rocks become sandy on the west toward the Ural source area. Dark gray, commonly sapropelic, clay or shale formations of Neocomian Cretaceous age rest conformably on the Bazhenov Formation in most of the area.

Most oil and gas fields in this area occur in stratigraphic and draped traps over the basement highs. The Berezovo gas area contains 20 or more gas fields. Most reservoirs are basal sandstones of Late Jurassic age, which pinch out against basement highs (Dikenshteyn, 1982; Clarke, 1984). Weathered basement rocks are productive in a few fields. Small gas pools also have been found in sandstone and siltstone reservoirs of late Neocomian age.

The Shaïm oil area includes the Shaïm arch and a large region of smaller highs to the northwest. Oil pools are in Upper Jurassic basal sandstones, which rest transgressively on and pinch out against buried hills that were islands in the Late Jurassic sea (Ryabukhin, et al, 1969; Clarke, 1984).

In the Frolov oil region, the Krasnoleninsk arch contains several fields, which are depicted as one large field in figure 60.

Northern area, (Yamal, Gyda, Nadym-Pur, Pur-Taz, Ust'-Yenisey, and Taymyr regions) - As of 1979, 50 wells had penetrated to Jurassic rocks in the northern area; only six had reached 4,000 m (13,000 ft) or deeper.

Jurassic rocks are high in sandstone content across most of the Ust'-Yenisey, Taymyr, and Yamal and Pur-Taz regions (figs. 21, 25, 65, 66). Sapropelic marine shale beds are also widespread, particularly in the central and eastern parts of the northern area, grading into and

intertonguing with the adjacent bordering sand facies. For these reasons, significant oil, oil-gas, or gas-condensate accumulations should be present in these rocks. The Jurassic section, however, is buried deeply in much of the northern area and has not been adequately explored (fig. 67). Gas production is reported from Middle and Upper Jurassic sandstone reservoirs in the south part of the Ust'-Yenisey region, and gas has been encountered in at least one field in the Yamal region. Gas-condensate and some oil are found in Jurassic reservoirs in other parts of the north basin. Oil pools are reported in the Vasyugan Formation in the Gubkin, Severo- and Yuzhno-Kharampur, and Verkhnechasel'ka fields and in the Tyumen Formation in the Yuzhno-Kharampur field (Yermakov and Skorobogatov, 1984). According to these authors, favorable areas for Jurassic exploration are in the Nadym-Pur and Pur-Taz regions, between the Nadym and Taz Rivers, although prospects are likely to yield only small to medium-size gas pools. Lower and Middle Jurassic reservoirs are considered favorable for gas-condensate pools, and Upper Jurassic reservoirs for light oil.

According to Yermakov and Skorobogatov (1984), the most probable time of formation of oil and gas pools in the Jurassic rocks of the northern area was in the Neocomian-Albian. Subsequently, the accumulation potential of the Jurassic rocks was decreased considerably due to deterioration of reservoir properties accompanying subsidence and compaction. The possibility for migration of hydrocarbons was reduced sharply. Therefore, the hydrocarbons generated after the Albian were not able to collect in pools but are scattered in a myriad of non-commercial accumulations.

Neocomian

Reservoirs - Reservoirs of Neocomian age are the main oil producers in the West Siberian basin. Neocomian beds are strongly oil-prone in the central part of the basin (Middle Ob region), where the main oil deposits are located, but are largely gas-prone where productive in the northern area (figs. 55-57, 68-71).

The Neocomian section ranges in thickness from about 800 m (2,500 ft) in the south to more than 1,500 m (5,000 ft) in the north (fig. 29). At least 30 sandstone and siltstone productive horizons separated by clays or shales are present (Yermakov and Skorobogatov, 1984c), including the B1 - B22 horizons of Valangian-Hauterivian age and the A1 - A12 horizons of upper Hauterivian-Barremian age (Ozeranskaya, 1979). Most of the reservoirs shale out from east to west; the sandstone content of the Neocomian is 60% or more on the east side of the basin, 25-40% in the Middle Ob region, and less than 10% in the west side of the basin (figs. 30-34, 68-71).

Most reservoirs are nearshore marine deltaic, interdeltaic, or fluvial sandstone bodies derived from source terranes on the southeast

Figure 68. Percent sandstone, Lower Cretaceous, lower and middle Valanginian rocks, showing areas of predominantly sapropelic organic matter (from Nesterov, 1976). Arrows show transport direction of clastic sediments

● >50% Sandstone

● >25% Sandstone

≡ Predominantly sapropelic organic matter

LOWER & MIDDLE VALANGINIAN

● Oil Field (not to scale)

○ Gas Field (not to scale)

Figure 69. Percent sandstone, Lower Cretaceous, upper Valanginian, showing areas of predominantly sapropelic organic matter, and general distribution of oil and gas fields producing from Valanginian reservoirs (from Nesterov, 1976)

Figure 70. East-west cross section across part of the Middle Ob region, showing intertonguing sandstone, siltstone, and shale facies and oil pools (from Rudkevich, 1988)

Figure 71.
(From Nesterov, 1976)

50% Sandstone	HAUTERIVIAN-BARREMIAN-APTIAN
25% Sandstone	Oil Field-not to scale
Predominantly sapropelic organic matter	Gas Field-not to scale

and south. There was very little source area on the east because drainage of the Siberian craton was to the east, leaving very little area between the West Siberian basin and the Siberian craton immediately on its east for supply of detritus westward. Further, the western part of the Siberian craton was covered with Triassic basaltic flows, or had sedimentary rocks exposed, and consequently could not have supplied the arkosic sands for the West Siberian Neocomian deposits. Judging from coarse clastic distribution, another important source area was present in the Taymyr uplift region on the northeast border of the basin (figs. 30-34, 68-71). A less prominent source area that supplied clastic material was the Ural Mountain uplift. The main reservoir facies was deposited near the Neocomian shoreline, which fluctuated east and west across a major north-south central basin paleo-platform region (Khanty regional high) (Erv'ye, 1974; Yermakov and Skorobogatov, 1984). This paleogeographic pattern resulted in deposition of a thick complex of sandstone and siltstone reservoir beds, separated by transgressive marine shale tongues, many of which are of source rock quality (figs. 30-34, 68-71). These facies changes are well exemplified on the Nizhnevartov and Surgut arches, major segments of the paleo-platform, which contain the bulk of Neocomian oil reserves of the Middle Ob region. Foredelta, shallow bay, and subaerial plain sediments are recognized in the eastern part of the Nizhnevartov arch, grading westward to mainly open marine shaly facies in the western part of the arch. Upward, the section becomes more brackish, lagoonal, and lacustrine, and the maximum sandstone and siltstone content shifts westward, a consequence of regressive conditions late in the Neocomian. Clay content of individual horizons generally decreases from west to east, while sand sorting and reservoir porosity-permeability increase. Porosity and permeability also increase upward in individual horizons because of lower clay content and better sorting. The distribution of clastic sediments was controlled not only by the shifting fluvial-deltaic and marine environments, but also was affected by gentle tectonic movements of the floor of the sedimentary basin. Undoubtedly, superimposed eustatic sea level fluctuations also influenced distribution of the coarser reservoir and associated facies.

Neocomian reservoir sands in the Middle Ob region are composed of 25-40% quartz, 30-55% feldspar, and 3-6% mica, and are of 0.09-0.18 mm grain size. To the north (Urengoy and Gubkin fields), these sands are 25-50% quartz, 30-50% feldspar, and 3-10% mica and are of 0.1-0.14 mm grain size (Zaripov and Kulskhnetov, 1974).

Pools in the Middle Ob region are almost all oil or oil-gas. Only in the Cenomanian reservoirs in this area are pure gas pools found (e.g., Samotlor field). Residual oil in these gas pools suggests that the traps were once filled entirely by oil, and that oil was later displaced out of the traps by thermal gas resulting from greater subsidence of the source beds or by gas liberated from solution as a result of Tertiary uplift, erosion, and reduction of formation pressure.

With depth, there is a general decrease in oil density, tar, asphalt, and sulphur, and an increase in paraffin content (Ozeranskaya, 1979). Most stratigraphic traps are found within the regional pinchout (shaleout) zones of the sandstone horizons. Regionally, the shaleout zones run southwest to northeast across the approximate basin center (figs. 68-71) (Binshtok, 1980).

Stages of oil-gas accumulation in Neocomian reservoirs of the Middle Ob region are analyzed by Ozeranskaya (1979) and Schepetkin (1980) as follows:

First stage - early Turonian time; first phase of oil-gas accumulation in the Middle Ob region.

Second stage - oil filling completed by the end of the Mesozoic.

Third stage - Migration of gas-condensate and gas from depressions to the north of the Middle Ob region, related to neotectonic uplift and separation of gas from solution in formation waters. This process resulted in formation of the gas caps.

Source Rocks - Neocomian rocks, mainly clays or shales, are dark colored and bituminous, particularly in the lower part, in much of the western and central basin areas. Humic organic material is present in variable amounts in the eastern and southern parts of the basin and in parts of the Near-Ural western fringe of the basin (figs. 30-34, 64, 68, 69, 71). Higher values generally are found in the Berriasian and Valangian section, but values as high as 1% or more also are present in the Hauterivian-Barremian section. In general, reported values are higher in the north basin. Calculations on type and distribution of organic matter in the basin are given by Yermakov and Skorobogatov, (1984d):

Berriasian-Valanginian

<u>West and central regions of platform</u> (predominantly sapropelic and humic-sapropelic disseminated organic matter)	0.5-2.0% (av. 0.66%) in clays; 0.3-0.6% (av. 0.5%) in sandstones and siltstones
--	--

<u>Northern region</u> (humic components are greater and coal beds are present)	1.05% av. in clays; 0.65% av. in sandstones and siltstones
--	--

Hauterivian-Barremian

<u>Middle Ob and Mansiysk region</u> (sapropelic-humic disseminated organic matter, grading to sapropelic)	0.3% in east to 1.0% in west (av. 0.49%) in clays; 0.2-0.6% (av. 0.35%) in sandstones and siltstones
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<u>Northern region</u>	0.89% av. in clays; 0.70% av. in sandstones and siltstones
------------------------	--

Aptian-Cenomanian

(mostly humic disseminated organic matter)	1.11% av. in clays; 1.02% av. in sandstones and siltstones Concentrated organic matter (coal beds) comprises 3-5% of total organic matter in Aptian-Cenomanian.
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Thickness of beds of concentrated organic matter (coal) in the Neocomian-Cenomanian sediments of the north of West Siberian basin ranges from 10 to 15 m (33 to 50 ft) along the margins of the basin to 30 m (100 ft) in the central parts. The total mass of organic matter in West Siberia is as follows:

Berriasian-Valanginian, 6.7×10^{12} tons; Hauterivian-Barremian, 10.0×10^{12} tons; and Aptian-Cenomanian, 48.4×10^{12} tons.

Yermakov and Skorobogatov (1984) give the following calculations:

Oil-gas complex	Disseminated organic matter	Total content of organic matter (10 ¹² tons)	Hydrocarbons generated 10 ¹² tons		
			Methane	Bituminoids	Total
Aptian-	Humic	17.10	0.230	0.049	0.279
Cenomanian	Sapropelic	4.27	0.097	0.307	0.404
Neocomian	Humic	11.22	0.273	0.063	0.336
	Sapropelic	11.22	0.385	1.406	1.791

According to Yermakov and Skorobogatov (1984), maximum temperature achieved in the Neocomian beds was 90-140°C, and the type of hydrocarbon was controlled largely by the type of organic matter. From south to north in the central basin area, the composition of disseminated organic matter changes from 60-90% sapropelic and humic-sapropelic in the Middle Ob area to 30-40% in the Nadym-Pur and Pur-Taz regions, to 20-30% on the Yamal and Gyda Peninsulas, accompanied by a northward change to less marine material. In the same direction, a shift occurs from predominantly oil in the Middle Ob region to gas-condensate-oil immediately north of the Middle Ob area, then to gas-condensate farther north. Small oil rings are present in the Urengoy, Taz, and Yamburg areas.

Seals - Shale (clay) units of both marine and nonmarine origin and of both regional and local extent are common within and overlying the Neocomian section. Most widespread are the marine shale units deposited during major transgressions following deposition of deltaic, interdeltic, and alluvial plain regressive facies, which contain the main reservoir sandstone and siltstone units. Within the Neocomian-basal Aptian sandstone complex, individual sandstone reservoirs were locally sealed contemporaneously by interbedded clay units deposited during brief minor transgressive stages following coarser clastic deposition. Regional sealing of the Neocomian sandstone complex was completed by deposition of the thick transgressive marine shale of the Alym Formation. No evaporite seals are known in the West Siberian basin.

Traps - Almost all petroleum accumulations in Neocomian rocks thus far have been found on anticlines or arches, many of them inherited from older basement uplifts. However, few of the reservoir bodies are continuous over long distances but rather tend to be highly irregular in thickness, extent, grain size, and clay content within a given horizon. Thus a strong stratigraphic trapping aspect is present in most fields, and many pool traps are located on the flanks of structures as well as on the crest. In the Surgut arch region, Mamleyev (1976) recognized 19 stratigraphic pools containing three giant, two large, and one medium-sized accumulations. Twenty-three percent of the reserves on this arch are estimated to be from such stratigraphic traps. Most structural traps occur in the regional northwesterly and westerly pinch-out zones of the reservoirs and complexes. Pinchouts (or shaleouts) of the sands are currently being mapped by common depth point seismic surveys (Binskiy, 1980).

In horizon BV-10 on the Nizhnevartov arch, at least 20 productive sands are present, most of which shale out in short distances (Lysyanskiy, 1981). Thickness of individual sands is highly variable, and clay sections occur between sands. In one single interval (Horizon BS-10) of the Surgut arch region, a large area of potential stratigraphic trap accumulations is being outlined in a north-northeast belt 30 to 80 km (20 to 50 mi) wide and 300 km (200 mi) long between the Mamontovo field on the south and the Muravlenko field on the north (Nesterov and others, 1985). Within this belt, there are 16 pay zones in the lower Cretaceous, as well as additional pays in the Jurassic. The combination of continuous paleotectonic growth and shifting depositional environments characteristic of the West Siberian basin combine to make the prospects for finding significant stratigraphic trap pools of major importance for future exploration.

Middle Ob Region - The Middle Ob is the most important oil-producing region of the West Siberian province. Approximately 94 oil and oil-gas fields are present in this region, most of them productive

from one or more of approximately 30 or more reservoir horizons in the Lower Cretaceous, primarily Neocomian sandstone and siltstone sections. Two large regional uplifts, the Nizhnevartov and Surgut arches, contain the major oil reserves of the province. Exploration began in the Nizhnevartov arch area in 1957. The first field, Megion, was found in 1961, and the supergiant Samotlor field in 1965. On the Surgut arch, there are 71 structural closures on the top of the Jurassic, 53 on the base of the Aptian, and 38 on the top of the Cenomanian. The pattern is very similar for the Nizhnevartov arch. Most pools are on anticlinal or domal structures, although a strong stratigraphic aspect is associated with most fields. Sandstone horizons are interbedded with shales in the Middle Ob region, and many traps formed penecontemporaneous with deposition as a result of sandstone lensing, pinchouts, shaleouts (facies changes), and differential compaction. As of December, 1984, the Samotlor field, largest in the Soviet Union, had produced 14.7 BB oil. The field peaked in 1980 at 3.0 MMB/D and for 1985 was at 2.8 MMB/D. Cumulative production by January, 1986 was 12,825 MMB (International Petroleum Encyclopedia, 1987). According to the Oil and Gas Journal (8/12/85), the field has been vastly overdeveloped and damaged in attempts to maintain planned growth of Soviet oil production. A detailed analysis of the Samotlor field is found in Nesterov and others, 1971; Clarke and others, 1977.

Northern area - The Neocomian beds are largely gas prone in the north basin area, related to the increase in humic organic material north of the Middle Ob region. North of the Middle Ob region, Neocomian sandstone and siltstone reservoirs of horizons BU₈₋₁₂ of the Megion Formation (Upper Valanginian-lower Hauterivian) are productive of gas and condensate in several fields, all of which also contain gas accumulations in Aptian-Cenomanian reservoirs. Horizon TP₁₋₆ of the Tanopchin Formation (Aptian) also contains gas accumulations on the Yamal and Gyda Peninsulas. Fields in the northern area are all on anticlines or arches, some of large areal extent.

Neocomian reservoirs are productive of gas-condensate and some oil in several fields in the Nadym Pur and Pur-Taz regions, including the supergiant Urengoy field, which now has oil production probably from Valanginian sands. Oil as well as gas-condensate pools also are present in the Novoport field in the southeastern Yamal Peninsula area. Farther northwest on the Yamal Peninsula, numerous gas-condensate pools and several oil pools in Valanginian, Hauterivian, and Berriasian sands are present in several fields, which also are gas-productive from Cenomanian sands (figs. 17, 31-34, 73).

In the Ust'-Yenisey region of the northeastern basin, several gas fields are present, some of which contain gas-condensate pools in Valanginian and Hauterivian reservoirs as well as Cenomanian reservoirs. All of these fields are on anticlinal or domal structures in a region of

Figure 72. POST-NEOCOMIAN ROCKS
Thickness, hundreds of m.

The thickness approximately equals depth to top of Neocomian rocks.

Figure 73
(from Nesterov, 1976)

▨ >75% Sandstone

▤ >50% Sandstone

≡ Predominantly sapropelic
organic matter

APTIAN-ALBIAN-CEANOMANIAN

● Oil Field-not to scale

○ Gas Field-not to scale

↙ Direction of sediment transport

the province where Neocomian rocks are high in sandstone content and contain primarily humic-type organic material (figs. 29-34, 68, 69, 71).

Many of the sandstone-siltstone reservoirs in all these fields are dis-continuous in nature and are interbedded with clay or shale beds, which provide local seals. The thick Aptian-Albian shale section provides an effective regional seal for pools in all of the northern area (figs. 17, 18). In most of the northern area, Neocomian reservoirs are buried to depths of 1,500 to 3,000 m (5,000 to 10,000 ft) or greater (fig. 72).

Aptian - Albian - Cenomanian

Hydrocarbon production from post-Neocomian, primarily Cenomanian, reservoirs is almost entirely gas or gas-condensate in fields north of the Middle Ob region (figs. 37, 39, 56, 73). Approximately 60 gas and gas-condensate fields have been found, many of them of giant or supergiant size. Approximate size of the largest are: Urengoy, 200 by 20-30 km; Medvezh'ye, 120 by 25 km; Yamburg, 170 by 45 km; Zapolyar, 50 by 30 km; and Taz, 26 by 15 km. Production is from thick, loosely-compacted, friable sandstone and siltstone reservoirs interbedded with silty clays containing terrestrial plant remains and coal beds. Total thickness of permeable beds is as much as 500-800 m (1,600 - 2,500 ft). Sandstone content increases from west to east, reaching 60% or more to as much as 80% over a broad area of the eastern basin (fig. 42). Eighteen main pays are present (PK₁ - PK₁₈) at 500-1,800 m (1,600 - 6,000 ft) depths (figs. 74, 75). Most deposits are in the massive pools of the PK₁ - PK₆ reservoir units in the upper part of the Pokur Formation (Yermakov and Skorobogatov, 1984).

The largest is the pool in PK₁, where the gas column is 213 m (700 ft) high. The Cenomanian pools are massive blanket sandstone deposits laid down during the major Albian-Cenomanian regressive stage of basin evolution, occurring just below the thick Turonian. Sixty-two percent of the proven reserves of non-associated gas in the West Siberian basin are in these reservoirs. These gases differ greatly from those of the Lower Cretaceous and Jurassic, which contain a wide range of heavier hydrocarbons, reaching a maximum of 30% or more C₂H₆ in the Middle Ob region. Gases in the post-Neocomian are mainly dry methane with only a small percentage of higher gases, mainly ethane and almost no N, CO₂, or H₂S, a composition related to generation from humic organic matter at the B₂-B₃ stage or coalification or to bacterial destruction of all gases heavier than methane. The gases are low in condensate, e.g. at Urengoy, 0.20 g/cm³ gas and Medvezh'ye, 0.25 g/m³ gas. The gases in the Lower Cretaceous, however, are very high in condensate, values ranging from 56 to 610 g/m³. Very high reserves of condensate are found in some fields.

Figure 74.

POST-CENOMANIAN ROCKS
Thickness, hundreds of m.

Thickness equals approximate drilling depth to top of Cenomanian

Figure 75
(from Nesterov, 1976)

○ >50% Sandstone

● >25% Sandstone

~ Predominantly sapropelic organic matter

UPPER CRETACEOUS
Without Cenomanian

↙ Direction of sediment transport

According to Yermakov and Skorobogatov (1984), the main factors accounting for the huge reserves of gas in the north basin are:

1. High contents of disseminated and concentrated (coal) organic matter of humic composition matured at subbituminous stage of catagenesis to form large quantities of gas.
2. Large volumes of source and reservoir rocks in which migration capacity was high.
3. Large structures with great closure far from the borders of the basin.
4. The presence of thick seals.
5. Relatively "young" age of formation of the gas accumulations.

These genetic conditions are best for the Hauterivian-Cenomanian sediments of the central part of the northern region (Urengoy, Yamburg, Taz, and Nadym) and to a lesser degree for the Valanginian sediments of the Nadym-Taz interfluvium and also the Neocomian-Aptian and Albian-Cenomanian sediments of the Yamal and Gyda oil-gas regions. The differences in vertical distribution are governed by the presence of seals in the section (Yermakov and Skorobogatov, 1984).

Calculations show that at the end of the Cenomanian the organic matter of the Hauterivian-Cenomanian sediments reached the middle brown coal stage. High concentrations of coaly material led to generation of large amounts of methane. Most of this gas was lost, because no seal was yet in place. A second stage of generation began in the Turonian after the Cenomanian and older reservoirs were well sealed by the overlying regional Turonian clays. Gas did not migrate from deeper horizons at this time because it was sealed by Aptian-Albian and Neocomian clays. Between Turonian and middle Oligocene time, gas generation continued as organic matter reached the early long flame coal stage. This gas was trapped in Cenomanian and older reservoir sands. The lower part of the thick Turonian clays may have generated substantial amounts of biogenic gas which, unable to escape upward, migrated downward to contribute to the almost pure methane in the Cenomanian reservoirs. In the middle Oligocene and Neogene, gas generation essentially ceased because of regional uplift, but redistribution of the earlier trapped gas accumulations occurred. The decrease in pressure accompanying the late Tertiary uplift and erosion certainly led to release of gas from solution in the formation waters of the Mesozoic sediments, thereby adding yet more gas to that already present in the reservoirs. Still other quantities of gas may have been supplied from the formation waters as a result of freezing to great depth during glacial times. As the rock became frozen, the gas in water solution would have gone into the gas hydrate stage. On subsequent

thawing during interglacial time, part of the gas released by melting of the hydrates would remain as free gas to collect in the reservoirs.

CONCLUSION

Among the world's petroleum provinces, the West Siberian basin is geologically distinctive in several aspects. The factors of basin size, paleostructural history, continental-marine facies interchange and cyclic depositional history, abundant source rock and reservoir facies, and efficient petroleum generation and preservation conditions combine to make it one of the world's foremost petroleum provinces. This enormous basin, the world's largest intracratonic basin, underwent a remarkably stable, but paleostructurally mildly-active, Mesozoic depositional history of slow subsidence and basin filling, all of which combined to provide optimum environmental conditions for petroleum accumulation and preservation. Terrigenous sediment influx, mainly from the southeast, was sufficiently great for coarse clastic materials to spread widely across the eastern half of the basin and intertongue with marine sapropelic facies of the open basin to the west. At the same time, the basin was sufficiently large and subsidence rates were great enough that terrigenous sediment influx did not fill it entirely. This imbalance allowed the development of partially starved-basin conditions in much of the west half of the basin, where as much as 2,500-3,000 m (8,000-10,000 ft) of dark marine shale, much of it rich in organic matter, was deposited between Middle Jurassic and early Tertiary time. During most of Early Cretaceous time, the site of the deltaic-open basin transition was across the central basin area, the Khanty regional high, a regional paleostructural feature of the basin apparently inherited from late Paleozoic Hercynian tectonic activity. Continuous but mild paleostructural growth of the Khanty regional high and associated smaller structural elements provided a broad shallow-water intrabasin platform where the immense deltaic and continental eastern facies spread out along the fluctuating Lower Cretaceous shoreline belt. Minor transgressive-regressive cycles of sea level change and paleostructural growth in this environmental setting provided optimum conditions for reworking and winnowing the feldspathic deltaic and interdeltic sands, with consequent improvement of reservoir characteristics. During transgressive phases of the minor cycles, the outer deltaic belt shifted eastward, and marine sapropelic muds were deposited over and intertongued with deltaic fringe, longshore, and channel sand bodies to provide a remarkably efficient source rock-reservoir-seal interrelationship.

Continuous mild structural growth of the central basin was a major factor in allowing this combination of circumstances to exist for sufficient length of time to construct such a regionally extensive reservoir-source rock complex as exists in the Nizhnevartov, Surgut, Urengoy, Yamburg, and other areas of the central basin. The extensive data on source rock parameters published by Soviet geologists show that

the source rock quality of the basin is unusually high. This aspect appears to be related in part to the regional paleostructure of the basin, with relatively rapid subsidence of the western basin trough providing a semi-starved restricted circulation depression where accumulation of marine plankton under anoxic deeper-water bottom conditions allowed the preservation of unusually large amounts of marine organic material for ultimate oil generation. The high organic content of the basin may have been partly related to the paleogeographic setting of the basin with respect to the broad, silled connection with the open-ocean Arctic basin on the north. Southward circulation of cooler nutrient-rich marine waters across the North Siberian sill into the warmer-water epicontinental basin would have stimulated the production and accumulation of plankton-derived organic matter to an unusually high degree, particularly during regressive stages of lower sea level.

Aside from these sedimentary and paleostructural factors, a most important aspect of the West Siberian basin is the fact that the entire basin remains essentially intact today. Post-depositional tectonic activity has been only mildly epeirogenic, compared with many other sedimentary basins of the world, so that the early accumulations of petroleum in stratigraphic and structural traps remain relatively undisturbed and therefore preserved.

Over the past 20 years, the West Siberian basin, particularly the central part, has undergone relatively intensive exploration. However, large segments of the basin region are relatively unexplored, particularly the South Kara Sea basin and the Yenisey-Khatanga trough. Both these areas are promising, especially for natural gas and probably oil. Burial depths for Jurassic rocks are greater than 4 to 5 km in the deeper parts but are probably less than 3 km in much of these areas (fig. 67). The major Jurassic and Cretaceous source rock facies should extend northward into both these regions (figs. 17, 25-42). The Taymyr uplift and probably Novaya Zemlya were clastic source areas during most of Mesozoic time. Reservoir sands sourced from these uplifts should be present in stratigraphic relationship with source rock facies and seals, not unlike that of the productive areas to the south.

Most of the basin reserves of both oil and gas have been found in local structures on regional highs, but many of the pools are stratigraphic (lithologic of Soviet authors) or combination structural-stratigraphic. The intertonguing cyclic sequence of deltaic and nearshore marine sandstone, siltstone, and bituminous shale facies characteristic of much of the basin deposition should provide excellent prospects for stratigraphic trap accumulations. Important resources of undiscovered oil and gas will undoubtedly be found in such traps, similar to many of those already found in the Middle Ob area (figs. 17, 18, 70).

U.S. Geological Survey modal estimates of undiscovered conventionally recoverable petroleum resources for the West Siberian basin (1987) are 30 BBO (billion barrels oil) and 350 TCF (trillion cubic feet) gas.

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Appendix B

Data Analysis

Data Analysis

Reservoir Parameters

Parameters needed for the estimation of oil and gas in place were not available for all reservoirs. Missing data were determined based on analogous data within common areal location and geologic intervals. Fluid properties were calculated for each reservoir using correlations adapted for personal computer spreadsheet software. Unknown reservoir pressures were calculated using an equation for the pressure gradient of the entire basin. Unknown temperatures were determined from separate gradient equations for each of the four Areas of the basin listed in **Table 3**.

Distributions of known porosity, permeability, productive area, gross thickness, and net pay along with the distributions of the calculated water saturation for each geologic interval listed in **Table 4** are shown as **Figures 18B through 27B**.

Field Location

Field locations were verified by charting the fields of the basin by latitude and longitude coordinates (**Figure 1B**). Minor location problems were solved by locating fields on maps or checking several data sources. Regional boundaries are not always distinct; therefore, some fields along the boundaries may be listed in the incorrect Region. Field locations and Region and Area listed in the field summary tables are listed in **Appendix D**. The location of fields that produce from the geologic intervals of **Table 4** are also charted as coordinate graphs of latitude and longitude in **Figures 2B - 11B** to show the areas of the basin that are productive from the geologic intervals.

Reservoir Pressure

The initial reservoir pressure was calculated for each reservoir that did not have a reported measured pressure. The depth to the reservoir and the pressure gradient of the basin were used in the calculation. The pressure gradient was determined for each Area of the basin. When compared, the gradients were approximately equal so a single gradient for the entire basin was calculated and used to obtain unreported pressures. When no measured pressure was reported, the reservoir depth (usually the top of the pay) was used as the reference depth for calculating the reservoir pressure. Depths were not corrected to a subsea datum

is as much as the flat topography reduces most errors of depth measurements within the fields. Errors between fields may be introduced because of the small differences in surface elevations but the errors were considered insignificant. The graph of reported pressures at reservoir depth does not show significant scatter (**Figure 12B**). The fitted linear equation used to calculate unknown pressures is:

$$BHP = 0.451 * Depth$$

Where:

BHP = Pressure at reservoir depth (psi)

0.451 = Pressure gradient (psi / foot)

Depth = Depth to reservoir (feet)

Reservoir Temperature

Linear equations fitted from measured temperatures at reservoir depth were used to calculate unknown reservoir temperatures. Reservoir temperatures vary across the basin so equations were determined for each Area of the basin. Most of the data indicated that a linear equation with a constant of approximately 30 degrees Fahrenheit could be used to calculate reservoir temperature. The equations used for each Area are:

$$North\ BHT = (0.0152 * Depth) + 30$$

$$South\ BHT = (0.0197 * Depth) + 30$$

$$West\ BHT = (0.0241 * Depth) + 30$$

$$Middle\ ObBHT = (0.0191 * Depth) + 30$$

Where:

Area BHT = Temperature at depth in area (°F.)

0.0xxx = Temperature gradient (°F./foot)

Depth = Depth to reservoir (feet)

30 = Constant

Porosity

For reservoirs with no reported porosity data, porosity was imputed based on a random selection from the observed distribution of porosity in the geologic interval. Reported porosity values ranged from 4 percent to 35 percent. Average values of the geologic intervals ranged between 12 percent and 26 percent.

Permeability

The distribution of permeability within each geologic interval was determined and graphed. The mode of the reported permeability of each geologic unit was used where data were not available. Permeabilities ranged from 0.1 millidarcys to 1,900 millidarcys. Permeability is used in the calculation of water saturations and recovery efficiencies.

Figure 1B. Location of Fields Within Regions of West Siberian Basin by Latitude and Longitude.

Source: Energy Information Administration, Office of Oil and Gas.

Figure 2B. Location of Fields Producing from the Upper Cretaceous (All Areas) West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 3B. Location of Fields Producing from the North Albian - Aptian Interval (North Area)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas

**Figure 4B. Location of Fields Producing from the Albian-Aptian Interval (South Area)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 5B. Location of Fields Producing from the Neocomian Interval (North Area)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 6B. Location of Fields Producing from the Neocomian Interval (South Area)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas

**Figure 7B. Location of Fields Producing from the Jurassic Interval (North Area)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 8B. Location of Fields Producing from the Jurassic Interval (South Area)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 9B. Location of Fields Producing from the Jurassic Interval (West Area)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 10B. Location of Fields Producing from the Jurassic Interval (Middle Ob Region)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas.

**Figure 11B. Location of Fields Producing from the Triassic-Paleozoic Interval (All Areas)
West Siberian Basin.**

Source: Energy Information Administration, Office of Oil and Gas.

Figure 12B. Measured Bottom Hole Pressure (BHP) at Reported Depth, West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 13B. Measured Bottom Hole Temperature (BHT) at Reported Depth, West Siberian Basin.

Source: Energy Information Administration Office of Oil and Gas.

Figure 14B. Bottom Hole Temperature (BHT) at Depth for the North Area, West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

Figure 15B. Bottom Hole Temperature (BHT) at Depth for the South Area, West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

Figure 16B. Bottom Hole Temperature (BHT) at Depth for the West Area, West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas

Figure 17B. Bottom Hole Temperature (BHT) at Depth for the Middle Ob Area, West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

Figure 18B. Distribution of Reservoir Parameters in the Upper Cretaceous Interval (All Areas), West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

Figure 19B. Distribution of Reservoir Parameters in the Albian-Aptian Interval (North Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 20B. Distribution of Reservoir Parameters in the Albian-Aptian Interval (South Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 21B. Distribution of Reservoir Parameters in the Neocomian Interval (North Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 22B. Distribution of Reservoir Parameters in the Neocomian Interval (South Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 23B. Distribution of Reservoir Parameters in the Jurassic Interval (North Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 24B. Distribution of Reservoir Parameters in the Jurassic Interval (South Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 25B. Distribution of Reservoir Parameters in the Jurassic Interval (West Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

Figure 26B. Distribution of Reservoir Parameters in the Jurassic Interval (Middle Ob Area), West Siberian Basin.

Source: Energy Information Administration, Office of oil and Gas.

**Figure 27B. Distribution of Reservoir Parameters in the Triassic-Paleozoic Interval
(All Areas), West Siberian Basin.**

Source: Energy Information Administration, Office of oil and Gas.

Water Saturation

A limited amount of water saturation data was available. Since porosity data appears to be consistent within selected geologic intervals and permeability data are available, the correlation developed by Morris¹ and Timur² and updated by Coates³ and Raymer⁴ was used to calculate water saturations. This correlation did not hold true for all data combinations. The mode of the calculated water saturation was used as the most representative of the reservoir water saturation. The range of the water saturations was from 26.2 percent to 43.1 percent. The equation used to calculate water saturation is:

$$S_w = 100 \theta^{2.25} / k^{0.5}$$

Where:

S_w = Irreducible water saturation (fraction)

θ = Porosity (fraction)

k = Permeability (millidarcy)

Productive Area

To estimate in-place hydrocarbons by reservoir, a method was developed to determine unknown areas using the available data. The available productive area data for reservoirs were presented in several forms, and reservoir areas were available for only a portion of the fields. Data from some fields were presented as the sum of all reservoirs in the field, while some sources reported the area of the largest reservoir. When a single value was reported for field area, it was assumed that the area represented the surface area of the field or the area of the reservoir of greatest areal extent in the field.

To estimate individual reservoir areas in fields with a single field area given, an equation was fitted to the ratio of the average reservoir area divided by the largest reservoir area in the field versus the number of reservoirs in the field for those fields with reported area data (Figure 28B). The equation determined from the graph provided a method of reducing the area of the largest reservoir (or total field area) to an average area of multiple reservoirs. The ratio determined from the following equation was multiplied by the area of the largest reservoir to determine the average area to be used for each reservoir in that field.

$$Ratio = 1.0501 * n^{-0.5459}$$

Where:

Ratio = Average reservoir area divided by area of largest reservoir

n = Number of reservoirs in field

Even with multiple reservoir areas reduced, the areas may be overstated because of depositional discontinuities that occur in sandstone reservoirs. Reported areas may be from seismic interpretation or exploration prospect mapping which has not been more closely defined by remapping after development drilling.

Reservoir Thickness

Gross pay thickness and net pay thickness were reported in the available data sources for some of the reservoirs. Other reservoirs had either gross or net pay reported. For a few reservoirs, no pay was reported. When both gross and net pay were given, a ratio of net pay to gross pay was calculated. If only gross pay was reported, the average net to gross ratio of the corresponding geologic interval was used to estimate the net pay. When neither gross nor net pay were reported, the gross pay was defined as the difference between the depth of the geologic unit being evaluated and the depth of the next deeper geologic unit. Then net pay was determined using the net to gross ratio. If depth information was not adequate, the average net pay for the geologic interval was used for hydrocarbon in-place calculations. The range of reported gross pay in the basin was from 4 feet to 1,600 feet with a net pay range of 3 feet to 400 feet.

Figure 28B. Correlation Function for Allocating Field Areas to Reservoir Areas, West Siberian Basin.

Source: Energy Information Administration, Office of Oil and Gas.

Fluid Properties

Reservoir fluid properties were determined using correlations prepared by Muchmore⁵ for use with personal computer spreadsheet software. Most of the empirical correlations programed by Muchmore are from Kartoatmodjo,⁶ who used a large data base to select the best correlation from various methods. Oil property correlations from Vasques and Beggs,⁷ water property correlations from Meehan,⁸ and rock compressibility correlation from Hall⁹ were used in this analysis. These correlations were used to calculate all properties except oil and gas specific gravities. Average oil and gas specific gravities within the major geologic intervals and Regions were used instead of the correlations. The following are the equations used in the spreadsheet calculations. A list of the symbols and nomenclature follows the equations.

Oil Formation Volume Factor

Below bubble point pressure:

$$B_{of} = 0.98496 + 0.0001 * F^{1.5}$$

Where:

$$F = R_{sf}^{0.755} * \rho_g^{0.25} * \rho_o^{-1.50} + 0.45 T$$

Above bubble point pressure:

$$B_{ofa} = B_{ofb} * e^{c_o(P_b - P)}$$

Oil Compressibility

Isothermal oil compressibility:

$$c_o = \frac{6.8257 \times 10^{-5}}{P} * R_{sf}^{0.5002} * API^{0.361} * T^{0.76606} * \rho_g^{0.35505}$$

Crude Oil Gravity

Reported crude oil gravity was used when available. Averages of oil gravity by geologic intervals were used when there were no reported data. Reported oil gravity ranged from 33.5 degrees to 42.3 degrees API. The oil gravities of the major oil producing intervals were in the range of 36 degrees to 38 degrees API.

Solution Gas-Oil Ratio

For API gravity < 30 degrees:

$$R_{sf} = 0.05958 * \rho_g^{0.7972} * P^{1.0014} * 10^{13.1405 API / (T + 460)}$$

For API gravity > 30 degrees:

$$R_{sf} = 0.03150 * \rho_g^{0.7587} * P^{1.0937} * 10^{11.2895 API / (T + 460)}$$

Bubble Point Pressure

For API gravity < 30 degrees:

$$P_b = \left[\frac{R_{sf}}{0.05958 * \rho_g^{0.7972} * 10^{13.1405 API / (T+460)}} \right]^{0.9986}$$

For API gravity > 30 degrees:

$$P_b = \left[\frac{R_{sf}}{0.0315 * \rho_g^{0.7587} * 10^{11.2895 API / (T+460)}} \right]^{0.9143}$$

Gas Formation Volume Factor

$$B_g = \frac{5.04 Z (T+460)}{P}$$

Oil Viscosity

Live oil above the bubble point:

$$\mu_{oa} = 1.00081 * \mu_{oBP} + 0.001127(P - P_b) * (-0.006517 * \mu_{oBP}^{1.8148} + 0.038 * \mu_{oBP}^{1.590})$$

Live oil below the bubble point:

$$\mu_{ob} = 0.06821 + 0.9824 * f + 0.0004034 * f^2$$

Where:

$$f = (0.2001 + 0.8428 \times 10^{-0.000845 * R_{sb}}) * \mu_{od}^{(0.43 + 0.5185 * y)}$$

And:

$$y = 10^{-0.00081 * R_{sb}}$$

Live oil viscosity at the bubble point:

$$\mu_{oBP} = \mu_{ob} \text{ at } R_{sb} = R_{si}$$

Dead oil viscosity:

$$\mu_{od} = 16 \times 10^8 * T^{-2.8177} * (\log API)^{5.7526} * \log(T) - 26.9718$$

Rock Compressibility

$$c_r = 13.172 \times 10^{-6} \theta^{-0.4317}$$

Where:

$$\theta = \text{Porosity}$$

Water Compressibility

$$c_w = \frac{A + (B * T) + (C * T^2)}{10^6} * GSC * SC$$

Where:

$$\begin{aligned} A &= 3.8546 - (0.000134 * P) \\ B &= -0.01052 + (4.77 \times 10^{-7} * P) \\ C &= 3.9267 \times 10^{-6} - (8.8 \times 10^{-10} * P) \\ GSC &= 1 + (8.9 \times 10^{-3}) + R_{sw} \\ SC &= [-0.052 + (2.7 \times 10^{-4} * T) \\ &\quad - (1.14 \times 10^{-6} * T^2) \\ &\quad + (1.121 \times 10^{-9} * T^3)] \\ &\quad * \%NaCl^{0.7} + 1 \end{aligned}$$

Nomenclature

API= American Petroleum Institute.
 B_{ofa} = Oil formation volume factor above bubble point pressure (reservoir barrels / stock tank barrel)
 B_{ob} = Oil formation volume factor at bubble point (reservoir barrels / stock tank barrel).
 B_{of} = Oil formation volume factor below bubble point (reservoir barrels / stock tank barrel)
 B_g = Gas formation volume factor (reservoir barrels / thousand cubic feet).
 c_o = Isothermal oil compressibility (pounds / square inch⁻¹).
 c_w = Water compressibility (pounds / square inch⁻¹).
 c_r = Rock compressibility (pounds / square inch⁻¹).
 P = Reservoir pressure (pounds / square inch).
 P_b = Bubble point pressure (pounds / square inch).
 R_{si} = Gas in solution at initial pressure (cubic feet / stock tank barrel).
 R_{sb} = Gas in solution at bubble point pressure (cubic feet / stock tank barrel).
 R_{sf} = Gas in solution at/or below bubble point pressure (cubic feet / stock tank barrel).
 T = Reservoir temperature (degrees Fahrenheit).
 Z = Real gas deviation factor.
 ρ_o = Oil density (grams / cubic centimeter)
 ρ_g = Gas specific gravity
 μ_{oa} = Oil viscosity above bubble point (centipoise).
 μ_{ob} = Oil viscosity below bubble point (centipoise).
 μ_{oBP} = Oil viscosity at bubble point (centipoise).
 μ_{od} = Dead oil viscosity (centipoise).
 θ = Porosity (percent of rock volume).
 F = Correlation number for calculating oil formation volume factor.
 f = Correlation number for calculating live oil viscosity.
 y = Correlation number for calculating live oil viscosity.
 SC = Water salinity correction factor
 GSC = Gas solubility in water correction factor.
 $\%NaCl$ = Percent sodium chloride in water.

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Appendix C

Calculation Procedures

Calculation Procedures

Hydrocarbons in Place

The oil and gas in place were calculated for each reservoir identified as oil or gas bearing in a field. The volume of oil or gas per acre foot of reservoir was calculated and then multiplied by the number of acres and the net pay thickness of the reservoir.

Initial Oil in Place

$$IOIP = \frac{7758 * \theta * (1 - S_w)}{B_o}$$

Initial Gas in Place

$$IGIP = \frac{7758 * \theta * (1 - S_w)}{B_g}$$

Where:

IOIP = Initial oil in place (stock tank barrels / acre-foot)

IGIP = Initial gas in place (thousand cubic feet / acre-foot)

7758 = Barrels per acre-foot

θ = Porosity (fraction)

S_w = Water saturation (fraction)

B_o = Oil formation volume factor (reservoir barrels / stock tank barrel)

B_g = Gas formation volume factor (reservoir barrels / thousand cubic feet)

Oil Volume

$$VO = \frac{IOIP * A * h}{1,000,000}$$

Gas volume

$$VG = \frac{IGIP * A * h}{1,000,000}$$

Where:

VO = Oil volume (million barrels)

VG = Gas volume (billion cubic feet)

IOIP = Initial oil in place (stock tank barrels / acre-foot)

IGIP = Initial gas in place (thousand cubic feet / acre-foot)

A = Area (acres)

h = Net pay (feet)

A recovery efficiency was applied to the volume of each reservoir to determine potential recoverable oil or gas. No consideration was given to economics of development.

Primary Oil Recovery

The fraction of the initial oil in place that would be produced by solution gas drive was calculated for each oil reservoir. The primary oil recovery factor for reservoirs with initial pressure above the bubble point pressure was calculated as the sum of the recoveries above and below the bubble point pressure. The initial oil in place for each reservoir was then multiplied by the recovery factor to determine the volume of oil recoverable under primary depletion.

Oil Recovery Above Bubble Point

The bubble point pressure and initial pressure were determined for each oil reservoir. If the initial pressure exceeded the bubble point pressure, an incremental recovery was calculated based on fluid expansion as the pressure dropped to the bubble point pressure. This recovery was added to the primary oil recovery that was calculated from the bubble point pressure to the abandonment pressure.

$$R_{aPb} = c_t (P_i - P_b)$$

Where:

- R_{aPb} = Fraction of IOIP recovered
- P_i = Initial reservoir pressure (psi)
- P_b = Bubble point pressure (psi)
- c_t = Total system compressibility (psi⁻¹)

And:

$$c_t = c_w * S_w + c_o * S_o + c_r$$

Where:

- c_w = Water compressibility (psi⁻¹)
- c_o = Oil compressibility (psi⁻¹)
- c_r = Rock compressibility (psi⁻¹)
- S_w = Water saturation (fraction)
- S_o = Oil saturation (fraction)

Oil Recovery Below the Bubble Point

Primary oil recovery of oil below the bubble point was calculated for each reservoir in units of barrels per acre foot; therefore, the area and net thickness of each reservoir were multiplied by the calculated recovery to determine the recovery in stock tank barrels from each reservoir identified as oil bearing. The statistical correlation for primary recovery was taken from a study by the American Petroleum Institute.¹

$$R_{pri} = 3244 \left[\frac{\theta (1-S_w)}{B_{ob}} \right]^{1.1611} * \left[\frac{k}{\mu_{ob}} \right]^{0.0971} * [S_w]^{0.3722} * \left[\frac{P_b}{P_a} \right]^{0.1741}$$

Where:

- R_{pri} = Primary oil recovery below bubble point (Barrels / acre-foot)
- θ = Porosity (fraction)
- S_w = Water saturation (fraction)
- B_{ob} = Oil formation volume factor at bubble point
- k = Permeability (darcys)
- μ_{ob} = Oil viscosity at bubble point (centipoise)
- P_b = Bubble point pressure (psi)
- P_a = Abandonment pressure (psi)

And:

$$P_a = 0.1(\text{psi / ft}) * \text{Depth to reservoir (feet)}$$

Enhanced Oil Recovery

Many of the producing fields are being waterflooded to enhance oil recovery. Indications are that the waterfloods are inefficient by U.S. standards with high producing water-oil ratios and low incremental recovery. The extent of field development (well spacing), multiple reservoir fields, stratification of reservoirs, and lateral discontinuities would adversely effect the waterflood recovery efficiency. All of these conditions exist in the fields of the basin. Therefore, it is assumed that enhanced recovery will contribute an amount equal to the calculated primary oil recovery with the following limitations. Oil reservoirs in predominantly gas fields and the Bazhenov shale formation will not be waterflooded. Also, no reservoirs below the Jurassic section or with permeability less than 10 millidarcys will be subject to enhanced recovery processes such as waterflooding.

Associated-Dissolved Gas Recovery

Associated-dissolved gas recovery was calculated by multiplying the solution gas-oil ratio at the initial pressure by the recoverable oil volume. The initial pressures of the reservoirs were near the calculated bubble point pressures, and the reported initial gas-oil ratios confirmed the calculations of solution gas-oil ratios and bubble point pressures. No attempt was made to determine the recovery of the solution gas that was liberated from the remaining oil in place by pressure depletion. When the initial gas-oil ratio of a field was greater than the solution gas-oil ratio, the reported gas-oil ratio was used to calculate associated gas recovery. In several fields, an associated gas cap appears to affect the producing gas-oil ratio. Although the associated-dissolved gas volume for the basin is

large, the amount of associated gas is minor compared to the amount of nonassociated gas in the basin.

Nonassociated Gas Recovery

Recoverable nonassociated gas was calculated as the difference between the initial gas in place and the remaining gas in place at an abandonment pressure. The abandonment pressure was calculated by multiplying an assumed abandonment gradient of 0.1 pounds per square inch per foot by the depth to the reservoir, which is consistent with the abandonment pressure used for calculating primary oil recovery.

Condensate Recovery

Significant condensate is produced in the transition area of the basin between the oil reservoirs in the central basin and the nonassociated gas reservoirs in the northern part of the basin. Condensate recovery was calculated using the yield in barrels of condensate per million cubic feet of gas produced as reported from gas reservoir tests. When data were not available, no recoverable condensate was assigned. Condensate volumes were added to oil volumes in the projections of future potential.

Future Projections

Future discoveries were projected using a modified logistics equation to fit the discovery history.² Total recovery from the basin was calculated by adding the undiscovered resources estimated by the USGS to the discovered reserves estimated in this analysis. Cumulative discovered reserves were calculated at each year in the future, and an iterative scheme was used to schedule annual production. Cumulative production was subtracted from the discovered reserves in each year to estimate remaining reserves. Production for the next year was then calculated based on a reserves-to-production ratio (R/P) that was previously determined. This production was added to the previous cumulative production and the process was repeated until the R/P equaled 1.0 (depletion).

The end-point of the projected R/P ratio was taken to be the last calculated discovery based on the logistics equation. For the oil case an end year of 2100 was used, and for gas; the final year was 2200. The historical R/P ratio for oil has been declining exponentially since 1980. Therefore an extrapolation of that trend was used to determine the future R/P ratio. The gas R/P ratio was also declining but a consistent trend had not been established. Therefore, an exponential decline from the current gas R/P to a final R/P of 1.0 in the year 2200 was used to approximate the

productive capacity of the gas reservoirs (Figures 1C and 2C).

The logistic equation that was used in projecting cumulative discoveries is from the work of Hubbert,³ with modifications by EIA.⁴

$$Q_D(t) = \frac{Q_{\max}}{1 + e^{[B_1 S + (1-S)B_4](t-t_0+B_2)}}$$

Where:

- $Q_D(t)$ = Cumulative discoveries at time t
(remaining discovered reserves plus cumulative production).
- $Q_{\max}$ = Ultimate recovery.
- B_1 = A constant negative parameter that is slowly switched off.
- S = The switching function which is equal to the quantity $e^{B_3(t-t_0)}$.
- B_2 = A constant negative parameter that controls the timing of maximum theoretical production capability (the peak of the theoretical maximum production capability occurs approximately at the time when $t = t_0 - B_2$).
- B_3 = A constant negative parameter that controls the rate of switch.
- B_4 = The estimated decline rate from known deposits which, in turn, dictates the annual additions to proved reserves in the latter stages of development, also a negative parameter.
- $(t-t_0)$ = The time after some reference period, t_0 .
- e = The base of the Napierian logarithms.

Figure 1C. Remaining Reserves / Annual Production Ratio (R / P) for Crude Oil Projection, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

Figure 2C. Remaining Reserves / Annual Production Ratio (R / P) for Gas Projection, West Siberian Basin

Source: Energy Information Administration, Office of Oil and Gas.

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Appendix D

Field Summaries

Field Summaries

Tables 1D and 2D lists the fields of the West Siberian Basin in alphabetical order. **Table 1D** shows the location of each field by Region of the basin and the degrees of longitude and latitude. The discovery date, producing status, and primary product are also included in **Table 1D**. The calculated ultimate recovery of crude oil, associated-dissolved gas, nonassociated gas and condensate from each field are tabulated in **Table 2D**. The oil and condensate are reported in millions of barrels with the associated and nonassociated gas reported in billions of cubic feet.

Tables 3D through 24D report the same information by Regions of the basin. Each list of fields in the Regions is sorted alphabetically.

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name).

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Achimovskoye (Achimov)	OB	60.07	75.34	1981	SI	Oil
Aganskoye	OB	61.47	76.02	1965	PS	Oil
Aganskoye Yuzhnoye	OB	61.30	75.88	1980	PS	Oil
Aganskoye Zapadnoye	OB	61.45	77.02	1981	PP	Oil
Akaytemskoye	UKN			1991	SI	Gas
Alekhinskoye	OB	62.16	71.88	1971	PS	Oil
Aleninskoye	OB	60.43	77.21	1964	SI	Oil
Alyasovskoye Severnoye	UR	64.09	65.49	1956	SI	Gas
Alyasovskoye Yuzhnoye	UR	64.06	65.44	1956	SI	Gas
Anomalnoye	UKN			1992	SI	Oil
Antipayutaskoye	GY	68.93	77.38	1978	SI	Gas
Apakapurskoye	NP	63.78	76.44	1989	SI	Oil
April'skoye	FR	62.38	68.63	1982	SI	Oil
Archinskoye	KA	57.49	78.50	1985	SI	Oil
Ariolskoye	VA	61.34	78.52	1992	SI	Oil
Arkticheskoye	YA	69.74	70.74	1968	DV	Gas
Asomkinskoye	OB	61.01	73.84	1981	PS	Oil
Asomkinskoye Vostochnoye	OB	61.30	75.83	1990	SI	Oil
Asomkinskoye Yuzhnoye	OB	60.91	73.88	1988	DV	Oil
Asomkinskoye Zapadnoye	OB	60.90	73.51	1988	SI	Oil
Ay-Yaunskoye	KA	59.31	72.76	1968	SI	Oil
Ayeganskoye	NP	61.86	77.42	1985	PS	Oil
Aykuruskiye	KA	59.80	73.72	1988	SI	Oil
Aypim Lobat-Yuganskoye (Ai Pim)	CB	62.23	71.14	1971	PP	Oil
Ayvasedopurskoye Severnoye (Tarasovskoye Sev.)	NP	64.60	77.67	1990	SI	Oil
Bakhilovskoye	PT	62.47	79.65	1983	PS	Oil
Balykskoye Yuzhnyy	CB	60.50	72.50	1964	PS	Oil
Barsukovskoye	NP	64.42	75.50		PP	Gas
Barsukovskoye Zapadnoye	NP	64.25	75.50			Oil
Baydaratskoye	YA	69.72	67.94	1987	SI	Gas
Beloyarskoye	PA	58.68	80.06	1962	SI	Gas
Beregovoye (W. Siberia)	PT	65.87	78.97	1982	SI	Gas
Berezovskoye (Tyumen)	UR	63.94	65.04	1953	PP	Gas
Bitternskoye	OB	61.92	71.23	1989	SI	Oil
Bol'shoye	FR	62.90	67.27	1984	SI	Oil
Bol'shoye Kruzenshternskoye (Kruzenshternskoye)	YA	70.00	69.00	1976	DV	Gas
Boloshekotukhtinskoye(Kotukhta)	OB			1972	SI	Oil
Bovanenko	YA	70.40	68.50	1971	PP	Gas
Bovanenko Severnyy	YA	70.83	68.12	1988	SI	Gas
Bovanenko Vostochnoye	YA	70.73	69.22	1983	SI	Gas
Bugornaya-Vostochnaya	GY	69.60	74.60	1990	SI	Gas
Bystrinskoye (Bystrin)	OB	61.46	72.24	1964	PS	Oil
Chakhloneyskoye	OB	60.52	75.80	1988	DV	Oil
Chanchar Severnoye	UR	60.61	64.16		SI	Oil
Chaselskoye Severnoye	PT	66.04	79.33	1987	SI	Gas
Chatylkynskoye	PT	63.44	80.99	1989	SI	Oil
Chebacheskoye	VA	60.62	78.83	1966	DV	Oil
Cheremshanskoye Yuzhnoye	VA	58.90	76.85	1970	SI	Oil
Chernichnoye	PT	65.54	81.97	1985	SI	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Chernogorskoye	OB	61.50	76.67	1972	PP	Oil
Chistinnoye	OB	59.82	75.99	1985	SI	Oil
Chkalovskoye	VA	59.69	78.74	1977	PS	Oil
Chuelskoye	UR	63.86	65.93	1958	SI	Gas
Chukhlorskoye	OB	61.87	76.53	1989	SI	Oil
Chumpaskoye	OB	61.25	75.11	1979	PS	Oil
Chupal'skoye	OB	60.15	72.45	1971	DV	Oil
Chupal'skoye Severnyy	OB	60.29	72.68	1977	SI	Oil
Chvorovoye (Vasyuganskiy)	KA	58.58	76.95	1980	SI	Oil
Danilovskoye	UR	60.93	64.11	1966	PS	Oil
Danilovskoye Severnoye	UR	61.07	63.95	1983	PS	Oil
Danilovskoye Vostochnoye	UR	61.00	64.00	1983	PP	Oil
Danilovskoye Zapadnoye	UR	61.00	64.00	1966	PP	Oil
Dekabr'skoye	FR	62.02	70.25	1969	SI	Oil
Deminskoye	UR	64.00	65.00	1955	SI	Gas
Demyanskoye Severnoye	KA	59.53	70.81	1988	SI	Oil
Dobrovol'skoye	NP	65.37	77.45	1990	SI	Oil
Druzhnoye	OB	62.45	74.62	1982	PS	Oil
Duklinskoye	KA	59.33	75.80	1990	PP	Oil
Dunayevskoye	OB	61.62	73.20	1986	PS	Oil
Dvoynoye	PA	58.83	79.45	1986	SI	Oil
Em-Yakhtinskoye	GY	68.83	76.45	1976	SI	GC
Enitorskoye	VA	61.52	78.93	1982	SI	Oil
Enitorskoye Yuzhnoye	VA	61.40	78.97	1988	SI	Oil
Erginskoye	FR	60.70	69.29	1983	SI	Oil
Erginskoye Vostochnoye	FR	60.69	69.82	1988	SI	Oil
Fainskoye	OB	61.10	73.75	1989	PP	Oil
Fedorovskoye	OB	61.39	73.12	1971	PS	Oil
Fedyushkinskoye	KA	57.77	76.31	1985	PP	Oil
Fedyushkinskoye Severnoye	KA	57.88	76.35	1987	SI	Oil
Festivalnoye (Tomsk)(Aykagol'skoye)	VA	58.28	77.28	1971	SI	Oil
Festivalnoye (Tyumen)(Kamy)	PT	63.73	79.48	1985	DV	Oil
Festivalnoye Yuzhno	VA	58.20	77.28	1969	SI	Oil
Filippovskoye	UR	60.91	64.83	1967	PS	Oil
Foboskoye	OB	60.87	77.62	1988	DV	Oil
Frolovskoye Vostochnoye	FR	60.90	69.81	1987	SI	Oil
Galyanovskoye	FR	61.50	68.29	1982	SI	Oil
Gaz-Saleskoye	PT	67.40	80.43	1989	SI	Gas
Geofizicheskoye	GY	69.86	73.69	1975	SI	Gas
Gerasimovskoye	KA	57.65	78.92	1983	PP	Oil
Glukhovskoye	KA	58.03	76.78	1983	SI	Oil
Golevoye	OB	61.71	76.25	1988	SI	Oil
Gornoye (Tyumen)	UR	62.40	63.50	1962	DV	Gas
Gorshkovskoye Zapadnoye	FR	61.62	70.19	1988	SI	Oil
Gorstovoye	VA	60.54	78.36	1987	SI	Oil
Gribnoye	OB	62.56	74.86	1982	DV	Oil
Grushevoye	VA	59.38	77.13	1987	SI	Oil
Gubkinskoye Severnyy	NP	65.00	76.70	1980	SI	Oil
Gubkinskoye (Gubkin Sev., Prisklonoye)	NP	65.00	76.70	1965	PP	Gas

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Gun-Yeganskoye	OB	61.62	77.44	1973	PS	Oil
Gustorechenskoye	KA	58.07	73.55	1992	SI	Oil
Gydanskoye	GY	70.44	76.30	1978	SI	Gas
Igol'sko-Talovoye	KA	57.64	76.24	1977	PS	Oil
Igrimskoye Severnoye	UR	63.13	64.44	1959	ABND	Gas
Igrimskoye Yuzhnoye	UR	63.09	64.34	1961	PP	Gas
Ikilorskoye	OB	62.11	73.93	1981	SI	Oil
Imlorskoye	OB	63.00	73.87		SI	Oil
Imlorskoye Zapadnyy	OB	62.97	73.50		SI	Oil
Ingaskoye (Inginsk) (Krasnoleninskoye)	FF	61.57	66.57	1975	SI	Oil
Ininskoye	VA	61.05	78.83	1990	SI	Oil
Iokhturskoye Severnoye	PT	63.72	79.14	1987	SI	Oil
Istochnoye	OB	63.17	73.83		SI	Oil
It'yakhskoye	FF	62.30	68.97	1992	SI	Oil
Izvestinskoye	NP	64.52	76.21	1990	PP	Oil
Kalchinskoye	KA	59.20	69.99	1990	PP	Oil
Kalchinskoye Severnoye	KA	59.30	70.00	1991	SI	Oil
Kalinovoye	KA	57.42	79.10	1973	SI	Gas
Kalinovoye Severnoye	KA	57.51	79.01	1980	SI	Oil
Kalinovoye Vostochnoye	KA	57.44	79.21	1973	SI	Oil
Kamennomysskoye	YA	68.41	73.34	1981	DV	Gas
Kamennoye(Krasnoleninskoye)	FR	61.65	67.32	1962	PS	Oil
Kamynskoye	OE	62.17	71.62	1982	PS	Oil
Kamynskoye Severnoye	OB	62.29	70.79	1989	SI	Oil
Kamynskoye Yuzhnoye	OB	61.80	70.50	1989	SI	Oil
Karabashskoye(Leninskoye)	UR	58.64	65.92	1964	SI	Gas
Karamovskoye	OB	63.25	74.44	1975	PS	Oil
Karamovskoye Severnoye	OB	63.31	74.58	1975	PP	Oil
Karasevskoye (Tomsk)	KA	58.43	76.04	1985	SI	Oil
Karasevskoye (Tyumen)	NP	64.73	73.86	1989	SI	Oil
Karasevskoye Severnoye	KA	58.48	76.06	1988	SI	Oil
Karasevskoye Zapadnoye	KA				SI	Oil
Karayskoye	KA	57.70	75.96	1980	DV	Oil
Karayskoye Zapadnoye	KA	57.75	75.62	1983	SI	Oil
Karempostskoye	FR	62.18	66.18	1986	SI	Oil
Kartop'ya	UR	61.10	65.31	1967	SI	Oil
Kartopya Zapadnoye	UR	60.13	65.28	1967	SI	Oil
Kartopya-Okhanskoye	UR	61.05	65.55	1967	PS	Oil
Karyaunskoye	OB	62.03	72.27	1980	SI	Oil
Katyl'ginskoye	KA	59.14	76.29	1965	PS	Oil
Katyl'ginskoye Zapadnoye	KA	59.07	76.07	1972	PS	Oil
Kayumovskoye	UR	60.78	65.39	1971	SI	Oil
Kazanskoye	KA	57.21	79.34	1967	SI	Gas
Kazantsevskoye(UstYenisey)	GY	69.70	83.30	1969	SI	Gas
Kazymskoye Severnoye	FR	63.98	67.41	1965	SI	Gas
Kechimovskoye	OB	61.80	74.50		SI	Oil
Kechimovskoye Yuzhnoye	OB	61.17	74.37		SI	Oil
Ketovskoye	OB	60.85	75.13	1980	PS	Oil
Khadyryakhaskoye	PT	65.30	79.53	1989	SI	Gas
Khadyryakhaskoye Yuzhnoye	PT	65.03	79.98	1990	SI	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Khalmerpayutaskoye	PT	67.75	81.15	1989	SI	Gas
Khambateyskoye	GY	68.77	72.90	1987	SI	Gas
Khancheyaskoye (or Khangey)	PT	64.82	79.41	1990	SI	Gas
Khanty-Mansiyskoye (Tsentralkoye)	FR	61.04	69.21	1986	SI	Oil
Kharam-Pur Yuzhnoye	PT	63.85	79.87	1981	SI	Gas
Kharampur (Kharampur Yuz.)	PT	64.22	79.65	1978	PS	Oil
Kharampur Zapadnoye	PT	64.17	78.92	1987	SI	Oil
Kharasaveyskoye	YA	71.15	67.12	1974	PP	Gas
Kharvutaskoye (Kharvutinskoye)	NP	67.29	74.18	1976	PP	Oil
khay-Yakhinskoye	PT	66.27	77.67		SI	Oil
Khokhlovskoye	OB	60.90	76.25	1987	SI	Oil
Khokhryakovskoye	VA	61.53	79.39	1972	PS	Oil
Khokhryakovskoye Severnoye	VA	62.04	79.52	1976	PS	Oil
Kholmistoye	PT	63.26	80.11	1988	SI	Oil
Kholmogoryskoye	OB	62.94	74.35	1973	PS	Oil
Khorlorskoye	OB	62.89	71.52	1993	SI	Oil
Khorlorskoye Verkhniy	OB			1994	SI	Oil
Khulturskoye	UR	60.48	64.10		SI	Oil
Khulymskoye Yuzhnoye	OB	64.25	70.72	1986	SI	Oil
Khvoynoye	OB	60.12	77.24	1984	PP	Oil
Kinyaminskoye Yuzhnoye	OB	60.37	74.92	1990	SI	Oil
Kinyaminskoye	OB			1990	SI	Oil
Kislorskoye	FR	63.65	66.55	1993	SI	Oil
Kiyevyeganskoye	PA	60.11	80.84	1970	SI	Oil
Klyuchevskoye (Tomsk)	VA	58.84	77.53	1968	PP	Oil
Kochevskoye Severnoye	OB	62.68	73.43		PP	Oil
Kochevskoye(Tevlin-Konitlor)	OB	62.50	73.40	1979	PS	Oil
Kogolymskoye	OB	62.44	73.79	1972	PS	Oil
Kogolymskoye Severnoye	OB	62.74	73.86	1984	SI	Oil
Kogolymskoye Yuzhnoye	OB	62.37	73.95	1972	SI	Oil
Kolikyeganskoye	VA	61.34	79.16	1971	DV	Oil
Kolikyeganskoye Vostochnoye	VA			1987	SI	Oil
Kolotuchnoye	VA	58.68	77.50	1986	SI	Oil
Komar'inskoye	OB	61.48	72.13	1971	PS	Oil
Komsomol' skoye (Barsukovskoye)	NP	64.44	75.98	1966	PS	Gas
Komsomolskoye Severnoye	NP	64.73	75.35	1969	PP	Gas
Kondakovskoye (Tomsk)	VA	60.37	78.74	1982	SI	Oil
Kondinskoye Vostochnaya	VA			1991	SI	Oil
Konitlorskoye Severnoye	OB	62.70	72.79	1986	SI	Oil
Konitlorskoye Vostochnoye	OB	62.50	72.80	1990	SI	Oil
Konitlorskoye Yuzhnoye	OB	62.15	72.83	1988	SI	Oil
Konitlorskoye Zapadnoye	OB	62.26	72.54	1989	SI	Oil
Konitlorskoye(Tevlin-Konitlor)	OB	62.50	72.80	1972	SI	Oil
Koshiisko-Vakhskoye	VA	61.07	79.22	1987	PS	Oil
Kotukhtaskoye Zapadnoye	OB	62.64	75.47	1981	SI	Oil
Krapivinskoye	KA	58.03	75.68	1969	SI	Oil
Krapivinskoye Severnoye	KA	58.07	75.74	1986	SI	Oil
Krapivinskoye Vostochnoye	KA	58.09	75.73	1986	SI	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Krasnoleninskoye	FR	61.70	66.77	1962	PS	Oil
Krasnoyarskoye Zapadnoye	VA	59.08	77.83	1965	SI	Oil
Kraynyeyeskoye	NP	63.75	74.33	1982	PS	Oil
Kruzenshternskoye Yuzhnoye	YA	70.60	67.20	1980	SI	Gas
Kudrinskoye	OB	60.83	72.50	1990		Oil
Kul'yeganskoye (Tyumen)	OB	59.99	76.17	1986	SI	Oil
Kulginskoye	UKN			1992	SI	Oil
Kulyeganskoye(Tomsk)	VA	60.01	77.76	1988	SI	Oil
Kurraganskoye	OB	61.72	75.95	1980	SI	Oil
Kurraganskoye Yuzhnoye	OB	61.66	75.92	1988	SI	Oil
Kustovoyeskoye Yuzhnoye	OB	62.03	74.33	1986	SI	Oil
Kvartovoye	OB	60.05	77.08	1974	SI	Oil
Kynskoye	PT	65.15	80.58	1982	SI	Oil
Kysomskoye	OB	61.50	77.17	1987	PP	Oil
Larkinskoye	OB	62.13	72.42	1986	SI	Oil
Larlominskoye Yuzhnoye	KA	58.98	75.30		SI	Oil
Larlominskoye	KA	59.08	75.31	1971	SI	Oil
Lasyeganskoye (Pokachev-Ur'yev)	OB	61.50	75.00	1979	PS	Oil
Lazarevskoye	UR	61.06	64.93	1984	PS	Oil
Lebyazhyeskoye	FFI	61.98	66.91	1981	SI	Oil
Ledovoye Severnoye (Tomsk)	OB	59.62	76.77		SI	Oil
Ledovoye (Tomsk)	OB	59.54	76.69	1972	SI	Oil
Ledianoye	OB	59.66	76.15	1987	SI	Oil
Lem'inskoye Vostochnoye	UFF	61.00	63.83	1964	SI	Oil
Lem'inskoye Zapadnoye	UFF	61.00	63.66	1965	SI	Oil
Leminskoye (Lemya)	UFF	60.88	63.91	1964	DV	Oil
Lempinskoye Zapadnoye (Pravdinsk-Salym)	OE	60.83	71.42	1964	SI	Oil
Leningradskoye	YA	65.50	72.20	1990	SI	Gas
Leninskoye(Karabashskoye)	UFF	58.67	66.33	1964	PP	Gas
Lenzitskoye	NF	66.32	72.87	1984	SI	Oil
Limbayakhaskoye	PT	67.20	80.40	1991	SI	Oil
Lineynoye	PA	60.57	80.50	1972	SI	Oil
Lokosovoye	OE	61.20	74.91	1963	PS	Oil
Lomovoye	VA	59.28	77.04	1970	PP	Oil
Lontyn'yakhskoye	KA	58.88	76.00	1964	PP	Oil
Lopukhovskoye	UF	60.90	63.55		UKN	Oil
Lorbinskoye	FR	61.52	67.83	1966	PS	Oil
Loryeganskoye	OE	61.44	77.04	1980	PS	Oil
Losevoye	OE	62.84	71.85	1987	SI	Oil
Lovinskoye	UR	61.30	65.19	1982	PS	Oil
Lovinskoye Zapadnoye	UR	61.25	65.00	1982	SI	Oil
Lower Tabaganskoye	KA	57.30	79.00	1985	SI	Oil
Luginetskoye	VA	58.25	78.87	1967	PP	Gas
Luginetskoye Zapadnoye	OB	58.20	78.88	1990	SI	Oil
Lyantorskoye (Taybinskoye)	OB	61.54	72.11	1966	PS	Oil
Lykhminskoye	FR	63.25	65.82	1982	SI	Oil
Maksiminskoye	UKN			1992	SI	Oil
Malo Kolik'yeganskoye	VA			1987	SI	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Malo-Aganskoye Yuzhnoye	OB	61.45	76.02	1980	PP	Oil
Malo-Perevalnoye	OB	63.25	72.62	1991	SI	Oil
Malo-Tolumskoye	UR	60.51	65.29	1978	PP	Oil
Malobalykskoye	OB	60.48	72.25	1966	PS	Oil
Malochernogorskoye	OB	61.49	77.20	1969	PS	Oil
Malodanilovskoye	UR			1966	SI	Oil
Maloichskoye	KA	56.82	78.48	1974	PP	Oil
Maloklyuchevoye	OB	61.59	75.83	1983	SI	Oil
Malokustovoye	OB	62.07	74.48	1986	SI	Oil
Maloledyanoye	OB	59.60	76.17	1989	SI	Oil
Malonovogodneye	NP	61.18	77.08	1980	SI	Oil
Malopokachevskoye	OB	61.81	75.19	1973	SI	Oil
Malopotanayskoye	UR	61.36	65.75	1989	SI	Oil
Malopriobskoye	FR				Oil	
Malopyakutaskoye	OB	63.70	73.28	1986	SI	Oil
Malorechenskoye	OB	60.52	77.24	1965	PS	Oil
Malovar'yeganskoye	NP	62.20	77.02	1986	SI	Oil
Malovat'yeganskoye	OB	62.15	75.32	1984	PP	Oil
Maloveselovskoye	KA	56.42	77.98	1964	SI	Oil
Maloyagunskoye	OB	62.30	74.30		SI	Oil
Maloyamalskoye (Lesser Yamal)	YA	68.32	71.60	1975	DV	Gas
Maloyugan Severnoye	OB	60.20	75.10		SI	Oil
Maloyuganskoye	OB	60.19	75.18	1975	SI	Oil
Malyginskoye	YA	72.20	70.44	1979	PP	Gas
Mamontovskoye (Ust-Balyk)	OB	61.09	72.57	1965	PS	Oil
Mangazeyskoye	PT	66.80	82.67	1987	SI	Oil
Maslikhovskoye	OB	61.70	71.64	1985	PS	Oil
Matyushkinskoye	OB	59.89	76.98	1969	SI	Oil
Mayskoye	OB	60.41	72.80	1978	PS	Oil
Medvezhyeskoye	NP	66.23	74.00	1966	PP	Gas
Megionskoye	OB	61.13	76.00	1964	PS	Oil
Meretayakhaskoye	NP	64.61	74.59	1986	SI	Oil
Messoyakhaskoye Vostochnaya	PT	68.60	80.12	1989	SI	Oil
Messoyakhaskoye Yuzhnaya	GY	68.06	79.40	1986	SI	Gas
Messoyakhaskoye Zapadnaya	GY	68.50	79.12	1982	SI	Oil
Messoyakhskoye (Norilsk City 1970)						
(Yenisey-Khatanga)	GY	69.20	82.40	1967	PP	Gas
Mezhovskoye	KA	56.54	77.86	1964	SI	Oil
Mezhovskoye Vostochnoye	KA	56.59	78.12	1966	SI	Oil
Minchimbaskoye	OB	61.88	72.87	1969	SI	Oil
Minchimbaskoye Severnaya	OB	61.92	72.67	1969	SI	Oil
Minkhovskoye	GY	69.37	76.02	1989	SI	Gas
Minkhovskoye Vostochnoye	GY	69.37	76.02	1991	SI	Gas
Mirmoye	VA	57.67	79.50	1982	SI	Oil
Mogutlorskoye	OB	62.03	75.82	1987	SI	Oil
Mogutlorskoye Zapadnoye	OB	62.02	75.65	1986	PP	Oil
Moiseyevskoye	KA	58.19	76.06	1970	SI	Oil
Moiseyevskoye Zapadnoye	KA	58.20	75.83	1992	SI	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Mokhovoye Vostochnoye	OIB	61.88	74.34	1973	SI	Oil
Mokhtikovskoye	OIB	60.44	76.58	1988	SI	Oil
Mortym'yaskoye Severnoye	UR	60.40	64.80	1977	PP	Oil
Mortym'yaskoye Yuzhnoye	UR	60.40	64.80	1962	PP	Oil
Mortym'yaskoye Zapadnoye 1	UR	60.40	64.80	1962	PP	Oil
Mortym'yaskoye Zapadnoye 2	UR	60.40	64.80	1962	PP	Oil
Mortym'yaskoye Zapadnoye 3	UR	60.40	64.80	1962	PP	Oil
Multanovskoye	KA	60.08	73.55	1971	DV	Oil
Mulym'yaskoye	UR	60.24	64.42	1960	PS	Oil
Mulymyaskoye Srednyaya	UR	60.62	64.77	1963	SI	Oil
Mulymyaskoye Zapadnoye	UR	60.24	64.42	1960	PP	Oil
Muravlenkoskoye	NF	63.99	74.95	1978	PS	Oil
Muryaunskoye	UKN				SI	Oil
Mykhlorokoye	VA	61.31	77.53	1985	SI	Oil
Mykhpayskoye(Samotlor)	OE	61.20	76.60	1961	PS	Oil
Myldzhinskoye	VA	58.74	78.44	1964	DV	Gas
Myldzhinskoye Yuzhnoye	VA	58.51	78.15	1967	SI	Oil
Nadymskoye	NF	65.50	72.97	1972	SI	Gas
Nakhodkaskoye	NF	68.02	78.17	1974	SI	Gas
Nalim'yaskoye	KA	57.84	76.74	1987	SI	Oil
Nazinskoye Yuzhnoye	VA	60.07	78.73	1961	SI	Oil
Nazymskoye	FR	62.48	67.89	1988	SI	Oil
Neponyatnoye	NP	66.80	77.77	1986	SI	Oil
Nerstinskoye	YA	70.20	68.50		SI	Gas
Ney-To (Neytinskoye)	YA	70.06	70.16	1975	DV	Gas
Nezhdannoye	OE	60.43	76.87	1981	SI	Oil
Nikol'skoye (Tomsk)	VA	59.97	79.05	1971	SI	Oil
Nikol'skoye (Tyumen)	VA	61.45	77.58	1985	PS	Oil
Nivagalskoye(Pokachev-Ur'yev)	OE	61.66	74.80	1968	PS	Oil
Nizhne Khetskoye						
(Yenisey-Khatanga)	GY	69.50	84.50	1966	ABND	Gas
Nizhne Tabaganskoye	KA	58.25	79.17	1973	SI	Oil
Nizhne-Shapshinskoye	OB	60.50	70.33		SI	Oil
Nizhne-Sortymskoye	OB	62.48	71.68	1974	PS	Oil
Nizhne-Tobolyanskoye	VA	58.42	78.83	1975	SI	Oil
Nizhnevartovskoye	OB	60.80	77.10	1965	PP	Oil
Nizhniy Keumskoye	KA	59.59	71.36		SI	Oil
Nong'yeganskoye	OB	61.89	74.86	1974	PS	Oil
Nong'yeganskoye Vostochnoye	OB	61.84	75.01	1974	SI	Oil
Novoaganskoye	NP	61.83	78.13	1985	SI	Oil
Novochaselskoye	PT	65.42	80.17	1989	SI	Oil
Novogodneye	NP	63.49	76.92	1976	PS	Oil
Novogodneye Zapadnoye	NP	63.47	76.41	1987	SI	Oil
Novomolodezhnoye	NP	61.60	78.08	1977	PS	Oil
Novopokurskoye	OB	60.75	74.50	1981	PS	Oil
Novoportovskoye	YA	67.88	72.43	1964	DV	Gas
Novopurpeyskoye	NP	64.20	75.43	1983	PS	Oil
Novoyendyrskoye	FR	61.85	67.87	1977	SI	Oil
Novyy-Tutymskoye	KA	58.80	74.20	1988	SI	Oil
Noyabr'skoye Zapadnoye	OB	63.39	75.01	1987	PS	Oil
Nulin-Turskoye	UR	62.95	64.22	1961	SI	Gas

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Nurminskoye	YA	68.77	71.77	1970	SI	Gas
Nydinskoye	NP			1981	SI	Gas
Ob River Area	OB			1982	SI	Oil
Okhanskoye	UR	61.03	65.68	1967	SI	Oil
Okhteurskoye Vostochnoye	VA			1994	SI	Oil
Okhteurskoye Yuzhnyy	VA	60.76	78.50	1990	SI	Oil
Ol'khovskoye (Tyumen)	FR	63.20	67.86	1986	SI	Oil
Olen'yetskoye	KA	59.36	76.34	1967	PS	Oil
Olen'yetskoye Severnoye	KA	59.40	76.40	1989	PP	Oil
Ombinskoye	OB	61.05	72.83	1989	PP	Oil
Ontokhskoye	FR	60.81	66.15	1989	SI	Oil
Orekhov Severnoye	OB	61.00	76.23		SI	Oil
Orekhovskoye	OB	60.82	75.70	1976	SI	Oil
Osomkinskoye Zapadnoye	OB	61.00	73.55		SI	Oil
Ostaninskoye	VA	57.70	79.37	1970	DV	Gas
Ostaninskoye Severnoye	VA	57.91	79.29	1977	SI	Oil
Ostaninskoye Zapadnoye	VA	57.73	79.04	1972	PS	Oil
Ostrovnoye	OB	60.93	75.18	1980	SI	Oil
Ostrovnoye Severnoye	OB	61.01	74.84	1978	PP	Oil
Ostrovnoye Yuzhnoye	OB	60.75	74.92	1989	SI	Oil
Otdelnoye	OB	62.93	74.86	1985	SI	Oil
Ozernoye (Tomsk)	KA	59.20	76.47	1970	PS	Oil
Ozernoye (Vostochnoye & Zapadnoye)	UR	62.25	63.50	1963	DV	Gas
Pal'nikovskoye	OB	64.63	72.18	1992	SI	Oil
Palyanovskoye	FR	61.75	65.92	1972	PP	Oil
Pangodyskoye	NP	65.56	74.53	1979	SI	Gas
Parusovoye	GY	68.44	74.67	1985	PP	Oil
Paul-Tur	UR	63.09	64.16	1960	SI	Gas
Pavlovskoye (Tomsk)	KA	58.50	75.78	1989	SI	Oil
Paysyataskoye	NP	64.30	73.90	1988	SI	Oil
Paytykhskoye	FR	61.26	65.37	1987	SI	Oil
Pelyatkinskoye (Yenisey-Khatanga)	GY	69.60	81.80	1977	DV	Gas
Perekatnoye	PT	67.74	78.69	1988	SI	Gas
Pereval'noye Vostochnoye	OB	63.26	72.63	1990	SI	Oil
Perevalnoye Yuzhnoye	OB			1991	SI	Oil
Permyakovskoyeskoye	VA	61.34	79.55	1972	PS	Oil
Pervomayskoye (Tomsk)	KA	59.05	75.96	1969	PS	Oil
Peschanoye	FR	62.23	65.95	1987	SI	Oil
Pestsovoye Zapadnoye	NP	66.91	74.73	1985	PP	Gas
Petelinskoye	OB	60.55	71.92	1982	PS	Oil
Pil'tanskoye	OB	61.68	73.15	1985	PP	Oil
Pindzhinskoye	VA	57.64	79.68	1985	SI	Oil
Pionerskoye	VA	58.97	77.27		SI	Oil
Pogranichnoye (Tyumen)	OB	62.91	75.19	1982	PS	Oil
Pokachevsko-Ur'yevskoye (Akhsikoye, Lasyeganskoye, Nivagalskoye, Potochnoye, Potochnoye Severnoye, Pokachevskoye Yuzhnoye,						

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Ur'yevskoye)	O3	61.73	75.23	1970	PS	Oil
Pokachevskoye Severnoye (Pokachev-Ur'yev)	O3	61.89	75.56	1980	PP	Oil
Pokachevskoye Vostochnoye	O3	61.85	75.90	1980	SI	Oil
Pokachevskoye Yuzhnoye (Pokachev-Ur'yev)	O3	61.64	75.33	1976	PP	Oil
Pokamasovskoye	O3	61.20	74.39	1972	PS	Oil
Pokamasovskoye Yuzhnoye	O3	61.07	74.50		SI	Oil
Pokamasovskoye Zapadnoye	O3	61.32	74.40		SI	Oil
Pokhromskoye	UR	64.08	65.83	1960	PP	Gas
Pokurskoye Severskoye	O3	61.20	75.50	1964	PS	Oil
Poludennoye (Tomsk)	VA	60.08	78.25	1967	PS	Oil
Poludennoye (Tyumen)	O3	60.54	76.64	1983	PP	Oil
Poludennoye Severnoye	VA			1992	SI	Oil
Polun'yakhskoye	KA	59.54	73.03	1990	SI	Oil
Pomaliyakhskoye Severnoye	O3	64.08	74.25	1989	PP	Oil
Pon'zhevoye	KA	57.92	76.52	1983	SI	Oil
Poselkovoye	KA	58.56	76.47	1982	SI	Oil
Posnokortskoye	UNK				SI	Oil
Potanayskoye	UR	61.17	65.62	1965	SI	Oil
Potanayskoye Severnoye	UR	61.22	65.60	1965	SI	Oil
Potanayskoye Vostochnoye	UR	61.17	65.62	1990	SI	Oil
Potanayskoye Yuzhnoye	UR	61.13	65.68	1966	SI	Oil
Potochnoye Severnoye (Poka-Ury)	O3			1979	SI	Oil
Potochnoye(Poka-Ury)	O3			1974	SI	Oil
Pottyskoye	FR	61.22	66.99	1988	SI	Oil
Povkhovskoye	O3	62.36	75.81	1972	PS	Oil
Povkhovskoye Severnoye	O3	62.80	76.20		SI	Oil
Povkhovskoye Yuzhnoye	O3	62.39	76.19	1972	SI	Oil
Pravdinsk-Salymskoye	O3	60.94	71.78	1964	PS	Oil
Pridorozhnoye Vostochnoye	O3	62.10	74.67		SI	Oil
Priobskoye	FR	61.13	70.46	1982	PS	Oil
Priobskoye Severnoye	FR	61.56	70.50	1988	SI	Oil
Priobskoye Zapadnoye	FR	61.59	70.37	1988	SI	Oil
Prirakhtovskoye	FR	57.36	72.21	1975	SI	Oil
Prisklonovoye	NP	65.18	76.97			Oil
Promezhutochnoye	OE	61.33	71.50		SI	Oil
Protochnoye	VA	60.65	78.33	1978	SI	Oil
Protochnoye Severnoye	VA	60.63	78.20	1979	SI	Oil
Protochnoye Yuzhnoye	VA	60.52	78.17	1978	SI	Oil
Puglalymskoye	VA	58.89	77.73	1971	SI	Oil
Pulpuyakhskoye	NP	63.83	73.67	1977	SI	Oil
Punga (Punginskoye)	UR	62.76	64.44	1961	PP	Gas
Purovskoye Severnoye	PT	66.54	78.33	1986	SI	Gas
Purpeyskoye Yuzhnoye	NP	64.17	74.28	1984	SI	Oil
Purpeyskoye Zapadnoye	NP	64.59	75.54	1987	PP	Oil
Pyakutaskoye	OB	63.74	73.10	1987	SI	Oil
Pyakuta Vostochnoye	OB	63.58	74.14	1982	DV	Oil
Pyakyakhinskoye	PY	67.84	80.13	1989	SI	Gas
Pyamaliyakhskoye Severnoye	NP	64.00	74.20	1982	PS	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Pylinskoye	OB	61.05	77.54	1980	PP	Oil
Pylinskoye Zapadnoye	OB	61.05	77.50	1991	SI	Oil
Pyreynoye	NP	65.62	77.69	1976	DV	Gas
Pyreynoye Yuzhnoye	NP	65.62	77.69	1980	SI	Oil
Rakitinskoye	KA	56.96	78.96	1971	SI	Oil
Ravenskoye	OB	61.90	74.17	1981	SI	Oil
Ravninnoye	PT	63.33	79.52	1987	SI	Oil
Rechnoye	VA	58.39	77.92	1981	SI	Gas
Rodnikovoye	OB	61.73	74.25	1988	PP	Oil
Rogozhnikovskoye	FR	62.21	67.29	1988	SI	Oil
Rogozhnikovskoye Severnoye	FR	62.30	67.20	1990	SI	Oil
Rogozhnikovskoye Yuzhnoye	FR	62.10	67.50	1990	SI	Oil
Rogozhnikovskoye Zapadnoye	FR	62.20	67.20		SI	Oil
Romanovskoye	OB	63.80	73.89	1987	SI	Oil
Roslavlskoye	OB	62.03	76.48	1988	DV	Oil
Rostovtsevskoye	YA	68.43	72.40	1986	DV	Gas
Rubinovoye	OB	61.13	76.28	1982	PP	Oil
Ruch'yevskoye	NP	63.30	78.12	1987	SI	Oil
Ruf'yeganskoye	OB	61.30	77.59	1982	PP	Oil
Rusanovskoye	YA	73.40	65.50	1989	SI	Gas
Russkinskoye(Tevlin-Konitlor)	OB			1982	SI	Oil
Russkorechenskoye	PT	67.14	81.82	1985	SI	Oil
Russkoye	PT	66.75	80.44	1968	DV	Oil
Russkoye Yuzhnoye	PT	65.93	80.38	1969	DV	Gas
Ryamnoye	OB	60.91	76.75	1989	DV	Oil
Rybalnoye	VA	58.18	79.83	1988	SI	Oil
Sakhalinskoye (Tyumen)	OB	61.41	71.03	1983	SI	Oil
Sakhalinskoye Vostochnoye	OB	61.51	71.28	1984	SI	Oil
Salekaptskoye	PT	67.50	78.30	1986	SI	Oil
Salymskoye	OB	60.00	71.00	1965	DV	Oil
Salymskoye Central (Srednesalym)	OB	60.00	71.00	1967	PS	Oil
Salymskoye Severnyy	OB	60.00	71.00	1978	PS	Oil
Salymskoye Vostochnoye	OB	60.20	71.18	1989	SI	Oil
Salymskoye Zapadnoye	OB	60.31	70.93	1987	SI	Oil
Samburgskoye Yuzhnoye (Urengoy)	NP	66.81	77.37	1979	SI	Oil
Samburgskoye (Urengoy)	NP	66.81	77.37	1975	DV	Oil
Samotlorskoye (Vata, Megion, Pokur Sev., Mykhpay, Orekhovo Sev.)	OB	60.95	76.37	1961	PS	Oil
Sandibinskoye	NP	66.76	73.20	1982	PP	Oil
Saporkinskoye	OB	61.72	72.18	1982	SI	Oil
Sardakovskoye Yuzhnoye	OB	62.18	76.19	1989	SI	Oil
Savvuskoye	OB	61.88	73.78	1971	PS	Oil
Saygataskoye	OB	61.27	72.89	1966	PS	Oil
Selimkhanovskoye	VA	57.87	80.18	1981	SI	Oil
Selivonikoye	NP	62.73	76.56	1988	SI	Oil
Seliyarovskoye	FR	61.50	70.17		SI	Oil
Seliyarovskoye Severnoye	FR	61.81	69.49	1988	SI	Oil
Semakovskoye-Anderpayuta	GY	68.90	75.53	1971	SI	Gas

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Semivodovskoye Vostochnoye	UR	60.70	65.19	1967	PS	Oil
Severnoye	VA	60.76	78.50	1965	PS	Oil
Seyakhinskoye Zapadnoye	YA	70.85	70.86	1989	SI	Gas
Shapshinskoye	OB	60.40	70.30	1981	DV	Oil
Shchuch'ye	OB	61.79	76.88	1986	SI	Oil
Sheburskoye Vostochnoye	FR	60.32	66.98	1990	SI	Oil
Shinginskoye	VA	58.31	78.49	1971	SI	Oil
Shirokovskoye	OB	61.39	74.05	1977	DV	Oil
Shirotnoye	KA	56.68	80.78	1988	SI	Oil
Shtomovoye	UKN			1992	SI	Gas
Shukhtungorskoye Vostochnyy	UR	62.32	64.15	1963	DV	Gas
Shukhtungorskoye Zapadnoye	UR	62.45	64.00	1962	DV	Gas
Shukhtungorskoye	UR	62.35	63.84	1962	SI	Gas
Shushminskoye	UR	61.22	64.14	1984	PS	Oil
Shushminskoye Severnoye	UR	61.25	64.32	1992	SI	Oil
Shushminskoye Yuzhnoye	UR	61.22	64.14		SI	Oil
Siktorskoye Severnoye	VA	62.03	79.62	1976	SI	Oil
Sil'ginskoye Severnoye	PA	58.94	80.12	1971	SI	Gas
Slavinskoye	UR	60.75	64.50		SI	Oil
Smolyanoye	KA	57.35	78.41	1987	SI	Oil
Snezhnoye	PA	58.97	79.78	1983	SI	Oil
Sobolinoye	PA	58.46	79.53	1967	PP	Oil
Soimlorskoye Severnoye	OB	63.34	73.83	1981	DV	Oil
Sokhtymskoye	OB	62.50	72.35	1990	SI	Oil
Soleninskoye Severnoye (Ust Yenisey)	GY	69.24	81.48	1971	PP	Gas
Soleninskoye Yuzhno (Ust Yenisey)	GY	69.10	81.70	1969	PP	Gas
Soletskoye	GY	69.72	75.21	1984	SI	Gas
Solkinskoye Zapadnoye	OB	61.35	72.42	1976	PP	Oil
Solonovskoye	KA	57.21	78.99	1986	SI	Oil
Sorominskoye	OB	61.20	77.36	1971	PS	Oil
Sorominskoye Severnoye	OB	61.23	77.42	1971	SI	Oil
Sorominskoye Zapadnoye	OB	61.26	77.36	1971	SI	Oil
Sortymskoye	OB	62.40	71.70	1992	SI	Oil
Sorymskoye	OB			1982	SI	Oil
Sosnovomysskoye (Krasnoleninskoye)	FR	62.06	66.41	1975	SI	Oil
Sote-Yuganskoye Severnoye	FR	62.30	64.50	1963	PP	Gas
Sote-Yuganskoye Yuzhnoye	FR	62.19	64.55	1964	PP	Gas
Sote-Yuganskoye	FR	62.25	64.50	1963	SI	Gas
Sovetskoye	OB			1962	DV	Oil
Sporishevskoye	UKN			1993	SI	Oil
Srede-Kharampurskoye	PT	64.10	73.63		SI	Oil
Sredne-Khulymskoye	OB	64.55	71.29	1989	SI	Oil
Sredne-Imurskoye	UKN			1990	SI	Oil
Sredne-Iterskoye	OB	63.50	74.67		SI	Oil
Sredne-Shapshinskoye	OB	60.67	70.33		SI	Oil
Sredne-Vasyuganskoye	VA	59.13	77.83	1965	PP	Oil
Sredne-Vatlorskoye	OB	63.19	71.41	1988	SI	Oil
Sredneasomkinskoye	OB	61.00	73.00	1987	PS	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Srednebalykskoye	OB	60.53	72.52	1965	PS	Oil
Srednechernogorskoye	OB	61.41	76.78	1986	SI	Oil
Srednekondinskoye	UR	60.88	63.83	1982	SI	Oil
Srednenazymskoye	FR	61.95	68.34	1978	SI	Oil
Srednenyuroi'skoye	VA	58.92	77.87	1965	SI	Oil
Srednesil'ginskoye	PA	58.87	80.14	1962	SI	Gas
Sredneteterevskoye	UR	60.70	64.40	1970	PP	Oil
Sredneugutskoye	OB	60.50	73.97	1988	SI	Oil
Sredneyamalskoye	YA	69.06	71.16	1970	DV	Gas
Sredniy Lykhmskoye	FR	63.51	66.44	1982	SI	Oil
Sredniy Nazym'skoye	FR	61.98	68.35	1978	SI	Oil
Stakhanovskoye	PT	63.41	78.52	1988	SI	Oil
Stakhanovskoye Severnoye	PT				SI	Oil
Stavropolskoye	VA			1990	SI	Oil
Stolbovoye	KA	59.27	76.57	1986	DV	Oil
Strezhevoye	OB	60.79	77.46	1968	PS	Oil
Strezhevoye Vostochnoye	OB				SI	Oil
Studenoye	OB	61.84	70.93	1975	SI	Oil
Sugmuts'koye	OB	63.84	73.64	1987	SI	Oil
Surgutskoye Severnoye	OB	61.74	73.44	1963	PS	Gas
Surgutskoye Vostochnny (Federovo-Surgut)	OB	61.70	73.40	1977	SI	Oil
Surgutskoye Yuzhnyy (Federovo)	OB	61.70	73.40	1973	PS	Oil
Surgutskoye Zapadnoye (Federovo-Surgut)	OB	61.70	73.40	1962	PS	Oil
Surprinskoye Vostochnoye	UR	61.25	64.28	1986	SI	Oil
Sutorlinskoye	OB	61.30	73.50	1975	DV	Oil
Sutorminskoye	NP	63.75	74.55	1975	PS	Oil
Sutorminskoye Yuzhnoye	NP	63.48	74.78	1988	SI	Oil
Sutorminskoye Zapadnyy	NP	64.00	74.58			Oil
Suzun'skoye	PT	68.34	83.60	1971	SI	Oil
Syadorskoye (Syadorakha)	YA	71.60	69.16	1982	SI	Gas
Symor'yakh'skoye	UR	61.27	64.46	1988	SI	Oil
Syn'yeganskoye	FR	61.65	69.45	1984	SI	Oil
Syskonsyninskoye	UR	62.90	63.64	1961	SI	Gas
Syskonsyn'yaskoye Vostochnaya	UR	62.96	63.92	1961	PP	Gas
Syskonsyn'yaskoye Yuzhnaya	UR	62.88	63.70	1963	DV	Gas
Syskonsyn'yaskoye Zapadnaya	UR	62.93	63.69	1961	DV	Gas
Tabaganskoye Yuzhnoye	KA	57.29	78.96	1983	SI	Oil
Tagayskoye	KA	57.97	76.02	1987	SI	Oil
Tagrinskoye	NP	62.32	78.21	1975	PS	Oil
Tagul'skoye	PT	67.75	82.78	1988	SI	Oil
Tal'nikovoye	UR	60.97	63.66	1989	SI	Oil
Talinskoye	FR	62.00	66.55		SI	Oil
Talinskoye Zapadnoye	FR	62.00	66.50	1992	SI	Oil
Tambayeyskoye Yuzhnoye	KA	57.69	78.58	1986	SI	Oil
Tambeyskoye Severnoye	YA	71.83	71.55	1982	SI	Gas
Tambeyskoye Yuzhnoye	YA	71.21	71.95	1974	DV	Gas
Tambeyskoye Zapadnoye	YA	71.54	70.97	1985	SI	Gas

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Tanlovskoye Yuzhnoye	NP	64.49	75.20	1976	PP	Oil
Tanusalinskoye	NP	66.88	73.80	1987	SI	Gas
Taplorskoye	OB	61.92	72.67	1978	SI	Oil
Tapskoye	PT	64.58	78.82	1986	SI	Oil
Tarasovskoye (Ayvasedopurskoye)	NP	64.47	77.73	1967	PS	Oil
Tarkhovskoye Severnoye	OB	61.17	77.20	1981	SI	Oil
Tarkhovskoye Yuzhnoye	OB	61.10	77.07	1981	SI	Oil
Tarkhovskoye Zapadnoye	OB	61.11	77.08	1987	SI	Oil
Tarko-Sale Vostochnoye	NP	65.05	78.10	1971	DV	Gas
Tarko-Sale Yuzhnoye	NP	63.97	78.59	1984	SI	Oil
Tarko-Sale Zapadnoye	NP	64.79	77.20	1972	PP	Gas
Tarskoye Vostochnoye	KA	56.86	78.86	1986	SI	Oil
Tasiyskoye	YA	71.98	72.01	1988	SI	Gas
Tavlovskoye Yuzhnoye	NP	64.57	75.08		SI	Oil
Tay-Dasskoye (Dasskoye)	KA	56.73	79.13	1971	SI	Oil
Tay-Dasskoye Vostochnoye	KA	56.68	79.22		SI	Oil
Taybinskoye (Lyantor)	OB	61.87	72.13	1968	SI	Gas
Taylakovskoye	KA	59.14	74.11	1964	SI	Oil
Taytymskoye	FR	57.96	73.45	1975	SI	Oil
Tazskoye	PT	67.39	78.92	1962	PP	Oil
Tazovskoye Vostochnoye	PT	67.32	79.63	1980	SI	Gas
Tekto-Kharampur	PT	63.87	79.83	1990	SI	Oil
Teplin-Russkin	OB	62.25	73.50	1990	PP	Oil
Teplovskoye	OB	60.76	72.47	1966	PS	Oil
Terel'skoye	PT	64.38	80.04	1986	SI	Gas
Termokarstovoye	PT	65.43	82.54	1988	SI	Gas
Teterevo-Mortyminskoye	UR	60.41	64.63	1961	PS	Oil
Teterevskoye Severnoye (Mortym)	UR	60.41	64.97	1968	PP	Oil
Teterevskoye Vostochnoye (Mortym)	UR	60.41	64.97	1964	PS	Oil
Teterevskoye Yuzhnoye (Mortym)	UR	60.33	64.83	1963	PS	Oil
Tevlin-Konitlorskoye	OB	62.50	73.68	1971	PS	Oil
Tevlinskoye	OB	62.51	73.65	1972	SI	Oil
Tevrizskoye	FR	57.55	72.29	1971	SI	Gas
Tevrizskoye Vostochnoye	FR	57.52	72.30		SI	Gas
Tochinskoye	OB	62.18	72.25	1989	SI	Oil
Tolkinskoye	PT	64.33	82.28	1989	SI	GC
Tolumskoye Vostochnoye	UR	60.56	65.29	1967	PP	Oil
Tolumskoye Semivodskoye	UR	60.75	65.33	1966	PS	Oil
Tolumskoye Severnoye	UR	60.75	65.33	1966	PS	Oil
Tolumskoye Yuzhnoye	UR	60.75	65.33	1966	PS	Gas
Tonchinskoye	OB			1989	SI	Oil
Tortasinskoye	FR	62.19	69.59	1989	SI	Oil
Totayakhinskoye	GY	69.14	76.52	1984	DV	Gas
Travyanoye	KA	59.08	74.05		SI	Oil
Trekhbugornoye	GY	69.56	74.39	1990	SI	Gas
Trekhozernoye	UR	60.21	64.70	1960	PS	Oil
Trekhozernoye Severnoye	UR	60.21	64.70	1969	PS	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Triyurtinskoye	UKN			1988	SI	Oil
Triyurtinskoye Vostochnoye	UKN			1988	SI	Oil
Trom-Yeganskoye	OB	63.00	71.86	1986	SI	Oil
Trom-Yeganskoye Severnoye	OB	63.40	71.50	1993	SI	Oil
Trom-Yeganskoye Vostochnoye	OB	61.37	74.57	1988	SI	Oil
Tsentralnoye (Khanty-Mansiyskoye)	FR	62.62	67.55	1987	SI	Oil
Tugiyanskoye	UR	63.62	65.80	1960	SI	Gas
Tugrovskoye Severnoye	FR	61.88	64.75	1992	SI	Oil
Tugrovskoye Vostochnoye	FR	61.70	64.80	1989	SI	Gas
Tugrovskoye Zapadnoye	FR				SI	Oil
Tukanskoye	KA	59.82	72.39	1963	SI	Oil
Tul'yeganskoye	VA	61.35	77.90	1983	SI	Oil
Tumannoye	FR	61.85	70.38	1974	SI	Oil
Tundrinskoye	OB	61.27	72.08	1981	SI	Oil
Tungolskoye	VA	60.33	80.49	1973	SI	Oil
Tunkorskoye	FR	62.36	68.30	1989	SI	Oil
Tutlimskoye (Tutlym)	OB	62.05	72.07	1966	DV	Oil
Tyanovskoye	OB	62.98	72.34	1986	DV	Oil
Tyumenskoye	OB	61.65	77.62	1971	PS	Oil
Ubinskoye	UR	60.74	64.87	1964	PP	Oil
Ubinskoye Lesser	UR	60.82	64.83	1967	PP	Oil
Ubinskoye Servenoje	UR	60.82	64.83	1964	PP	Oil
Ubinskoye Yuzhnoye	UR	60.82	64.83	1965	PP	Oil
Ubinskoye Zapadnoye	UR	60.82	64.83	1966	PP	Oil
Udachnoye	OB	60.50	71.83		SI	Oil
Udmurtskoye Yuzhnoye	UKN			1992	SI	Oil
Ugutskoye	OB	60.49	74.13	1985	PS	Oil
Ugutskoye Zapadnoye	OB	60.46	73.73	1984	PP	Oil
Umseyskoye	NP	64.08	74.39	1982	PP	Oil
Umseyskoye Vostochnoye	NP	64.19	74.61	1988	SI	Oil
Unlorskoye	UKN			1989	SI	Oil
Urengoyskoye (Pestsovoye)	NP	66.95	75.36	1970	SI	Gas
Urengoyskoye (Samburg, Yevo-Yakha, Yen-Yakha, Urengoy Sev., Pestsovoye)	NP	66.05	76.95	1966	PP	Gas
Urengoyskoye Severnoye	NP	67.54	76.55	1970	PP	Gas
Urengoyskoye Vostochnoye	NP	66.08	77.49	1978	UKN	Gas
Urmanskoye	KA	57.62	78.45	1974	SI	Oil
Urnskoye	KA	58.66	73.38	1970	SI	Oil
Uryevskoye (-Potochnoye) (Pokachev-Ur'yev)	OB	61.42	75.45	1971	PS	Oil
Usanovskoye	KA	58.56	73.68	1971	SI	Oil
Ust Chaselskoye	PT	65.12	81.10	1981	SI	Oil
Ust Kharampur	PT	64.30	78.19	1983	PP	Oil
Ust'-Sil'ginskoye	PA	58.87	80.00	1961	SI	Gas
Ust-Balyk Zapadnoye	OB	61.10	72.35	1985	SI	Oil
Ust-Balyk-Mamontovo	OB	61.09	72.57	1961	PS	Oil
Ust-Kotukhtinskoye	OB	62.50	76.00	1990	SI	Oil
Ust-Koyukhtaskoye	OB				SI	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Ust-Yuribayskoye	YA	68.86	70.07	1989	SI	Gas
Utrenneye	GY	70.95	74.63	1980	DV	Gas
Utrenneye Severnoye	GY	71.07	74.07	1979	SI	Gas
Uzbekskoye	UR	60.27	64.22	1988	PP	Oil
Uzbekskoye Severnoye	UR	60.27	64.22	1989	PP	Oil
Uzbekskoye-Sredne-Chanchar	UR	60.53	64.22	1988	PS	Oil
Uzbelkoye Yuzhnoye	UR	60.27	64.22	1988	SI	Oil
Vachimskoye	OB	61.81	72.62	1971	PS	Oil
Vadelypskoye	OB	60.15	71.06	1989	SI	Oil
Vakh River	VA			1965	DV	Oil
Vakh Severnoye	VA	60.98	78.96	1967	SI	Oil
Vakh Yuzhnoye	VA	60.85	78.98		SI	Oil
Valyuninskoye Vosstochnoye	UK N			1988	SI	Oil
Van'yeganskoye	NP	61.85	77.23	1974	PS	Oil
Vankorskoye	UK N			1990	SI	Oil
Var'yeganskoye	NP	62.11	77.57	1967	PS	Oil
Var'yeganskoye Severnoye	NP	62.44	77.40	1971	PS	Oil
Var'yeganskoye Yuzhnoye	NP	62.20	76.73	1982	SI	Oil
Var'yeganskoye Zapadnoye	NP	62.31	76.69	1981	PS	Oil
Vartov-Sovetskoye	OB	60.81	77.09	1962	PS	Oil
Vartovskoye	VA	60.28	79.88	1968	SI	Oil
Vartovskoye-Sosino	OB	60.77	77.35	1962	DV	Oil
Varyngskoye	PA	62.67	80.17		SI	Oil
Vasyuganskoye Severnoye	VA	59.37	78.38	1964	PP	Gas
Vat'yeganskoye	OB	62.15	75.32	1970	PP	Oil
Vat'yeganskoye Severnoye	OB	62.40	75.30	1983	SI	Oil
Vat'yeganskoye Yuzhnoye	OB	62.03	75.02	1971	DV	Oil
Vataskoye	OB	61.17	75.78		SI	Oil
Vataskoye Severnaya	OB	61.20	75.80	1980	PP	Oil
Vatinskoye	OB	61.25	75.90	1964	PS	Oil
Vengapur	NP	63.09	76.59	1968	PP	Gas
Vengapur Severnoye	NP	63.20	76.70	1992	SI	Oil
Vengapur Yuzhnoye	NP	62.63	76.82	1973	PP	Oil
Vengapur Zapadnoye	NP	63.17	76.35	1992	SI	Oil
Vengayakha						
(Vengayakha Vost.)	NP	63.97	76.90	1968	PS	Gas
Verkhne Chasel'kaskoye	PT	65.20	80.40	1980	SI	Oil
Verkhne Nadymskoye	OB	63.40	72.88	1992	SI	Oil
Verkhne-Kolikyeganskoye	PT	62.42	80.15	1981	PS	Oil
Verkhne-Lyaminskoye						
(Upper Lyama)	FR	62.15	70.54	1970	SI	Oil
Verkhne-Salatskoye	VA	58.48	78.04	1967	SI	Oil
Verkhnekambarskoye	VA	57.50	80.28	1971	SI	Gas
Verkhnelem'inskoye	UR	61.09	64.13	1966	PS	Oil
Verkhnepurpey	NP	64.57	75.50	1976	PP	Gas
Verkhnesalym'skoye	OB	59.99	70.97	1966	DV	Oil
Verkhneshapshinskoye	OB	60.82	70.34	1972	SI	Oil
Verkhnesuprinskoye	UR	61.25	64.30	1986	SI	Oil
Verkhnetarskoye	KA	56.74	78.75	1971	PP	Oil
Verkhnetiuteyskoye	YA	70.77	69.89	1982	SI	Gas
Verkhniy Kazym'skoye	FR				SI	Oil

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Verkhniy Kazymskoye	OB	63.60	70.93	1990	SI	Oil
Verkhnyaya Kondaskoye	UR	61.40	63.88	1963	SI	Gas
Vershinnoye	OB	61.57	73.07	1964	DV	Oil
Veselovskoye	KA	56.52	78.15	1965	SI	Gas
Vesennee	KA	59.08	76.00	1973	SI	Oil
Vesenneye Zapadnoye	KA				SI	Oil
Vladigorskoye Yuzhnoye	OB	60.50	71.50		SI	Oil
Vonterskoye	VA	61.75	79.13	1982	SI	Oil
Vostochnoye(Novosibirsk)	KA	56.70	79.29	1986	SI	Oil
Vyintoy	OB	62.90	75.78	1982	SI	Oil
Vyintoy Vostochnoye	OB	62.86	75.93	1989	SI	Oil
Vyintoy Yuzhnoye	OB	62.80	75.80	1988	SI	Oil
XXVII CPSU Congress	OB	60.68	74.53		SI	Oil
Yagunskoye	OB	62.36	74.32	1978	PS	Oil
Yagunskoye Severnoye	OB	62.70	74.45	1982	DV	Oil
Yagunskoye Vostochnoye	OB	62.16	74.34	1982	SI	Oil
Yagunskoye Yuzhnoye	OB	62.20	74.30	1979	PS	Oil
Yagyl'yakh	KA	57.74	75.20	1982	SI	Oil
Yakhlaskoye	UR	61.40	65.43	1971	PS	Oil
Yakhturskoye Severnoye	PT	63.75	79.00		SI	Oil
Yamburgskoye	NP	67.98	75.84	1969	PP	Gas
Yamskoye	OB	60.33	71.50		SI	Oil
Yamsovey	NP	65.56	75.32	1970	DV	Gas
Yangtaskoye Severnaya	NP	64.23	74.94	1985	SI	Oil
Yaraynerskoye	NP	63.17	77.79	1973	PP	Oil
Yaraynerskoye Severnoye	NP	63.17	77.90	1987	SI	Oil
Yaraynerskoye Vostochnoye	NP	63.08	77.89	1987	SI	Oil
Yaraynerskoye Yuzhnoye	NP	62.75	78.01	1988	SI	Oil
Yareyskoye	NP	65.18	75.85	1989	SI	Gas
Yarovoye	PT	66.00	79.50	1991	SI	Gas
Yaroyakhskoye	PT	66.23	78.75	1984	PP	Gas
Yaunlorskoye	OB	61.52	72.93	1967	PS	Oil
Yefremovo	OB	60.60	73.00	1989	PP	Oil
Yegur'yakh	OB	61.72	76.40	1988	SI	Oil
Yegur'yakh Severnoye	OB	61.77	76.31	1987	SI	Oil
Yegur'yakh Yuzhnoye	OB	61.70	76.27	1990	SI	Oil
Yelizarovskoye						
(Krasnoleninskoye)	FR	61.48	67.77	1963	SI	Oil
Yelleyskoye(Yelley)	KA	57.60	77.68	1983	SI	Oil
Yelovoye Vostochnoye	OB	61.37	74.09	1987	PP	Oil
Yemyegovskoye						
(Krasnoleninskoye)	FR	61.75	66.42	1971	DV	Oil
Yendryskoye	FR	59.97	69.28	1992	SI	Oil
Yenyakha	NP	67.00	76.50	1976	SI	Oil
Yermakovo	OB	60.79	76.09	1974	PS	Oil
Yermakovo Severnoye	OB	60.80	76.10		SI	Oil
Yershovskoye (Tyumen)	OB	61.13	77.79	1979	PS	Oil
Yesetinskoye	PT	66.42	77.58		SI	Oil
Yesetinskoye Severnoye	PT	66.50	77.50		SI	Oil
Yetypurskoye	NP	63.95	77.63	1971	DV	Gas
Yevo-Yakha	NP	65.85	77.30	1980	SI	Gas

Table 1D. Basic Field Information, West Siberian Basin (Sorted Alphabetically by Field Name)
(Continued)

Field Name	Region	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Yubileynoye (Tyumen)	NP	65.99	75.76	1969	PP	Gas
Yubileynoye Vostochnoye	NP	65.88	76.17	1988	SI	Gas
Yugansk	OB			1975	SI	Oil
Yumantyl'	NP	65.06	72.89	1988	SI	Oil
Yur'yevskoye Severnoye	OB	61.99	72.98	1988	SI	Oil
Yurkharovskoye	NP	67.78	77.08	1970	SI	Gas
Yutym Severnoye	KA	59.00	74.16	1989	SI	Oil
Yutyrmalskoye	PT	64.82	81.41	1988	SI	Gas
Yuzhnoye-1	OB	60.63	75.91	1986	PP	Oil
Yuzhnoye-2	OB	60.62	76.01	1987	SI	Oil
Zaozernoye	FR	59.97	68.10	1987	SI	Oil
Zapolyarnoye	PT	66.87	79.63	1965	DV	Gas
Zapolyarnoye Zapadnoye	PT	66.70	78.78	1979	SI	Gas
Zimneyeskoye	GY	69.20	83.70	1977	DV	Gas

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned, UKN=Unknown, GC=Gas Condensate, YA=Yamal, GY=Gydan, NP=Nadym-Pur, PT=Pur-Taz, FR=Frolov, UR=Urals, KA=Kaymysov, VA=Vasyugan, PA=Padugin, OB=Middle Ob. Alternate field names or field combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Achimovskoye (Achimov)	210.42	62.75		
Aganskoye	1792.72	523.33		
Aganskoye Yuzhnoye	12.74	4.00		
Aganskoye Zapadnoye	1.53	0.48		
Akaytemskoye			15.00	
Alekhinskoye	651.33	194.60		
Aleninskoye	11.37	3.24		
Alyasovskoye Severnoye			36.18	0.44
Alyasovskoye Yuzhnoye			48.52	0.55
Anomalnoye	2.00	1.00		
Antipayutaskoye			12294.01	
Apakapurskoye	80.93	63.53		
April'skoye	51.92	14.07		
Archinskoye	59.72	22.04		
Ariolskoye	38.56	14.65		
Arkticheskoye			7831.83	77.07
Asomkinskoye	22.95	6.24		
Asomkinskoye Vostochnoye	7.56	2.81		
Asomkinskoye Yuzhnoye	10.40	2.83		
Asomkinskoye Zapadnoye	88.08	36.55		
Ay-Yaunskoye	524.22	89.12	790.74	
Ayeganskoye	33.74	22.82		
Aykurskoye	144.08	54.46		
Aypim Lobat-Yuganskoye (Ai Pim)	486.10	61.94		
Ayvasedopurskoye Severnoye (Tarasovskoye Sev.)	46.20	36.54		
Bakhilovskoye	315.72	178.49		
Balykskoye Yuzhnoye	317.37	93.10		
Barsukovskoye			4531.10	222.02
Barsukov Zapadnoye	2.49	2.23		
Baydaratskoye			344.72	
Beloyarskoye			65.27	1.91
Beregovoye	130.13	102.15	5777.28	
Berezovskoye (Tyumen)			336.47	3.70
Bittenskoye	74.13	21.94		
Bol'shoye	131.39	65.35		
Bol'shoye Kruzenshternskoye (Kruzenshternskoye)			20287.40	
Boloshekotukhtinskoye(Kotukhta)	19.90	5.23		
Bovanenkoskoye			99681.21	217.10
Bovanenkoskoye Severnoye			194.03	
Bovanenkoskoye Vostochnoye			892.22	
Bugornaya-Vostochnaya			174.70	
Bystrinskoye (Bystrin)	1261.34	250.17		
Chakhloneyskoye	2.37	0.74		
Chancharskoye Severnoye	12.51	4.35		
Chaselskoye Severnoye			241.86	
Chatylkynskoye	52.51	29.57		
Chebacheskoye	297.55	109.80		
Cheremshanskoye Yuzhnoye	20.24	3.95		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Chernichnoye	26.91	15.25		
Chernogorskoye	199.52	74.97		
Chistinnoye	61.05	16.02		
Chkalovskoye	23.57	15.24	221.77	4.44
Chuelskoye			174.13	1.92
Chukhlorskoye	22.13	8.94		
Chumpaskoye	205.63	52.93		
Chupal'skoye	241.87	68.93		
Chupal'skoye Severnoye	160.20	45.66		
Chvorovoye (Vasyuganskiy)	3.81	1.44		
Danilovskoye	89.21	28.73		
Danilovskoye Severnoye	12.51	4.35		
Danilovskoye Vostochnoye	12.51	4.35		
Danilovskoye Zapadnoye	12.51	4.35		
Dekabr'skoye	4.17	1.70		
Deminskoye			149.82	1.78
Demyanskoye Severnoye	20.66	3.39		
Dobrovol'skoye	54.08	26.93		
Druzhnoye	1354.11	264.67		
Duklinskoye	27.37	10.35		
Dunayevskoye	24.55	7.71		
Dvoynoye	5.01	1.89		
Em-Yakhtinskoye			478.28	
Enitorskoye	39.05	14.76		
Enitorskoye Yuzhnoye	11.17	6.87		
Erginskoye	94.61	14.76		
Erginskoye Vostochnoye	255.96	73.79		
Fainskoye	132.04	48.99		
Fedorovskoye	1792.45	808.46	1133.65	20.41
Fedyushkinskoye	113.32	13.37		
Fedyushkinskoye Severnoye	2.71	0.35		
Festivalnoye (Tomsk)(Aykagol'skoye)	236.55	52.08		
Festivalnoye (Tyumen)(Kamy)	40.16	8.83		
Festivalnoye Yuzhno	7.36	2.78		
Filippovskoye	10.58	3.33		
Foboskoye	38.07	12.60		
Frolovskoye Vostochnoye	108.67	33.43		
Galleyskoye	3.77	1.27		
Galyanovskoye	439.81	183.40		
Gaz-Sale			257.34	9.01
Geofizicheskoye			4832.79	11.79
Gerasimovskoye	49.67	18.50	106.29	3.11
Glukhovskoye	4.09	1.55		
Golevyeskoye	17.01	7.36		
Gornoye (Tyumen)			89.36	0.98
Gorshkovskoye Zapadnoye	70.03	21.64		
Gorstovoye	7.67	2.39		
Gribnoye	72.09	27.33		
Grushevoye	28.49	7.49		
Gubkinskoye Severnoye	342.50	313.76	624.07	30.58

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Gubkinskoye (Gubkin Sev., Prisklonoye)	0.22	0.17	10580.14	0.16
Gun-Yeganskoye	98.13	38.04		
Gustorechenskoye	25.27	9.55		
Gydanskoye			1626.86	
Igol'sko-Talovoye	143.75	31.77		
Igrim Severnoye			123.20	1.36
Igrim Yuzhnoye			95.25	1.05
Ikilorskoye	250.18	86.82		
Imlorskoye	24.55	7.81		
Imlorskoye Zpapidny	24.55	7.81		
Ingaskoye (Inginsk)(Krasnoleninskoye)	18.22	6.72		
Ininskoye	5.14	1.94		
Iokhturskoye Severnoye	22.67	12.84		
Istochnoye	24.55	7.80		
It'yakhskoye	9.11	3.36		
Izvestinskoye	64.63	57.91		
Kalchinskoye	33.07	5.52		
Kalchinskoye Severnoye	11.12	9.82		
Kalinovoye	191.60	2912.44	455.90	17.49
Kalinovoye Severnoye	30.39	12.40	533.59	28.71
Kalinovoye Vostochnoye	0.22	0.10		
Kamennomysskoye			1363.72	
Kamennoye(Krasnoleninskoye)	58.88	14.80		
Kamynskoye	153.88	53.41		
Kamynskoye Severnoye	254.88	80.14		
Kamynskoye Yuzhnoye	60.66	19.09		
Karabashskoye(Leninskoye)			20.42	0.22
Karamovskoye	383.90	81.84		
Karamovskoye Severnoye	31.41	7.10		
Karasevskoye (Tomsk)	30.89	11.68		
Karasevskoye (Tyumen)	54.30	48.65		
Karasevskoye Severnoye	10.47	3.96		
Karasevskoye Zapadnoye	11.12	9.82		
Karayskoye (Karayskoye)	25.11	6.23		
Karayskoye Zapadnoye	17.97	6.79		
Karempostskoye	8.53	4.11		
Kartop'ya	40.43	27.98		
Kartopya Zapadnoye	0.40	0.09		
Kartopya-Okhanskoye	8.49	1.80		
Karyaunskoye	3.82	1.09		
Katyl'ginskoye	150.91	35.13		
Katyl'ginskoye Zapadnoye	21.37	4.86		
Kayumovskoye	14.11	6.65		
Kazanskoye			1702.66	26.35
Kazantsevskoye(UstYenisey)			409.87	
Kazymovskoye Severnoye			292.43	3.22
Kechimovskoye	24.55	7.81		
Kechimovskoye Yuzhnoye	24.55	7.81		
Ketovskoye	216.48	47.73		
Khadyryakhaskoye			434.66	

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Khadyryakhaskoye Yuzhnaya	15.31	12.02		
Khalmerpayuta			106.76	
Khambateyskoye			528.42	
Khancheyaskoye (or Khandey)			98.62	1.13
Khanty-Mansiyskoye (Tsentralkoye)	171.59	39.06		
Kharam-Pur Yuzhnoye	97.67	103.54	3080.19	
Kharampur (Kharampur Yuz.)	634.43	485.37	17927.84	14.82
Kharampur Zapadnoye	32.94	18.66		
Kharasaveyskoye			16783.40	77.22
Kharvutinskoye	57.06	28.42	346.91	
Khay-Yakhinskoye	7.55	4.16		
Khokhlovskoye	6.24	2.47		
Khokhryakov	353.42	146.32		
Khokhryakov Severnoye	187.28	189.23		
Kholmistoye	23.73	8.56		
Kholmogoryskoye	722.86	190.78		
Khorlorskoye	41.05	11.70		
Khorlorskoye Verkhniy	24.55	7.73		
Khulturskoye	72.22	25.09		
Khulymskoye Yuzhnoye	69.33	21.85		
Khvoynoye	13.99	6.03		
Kinyaminskoye Yuzhnoye	9.35	4.09		
Kinyaminskoye	2.00	1.00		
Kislorskoye	16.21	5.45		
Kiyevyeganskoye	19.95	8.84		
Klyuchevskoye (Tomsk)	28.82	10.66		
Kochevskoye Severnoye	24.55	7.74		
Kochevskoye(Tevlin-Konitlor)	128.88	40.61	135.51	2.44
Kogolymskoye	433.46	129.73		
Kogolymskoye Severnoye	27.02	8.53		
Kogolymskoye Yuzhnoye	13.25	4.19		
Kolikiyeganskoye	13.24	5.01		
Kolikiyeganskoye Vostochnoye	11.17	6.87		
Kolotuchnoye	293.43	110.92		
Komar'inskoye	30.59	9.67		
Komsomol'skoye (Barsukovskoye)			23190.35	
Komsomolskoye Severnoye			4052.30	4.10
Kondakovskoye (Tomsk)	9.43	4.45		
Kondinskoye Vostochnaya	11.17	6.87		
Konitlorskoye Severnoye	221.37	107.95		
Konitlorskoye Vostochnoye	20.39	6.45		
Konitlorskoye Yuzhnoye	818.68	373.08		
Konitlorskoye Zapadnoye	100.93	31.92		
Konitlorskoye(Tevlin-Konitlor)	101.64	31.94		
Koshilsko-Vakhskoye	388.68	239.04		
Kotukhtaskoye Zapadnoye	93.80	29.65		
Krapivinskoye	150.28	50.50		
Krapivinskoye Severnoye	17.31	3.25		
Krapivinskoye Vostochnoye	34.22	5.99		
Krasnoleninskoye				

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Krasnoyarskoye Zapadnoye	16.12	6.09		
Kraynyeye	165.21	82.28		
Kruzenshternskoye Yuzhnoye			3511.07	
Kudrinsk	10.39	2.96		
Kul'yeganskoye (Tyumen)	18.85	4.54		
Kulginskoye	2.00	1.00		
Kulyeganskoye(Tomsk)	19.52	5.08		
Kurraganskoye	27.17	8.81		
Kurraganskoye Yuzhnoye	7.05	2.15		
Kustovoye Yuzhnoye	3.57	1.13		
Kvartovoye	80.38	8.68		
Kynskoye			55.40	
Kysomskoye	7.07	2.0		
Larkinskoye	35.68	11.26		
Larlomin Yuzhnoye	11.12	9.82		
Larlomkinskoye	5.12	1.33		
Lasyeganskoye(Pokachev-Ur'yev)	232.36	59.93		
Lazarevskoye	12.51	4.35		
Lebyazhyeskoye			691.73	7.61
Ledovoye Severnoye (Tomsk)	24.55	7.75		
Ledovoye (Tomsk)	21.43	7.95		
Ledianoye	9.01	2.69		
Lem'inskoye Vostochnoye	11.74	4.08		
Lem'inskoye Zapadnoye	11.74	4.08		
Leminskoye (Lemya)	5.05	1.86		
Lempinskoye Zapadno(Pravdinsk-Salym)	45.10	16.73		
Leningradskoye				
Leninskoye(Karabashskoye)			52.32	0.58
Lenzitskoye	163.80	83.87		
Limbayakhaskoye	42.13	23.78		
Lineynoye	6.77	2.10		
Lokosovo	565.99	143.64		
Lomovoye	118.92	66.41		
Lontyn'yakh	16.14	3.44		
Lopukhovskoye	12.51	4.35		
Lorbinskoye	8.11	1.15		
Loryeganskoye	27.29	3.86		
Losevoye	9.92	4.89		
Lovinskoye	55.97	25.74		
Lovinskoye Zapadnoye	158.51	58.49		
Lower Tabaganskoye	20.85	129.04	55.73	1.63
Luginetskoye			386.86	11.33
Luginetskoye Zapadnoye	11.17	6.87		
Lyantorskoye (Taybinskoye)	2321.63	685.97		
Lykhminskoye	4.09	0.92		
Maksimkinskoye	2.00	1.00		
Malo Kolikyeganskoye	11.17	6.87		
Malo-Aganskoye Yuzhnoye	5.61	1.77		
Malo-Perevalnoye	24.55	7.75		
Malo-Tolumskoye	1.81	0.63		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Malobalykskoye	537.35	130.98		
Malochnogorskoye	105.21	39.19		
Malodanilovskoye	12.51	4.35		
Maloichskoye	36.10	12.18		
Maloklyuchevoye	85.38	56.79		
Malokustovoye	6.12	1.93		
Maloledyanoye	23.47	4.89		
Malonovogodneye	4.79	4.29		
Malopokachevskoye	24.55	7.75		
Malopotanayskoye	1.81	0.63		
Malopriobskoye	32.42	10.89		
Malopyakutaskoye	67.29	21.27		
Malorechenskoye	198.18	94.12		
Malovar'yeganskoye	10.19	8.56		
Malovat'yeganskoye	6.12	1.93		
Maloveselovskoye	1.94	0.35		
Maloyagunskoye	24.55	7.75		
Maloyamalskoye(Lesser Yamal)			604.73	
Maloyuganskoye Severnoye	24.55	7.75		
Maloyuganskoye	171.27	116.68		
Malyginskoye			2865.93	
Mamontovskoye(Ust-Balyk)	616.20	153.57		
Mangazeyevskoye	45.18	14.64		
Maslikhovskoye	18.22	6.45		
Matyushkinskoye	8.64	2.20		
Mayskoye (W Siberia)	123.41	35.78		
Medvezhyevskoye	0.11	0.09	54896.48	
Megionskoye	630.17	193.79		
Meretayakhskoye	95.83	85.86		
Messoyakhskoye Vostochnaya	179.01	21.66	495.65	
Messoyakhskoye Yuzhnaya			792.63	
Messoyakhskoye Zapadnaya	211.06	165.68		
Messoyakhskoye (Norilsk City1970) (Yenisey-Khatanga)			843.28	
Mezhovskoye	119.27	36.85		
Mezhovskoye Vostochnoye	50.57	20.74		
Minchinskoye	111.75	34.61		
Minchinskoye Severnaya	0.29	0.07		
Minkhovskoye			263.34	
Minkhovskoye Vostochnoye			409.87	
Mirnoye			861.53	25.24
Mogutlorskoye	17.84	5.64		
Mogutlorskoye Zapadnoye	13.25	4.19		
Moiseyevskoye	29.25	6.58		
Moiseyevskoye Zapadnoye	9.53	3.60		
Mokhovoye Vostochnoye	91.64	21.46		
Mokhtikovskoye	23.67	9.23		
Mortym'yaskoye Severnoye	92.65	30.22		
Mortym'yaskoye Yuzhnoye	22.41	9.40		
Mortym'yaskoye Zapadnoye 1	12.51	4.35		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Mortym'yaskoye Zapadnoye 2	12.51	4.35		
Mortym'yaskoye Zapadnoye 3	18.38	4.28		
Multanovskoye	41.91	15.84		
Mulym'yaskoye	18.79	5.92		
Mulymyaskoye Srednyaya	16.91	6.24		
Mulymyaskoye Zapadnaya	1.35	0.47		
Muravlenko	816.81	376.16	5185.13	
Muryaunskoye	2.00	1.00		
Mykhlorokoye	3.89	1.10		
Mykhpayskoye(Samotlor)	304.48	86.03		
Myldzhinskoye			8959.91	199.55
Myldzhinskoye Yuzhnoye	35.00	9.97		
Nadymskoye			1227.61	
Nakhodkaskoye			3857.11	
Nalim'yaskoye	17.26	6.53		
Nazinskoye Yuzhnoye	17.75	3.73		
Nazymskoye	80.11	26.92		
Neponyatnoye	64.57	57.86		
Nerstinskoye			629.14	
Ney-To (Neytinskoye)	6.26	4.91	943.95	3.74
Nezhdannoye	4.37	1.62		
Nikol'skoye (Tomsk)	9.40	2.88		
Nikol'skoye (Tyumen)	11.17	6.87		
Nivagalskoye(Pokachev-Ur'yev)	1487.92	384.76		
Nizhne Khetskoye (Yenisey-Khatanga)			58.71	0.10
Nizhne Tabaganskoye	111.58	42.14		
Nizhne-Shapshinskoye	24.55	7.82		
Nizhne-Sortymskoye	161.42	48.68		
Nizhne-Tobolyanskoye	1.13	0.12		
Nizhnevartovsk	24.44	7.72		
Nizhniy Keumskoye	11.12	9.82		
Nong'yeganskoye	1337.97	580.93		
Nong'yeganskoye Vostochnoye	25.49	8.05		
Novoaganskoye	79.67	71.38		
Novochaselskoye	260.28	146.90		
Novogodneyeskoye	143.20	86.94	100.41	
Novogodneyeskoye Zapadnoye	2.95	2.37		
Novomolodezhnoye	232.65	132.71		
Novopokurskoye	224.34	363.29		
Novoportovskoye	134.69	30.20	6422.57	151.58
Novopurpeyskoye	438.01	154.15		
Novoyendyrskoye	160.7	59.30		
Novyy-Tutymskoye	11.12	9.82		
Noyabr'skoye Zapadnoye	249.30	72.91		
Nulin-Turskoye			10.66	0.12
Nurminskoye			3437.06	14.75
Nydinskoye			110.41	
Ob River Area	112.69	33.18		
Okhanskoye	12.51	4.35		
Okhteurskoye Vostochnoye	11.17	6.87		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Okhteurskoye Yuzhnyy	24.16	8.12		
Ol'khovskoye (Tyumen)	427.54	50.02		
Olen'yetskoye	1089.17	351.80		
Olen'yetskoye Severnoye	27.24	11.47		
Ombinskoye	22.20	8.24		
Ontokhskoye	344.37	135.68		
Orekhovskoye Severnoye	24.55	7.82		
Orekhovskoye	19.78	7.34		
Osomkinskoye Zapadnoye	24.55	7.82		
Ostaninskoye	76.80	38.55	1451.68	52.48
Ostaninskoye Severnoye	4.89	2.54		
Ostaninskoye Zapadnoye	14.27	6.73		
Ostrovnoye	5.55	2.37		
Ostrovnoye Severnoye	8.03	1.46		
Ostrovnoye Yuzhnoye	24.55	7.76		
Otdelnoye	43.50	8.53		
Ozernoye (Tomsk)	15.77	8.12		
Ozernoye (Vostochnoye & Zapadnoye)			8.07	0.09
Pal'nikovskoye	8.35	3.10		
Palyanovskoye	280.53	42.63		
Pangodyskoye	170.59	75.75	1726.22	
Parusovoye	70.54	55.37		
Paul-Turskoye			8.98	0.10
Pavlovskoye (Tomsk)	18.16	16.03		
Paysyatskoye	161.67	605.94		
Paytykhskoye	86.52	29.07		
Pelyatkinskoye (Yenisey-Khatanga)			1985.80	
Perekatnoye			211.90	
Pereval'noye Vostochnoye	196.65	46.61		
Pereval'noye Yuzhnoye	24.55	7.76		
Permyakovskoye	150.44	30.42		
Pervomayskoye (Tomsk)	108.85	28.19		
Peschanoye	13.19	3.50		
Pestsovoye Zapadnoye			2885.48	
Petelinskoye	202.21	37.11		
Pil'tanskoye	24.55	7.76		
Pindzhinskoye	63.01	7.25		
Pionerskoye	11.17	6.87		
Pogranichnoye (Tyumen)	225.97	51.36		
Pokachevsko-Ur'yevskoye (Akhsikoye, Lasyeganskoye, Nivagalskoye, Potochnoye, Potochnoye Severnoye, Pokachevskoye Yuzhnoye, Ur'yevskoye)	5281.87	1507.62		
Pokachevskoye Severnoye (Pokachev-Ur'yev)				
Pokachevskoye Vostochnoye	16.82	5.32		
Pokachevskoye Yuzhnoye (Pokachev-Ur'yev)				
Pokamasovskoye	357.53	144.38		
Pokamasovskoye Yuzhnoye	24.55	7.81		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Pokamasovskoye Zapadnoye	24.55	7.81		
Pokhromskoye			889.34	9.78
Pokurskoye Severskoye	398.12	79.43		
Poludennoye (Tomsk)	74.80	18.48		
Poludennoye (Tyumen)	622.66	104.82		
Poludennoye Severnoye	11.17	6.87		
Polun'yakhskoye	11.12	9.82		
Pomaliyakhskoye Severnoye	6.20	1.77		
Pon'zhevoye	4.37	0.59		
Poselkovoye	6.14	1.38		
Posnokortskoye	2.00	1.00		
Potanayskoye	95.50	90.25		
Potanayskoye Severnoye	3.32	1.41		
Potanayskoye Vostochnoye	1.81	0.63		
Potanayskoye Yuzhnoye	15.87	6.69		
Potochnoye Severnoye(Poka-Ury)	376.54	107.31		
Potochnoye(Poka-Ury)	337.15	84.66		
Pottymskoye	26.84	3.25		
Povkhovskoye	2100.71	797.07		
Povkhovskoye Severnoye	24.55	7.76		
Povkhovskoye Yuzhnoye	24.55	7.76		
Pravdinsk-Salymskoye	2255.19	656.06		
Pridorozhnoye Vostochnoye	24.55	7.82		
Priobskoye	4219.82	1202.65		
Priobskoye Severnoye	6.81	2.29		
Priobskoye Zapadnoye	1.30	0.40		
Prirakhtovskoye	5.03	1.86		
Prisklonovoye	32.23	28.88		
Provezhutochnoye	24.55	7.82		
Protochnoye	49.63	9.53		
Protochnoye Severnoye	2.64	0.48		
Protochnoye Yuzhnoye	1.76	0.32		
Puglalymskoye	141.34	431.08		
Pulpuyakhskoye	185.03	92.14		
Punginskoye			544.84	5.99
Purovskoye Severnoye			923.65	
Purpeyskoye Yuzhnoye	12.97	5.22		
Purpeyskoye Zapadnoye	35.85	32.12		
Pyakutaskoye	45.88	14.50		
Pyakutaskoye Vostochnoye	61.82	17.62		
Pyakyakhinskoye			1494.14	
Pyamaliyakhskoye Severnoye	64.43	57.73		
Pylinskoye	32.94	23.98		
Pylinskoye Zapadnoye	24.55	7.75		
Pyrey (Pyreynoye)			77.79	
Pyreynoye Yuzhnoye	342.08	170.35	1124.35	
Rakitinskoye	148.49	28.21		
Ravenskoye	36.00	13.35		
Ravninnoye	66.25	37.39		
Rechnoye			5.65	0.11

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Rodnikovoye	352.28	100.40		
Rogozhnikovskoye	1388.21	246.20		
Rogozhnikovskoye Severnoye	32.42	10.89		
Rogozhnikovskoye Yuzhnoye	14.42	4.84		
Rogozhnikovskoye Zapadnoye	32.42	10.89		
Romanovskoye	103.86	21.91		
Roslavl'skoye	76.46	32.50		
Rostovtsevskoye			629.14	
Rubinovoye	3.07	0.70		
Ruch'yevskoye	2.76	1.20		
Ruf'yeganskoye	4.78	1.72		
Rusanovskoye				
Russkinskoye(Tevlin-Konit.)	71.68	21.91		
Russkorechenskoye	123.04	69.44		
Russkoye	2702.07	402.61	2804.31	
Russkoye Yuzhnoye			16121.27	
Ryamnoye	6.10	2.76		
Rybalnoye	19.77	7.47		
Sakhalinskoye (Tyumen)	90.49	22.10		
Sakhalinskoye Vostochnoye	60.46	17.78		
Salekapt'skoye	189.29	106.84		
Salym'skoye	24.55	7.75		
Salym'skoye Central (Srednesalym)	104.32	29.73		
Salym'skoye Severnyy	163.66	46.64		
Salym'skoye Vostochnoye	19.88	6.28		
Salym'skoye Zapadnoye	65.25	20.64		
Samburg'skoye Yuzhnoye(Urengoy)	157.46	78.42		
Samburg'skoye (Urengoy)	692.04	344.63		
Samotlorskoye (Vata, Megion, Pokur Sev., Mykhpay, Orekhovo Sev.)	24660.99	11879.84	3161.97	
Sandibinskoye	63.30	29.69		
Saporkinskoye	36.91	10.52	47.20	0.85
Sardakovskoye Yuzhnoye	15.29	4.83		
Savuy'skoye	291.32	83.90		
Saygataskoye	150.53	36.46		
Selimkhanov	116.57	45.08	16.38	0.48
Selivonik'skoye	10.54	6.38		
Seliyarovskoye	12.97	10.89		
Seliyarovskoye Severnoye	48.98	8.82		
Semakovskoye-Anderpayuta			30198.29	
Semividovskoye Vostochnoye				
Severnoye	241.61	80.63	782.87	15.54
Seyakhinskoye Zapadnoye			2298.15	
Shapshinskoye	124.62	35.52		
Shchuch'yevskoye	41.42	24.11		
Sheburskoye Vostochnoye	12.04	1.69		
Shinginskoye	12.30	5.30		
Shirokovskoye	89.77	25.80		
Shirotnoye	47.32	17.89		
Shtomovoye			15.00	

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Shukhtungorskoye Vostochnny			149.86	1.65
Shukhtungorskoye Zapadnoye			92.74	1.02
Shukhtungorskoye			135.96	1.50
Shushminskoye	65.94	23.96		
Shushminskoye Severnoye	6.49	2.40		
Shushminskoye Yuzhnoye	12.51	4.36		
Siktorskoye Severnoye	49.65	46.88		
Sil'ginskoye Severnoye			244.63	7.17
Slavinskoye	12.51	4.38		
Smolyanoye	6.43	2.43		
Snezhnoye	37.04	14.00		
Sobolinoye	183.05	28.56		
Soimlorskoye Severnoye	87.66	36.56		
Sokhtymskoye	2.00	1.00		
Soleninskoye Severnoye(UstYenisey)			409.87	
Soleninskoye Yuzhno (Ust Yenisey)			561.30	12.30
Soletskoye			1893.51	
Solkinskoye Zapadnoye	7.06	1.61		
Solonovskoye	10.60	4.45		
Sorominskoye	5.13	1.90		
Sorominskoye Severnoye	2.55	0.81		
Sorominskoye Zapadnoye	0.51	0.16		
Sortymskoye	24.55	7.77		
Sorymskoye	33.08	8.27		
Sosnovomysskoye(Krasnoleninskoye)	140.33	51.78		
Sote-Yuganskoye Severnoye			10.52	0.12
Sote-Yuganskoye Yuzhnoye			91.37	1.01
Sote-Yuganskoye				
Sovetskoye	6050.59	1579.28		
Sporishevskoye	2.00	1.00		
Srede-Kharampur	7.55	4.14		
Sredne Khulymskoye	354.46	101.02		
Sredne-Imurskoye	2.00	1.00		
Sredne-Iterskoye	24.55	7.82		
Sredne-Shapshinskoye	24.55	7.82		
Sredne-Vasyuganskoye	254.82	75.53	93.65	2.74
Sredne-Vatlorskoye	64.22	16.12		
Sredneasomkinskoye	34.15	10.81		
Srednebalyk	104.79	14.73	584.50	10.52
Srednechernogorskoye	22.83	8.63		
Srednekondinskoye	2.00	1.00		
Srednenazymyskoye	136.59	96.32		
Srednenyuroi'skoye	132.64	23.88		
Srednesil'ginskoye			40.39	0.32
Sredneteterevskoye	12.51	4.36		
Sredneugutskoye	24.55	7.78		
Sredneyamalskoye			16678.72	26.02
Sredniy Lykhmskoye	72.10	24.22		
Sredne Nazymyskoye				
Stakhanovskoye	661.27	243.96		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Stakhanovskoye Severnoye	42.13	23.78		
Stavropolskoye	2.00	1.00		
Stolbovoye	82.71	23.16		
Strezhevoye	28.63	7.19		
Strezhevoye Vostochnoye	3.06	0.97		
Studenoye	40.28	21.71		
Sugmutskoye	3327.14	768.57		
Surgutskoye Severnoye	431.28	85.18	1137.75	20.48
Surgutskoye Vostochnny (Federovo-Surgut)	125.68	34.08		
Surgutskoye Yuzhnyy(Federovo)	1540.86	356.26		
Surgutskoye Zapadnoye (Federovo-Surgut)	787.05	177.33		
Surprinskoye Vostochnoye	2.00	1.00		
Sutorlinskoye	42.23	12.04		
Sutorminskoye	2479.98	1364.58		
Sutorminskoye Yuzhnoye	24.68	22.11		
Sutorminskoye Zapadnyy	39.13	19.49		
Suzunskoye	389.37	193.90	2424.70	
Syadorskoye (Syadorakha)			413.15	
Symor'yakhskoye	12.51	4.36		
Syn'yeganskoye	54.46	21.27		
Syskonsyninskoye			1513.39	16.65
Syskonsynyaskoye Vostochnaya			242.79	2.67
Syskonsynyaskoye Yuzhnaya			91.41	1.01
Syskonsynyaskoye Zapadnaya			188.38	2.07
Tabaganskoye Yuzhnoye	4.71	2.22		
Tagayskoye	152.48	25.62		
Tagrinskoye	374.81	71.82		
Tagul'skoye	95.64	17.79		
Tal'nikovoye	56.83	20.97		
Talinskoye	299.39	110.47		
Talinskoye Zapadnoye	32.42	10.89		
Tambayeyskoye Yuzhnoye	2.76	1.02		
Tambeyskoye Severnoye			1932.39	22.80
Tambeyskoye Yuzhnoye			2177.27	
Tambeyskoye Zapadnoye			1946.63	
Tanlovskoye Yuzhnoye	143.29	128.39		
Tanusalinskoye			331.01	
Taplorskoye	3.70	1.37	175.55	3.16
Tapskoye	109.22	60.90		
Tarasovskoye (Ayvasedopurskoye)	4117.24	3191.67	2675.57	15.33
Tarkhovskoye Severnoye	8.08	2.93		
Tarkhovskoye Yuzhnoye	2.22	0.80		
Tarkhovskoye Zapadnoye	5.54	2.53		
Tarko-Sale Vostochnoye	422.77	131.68	4122.40	26.90
Tarko-Sale Yuzhnoye	79.63	71.35		
Tarko-Sale Zapadnoye	80.15	39.92	2709.00	
Tarskoye Vostochnoye	1.60	0.71		
Tasiyskoye			1853.87	

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Tavlovskoye Yuzhnoye	129.02	115.60		
Tay-Das (Dasskoye)	3.94	1.49		
Tay-Das Vostochnoye	11.12	9.82		
Taybinskoye (Lyantor)			178.02	3.20
Taylakovskoye	15.23	5.76		
Taytymskoye	23.99	8.85		
Tazovskoye	462.50	363.06	4278.68	50.49
Tazovskoye Vostochnoye			2603.30	
Tekto-Kharampur	2.00	1.00		
Teplin-Russkinskoye	230.83	85.64		
Teplovskoye	867.99	185.66		
Terel'skoye			869.32	
Termokarstovoye			918.46	45.00
Teterevo-Mortyminskoye	341.37	120.71	888.28	9.77
Teterevskoye Severnoye(Mortym)	62.80	22.21		
Teterevskoye Vostochnoye(Mortym)	12.69	1.76		
Teterevskoye Yuzhnoye(Mortym)	146.62	54.39	80.70	0.89
Tevlin-Konitlorskoye	530.15	167.95		
Tevlinskoye	350.49	99.89		
Tevrizskoye			124.86	2.25
Tevrizskoye Vostochnoye			75.19	1.35
Tochinskoye	19.86	7.37		
Tolkinskoye			364.13	8.74
Tolumskoye Vostochnoye	29.69	10.95		
Tolum-Semividovskoye				
Tolumskoye Severnoye	40.97	7.73		
Tolumskoye Yuzhnoye	25.42	5.00		
Tonchinskoye	24.55	7.78		
Tortasinskoye	66.90	18.06		
Totayakhinskoye			1563.24	
Travyanoye	49.65	9.82		
Trekhbugornoye			2822.40	26.69
Trekhozernoye	161.19	45.83		
Trekhozernoye Severnoye	23.10	11.97		
Triyurtinskoye	2.00	1.00		
Triyurtinskoye Vostochnoye	2.00	1.00		
Trom-Yeganskoye	236.21	65.14		
Trom-Yeganskoye Severnoye	9.78	3.10		
Trom-Yeganskoye Vostochnoye	12.00	3.81		
Tsentralnoye (Khanty-Mansiyskoye)	37.32	18.73		
Tugiyanskoye			2.13	0.02
Tugrovskoye Severnoye	59.82	22.07		
Tugrovskoye Vostochnoye	78.70	26.44		
Tugrovskoye Zapadnoye	32.42	10.89		
Tukanskoye	226.04	85.44		
Tul'yeganskoye	3.38	2.08		
Tumannoye	12.06	3.68		
Tundrinskoye	35.42	16.15		
Tungolskoye	6.30	1.68		
Tunkorskoye	7.53	2.53		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Tutlinskoye (Tutlym)	33.10	9.43		
Tyanovskoye	1237.75	2.00		
Tyumenskoye	244.63	63.34	158.18	
Ubinskoye	6.40	2.36		
Ubinskoye Lesser	5.57	1.08		
Ubinskoye Servenoye	7.60	1.47		
Ubinskoye Yuzhnoye	3.83	0.55		
Ubinskoye Zapadnoye	5.20	1.00		
Udachnoye	24.55	7.82		
Udmurtskoye Yuzhnoye	2.00	1.00		
Ugutskoye	184.69	48.51		
Ugutskoye Zapadnoye	15.68	6.47		
Umseyskoye	247.05	90.93		
Umseyskoye Vostochnoye	9.55	8.56		
Unlorskoye	2.00	1.00		
Urengoyenskoye (Pestsovoye)	293.56	230.44	4955.25	
Urengoyenskoye (Samburg, Yevo-Yakha, Yen-Yakha, Urengoy Sev., Pestsovoye)	6617.30	404.15	269586.82	1858.08
Urengoyenskoye Severnoye			23117.35	41.78
Urengoyenskoye Vostochnoye			1115.97	39.06
Urmanskoye	225.63	85.29		
Urnskoye	16.32	10.41		
Uryevskoye(-Potochnoye) (Pokachev-Ur'yev)	735.80	205.17		
Usanovskoye	63.40	23.97		
Ust Chaselskoye	211.21	105.18	394.35	15.40
Ust Kharampur	52.60	28.82		
Ust'-Sil'ginskoye			489.43	11.26
Ust-Balykskoye Zapadnoye	2.55	0.81		
Ust-Balykskoye-Mamontovo	2134.36	454.22		
Ust-Kotukhtinskoye	24.55	7.76		
Ust-Koyukhtaskoye	24.55	7.79		
Ust-Yuribeyskoye			524.54	
Utrenneye			7041.36	
Utrenneye Severnoye			1783.42	
Uzbekskoye	191.95	70.83		
Uzbekskoye Severnoye	12.51	4.36		
Uzbekskoye-Sredne-Chanchar	17.01	5.93		
Uzbel'skoye Yuzhnoye	12.51	4.36		
Vachimskoye	515.79	173.57		
Vadelypskoye	73.91	23.44		
Vakh River	38.57	12.65		
Vakh Severnoye	0.71	0.27		
Vakh Yuzhnoye	32.01	6.80		
Valyuninskoye Vosstochnoye	2.00	1.00		
Van'yeganskoye	1135.66	457.64	1264.33	34.66
Vankorskoye	2.00	1.00		
Var'yeganskoye	2091.55	8336.78	496.21	
Var'yeganskoye Severnoye	1292.93	1699.88	412.54	8.25
Var'yeganskoye Yuzhnoye	73.70	61.44		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Var'yeganskoye Zapadnoye	213.47	112.01		
Vartov-Sovetskoye	272.70	101.17		
Vartovskoye	6.03	57.51		
Vartovskoye-Sosino	3001.85	1079.54		
Varyngskoye	97.64	36.91		
Vasyuganskoye Severnoye			390.179	1.951
Vat'yeganskoye	3987.53	1087.74		
Vat'yeganskoye Severnoye	29.68	8.35		
Vat'yeganskoye Yuzhnoye	17.40	6.46		
Vataskoye	86.66	27.48		
Vataskoye Severnaya	24.55	7.79		
Vatinskoye	1130.17	306.23		
Vengapurskoye	595.91	1814.72	5722.36	
Vengapurskoye Severnoye	64.39	57.69		
Vengapurskoye Yuzhnoye	899.51	365.95		
Vengapurskoye Zapadnoye	64.39	57.69		
Vengayakhaskoye (Vengayakha Vost.)	501.34	189.42	3635.31	
Verkhne Chasel'kaskoye	13.04	10.23		
Verkhne Nadymkoye	24.55	7.79		
Verkhne-Kolikiyeganskoye	4896.64	3040.00	3615.02	4.49
Verkhne-Lyaminskoye (Upper Lyama)	57.59	29.84		
Verkhne-Salatskoye	17.19	24.95	49.35	1.45
Verkhnekambarskoye			932.95	18.86
Verkhnelem'inskoye	36.83	13.59		
Verkhnepurpeyskoye	201.17	100.18	330.67	
Verkhnesalymskoye	400.07	130.31		
Verkhneshapshinskoye	62.34	23.13		
Verkhnesuprinskoye	2.00	1.00		
Verkhnetarskoye	49.06	29.59		
Verkhnetiuteyskoye			751.10	
Verkhniy Kazym'skoye	32.42	10.89		
Verkhniy Kazym'skoye	23.28	7.40		
Verkhnyaya Kondaskoye			146.14	1.61
Vershinnoye	9.94	3.35		
Veselovskoye			18.03	0.29
Vesennee	9.63	2.77		
Vesenneye Zapadnoye	11.12	9.82		
Vladigorskoye Yuzhnoye	24.55	7.82		
Vonterskoye	80.62	122.22		
Vostochnoye(Novosibirsk)	31.90	28.17		
Vyintoyskoye	94.26	27.32		
Vyintoyskoye Vostochnoye	21.41	6.81		
Vyintoyskoye Yuzhnoye	1.53	0.49		
XXVII CPSU Congress	160.06	50.94		
Yagunskoye	142.73	45.45		
Yagunskoye Severnoye	21.92	6.98		
Yagunskoye Vostochnoye	18.94	5.82		
Yagunskoye Yuzhnoye	1151.14	320.71		
Yagyl'yakh	11.12	9.82		
Yakhlaskoye	509.74	238.08		

Table 2D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Yakhturskoye Severnoye	7.55	4.14		
Yamburgskoye			117806.60	432.63
Yamskoye	2.00	1.00		
Yamsovey			9937.19	22.51
Yangtaskoye Severnaya	135.82	32.48		
Yaraynerskoye	323.58	167.74		
Yaraynerskoye Severnoye	8.19	18.80		
Yaraynerskoye Vostochnoye	13.12	30.10		
Yaraynerskoye Yuzhnoye	18.36	8.01		
Yareyskoye			138.81	
Yarovoye			241.86	
Yaroyakhaskoye			7271.16	254.49
Yaunlorskoye	820.12	225.96	8.09	0.15
Yefremovskoye	95.66	27.26		
Yegur'yakhskoye	20.17	7.93		
Yegur'yakhskoye Severnoye	2.56	1.02		
Yegur'yakhskoye Yuzhnoye	61.79	26.20		
Yelizarovskoye (Krasnoleninskoye)	39.83	10.32		
Yelleyskoye (Yelley)	0.56	0.21		
Yelovoye Vostochnoye	62.70	19.96		
Yemyegovskoye(Krasnoleninskoye)	44.33	13.87		
Yendryskoye	211.45	78.03		
Yenyakhaskoye	270.37	134.64	1268.31	
Yermakovo	993.86	275.74		
Yermakovo Severnoye	24.55	7.81		
Yershovskoye (Tyumen)	159.56	51.93		
Yesetinskoye	7.55	4.19		
Yesetinskoye Severnoye	7.55	4.14		
Yetypurskoye	143.62	94.44	4686.52	
Yevo-Yakhaskoye			184.04	
Yubileynoye (Tyumen)	115.94	57.74	6903.56	
Yubileynoye Vostochnoye			314.43	
Yuganskskoye	24.55	7.81		
Yumantyl'skoye	64.36	57.67		
Yur'yevskoye Severnoye	474.39	155.82		
Yurkharovskoye			5491.03	5.50
Yutym'skoye Severnoye	2.00	1.00		
Yutyrmalskoye			311.54	3.43
Yuzhnoye-1	289.91	144.11		
Yuzhnoye-2	57.09	18.17		
Zaozernoye	383.48	127.70		
Zapolyarnoye			78082.95	650.24
Zapolyarnoye Zapadnoye			871.55	
Zimneyeskoye			446.99	0.63
Total	161136.58	73220.33	1033227.14	5017.26

Note: Alternate field names or field combinations in parenthesis.
Source: Energy Information Administration, Office of Oil and Gas

Table 3D. Basic Field Information, Yamal Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Arkticheskoye	69.74	70.74	1968	DV	Gas
Baydaratskoye	69.72	67.94	1987	SI	Gas
Bol'shoye Kruzenshternskoye (Kruzenshternskoye)	70.00	69.00	1976	DV	Gas
Bovanenko	70.40	68.50	1971	PP	Gas
Bovanenko Severnoye	70.83	68.12	1988	SI	Gas
Bovanenko Vostochnoye	70.73	69.22	1983	SI	Gas
Kamennomyskoye	68.41	73.34	1981	DV	Gas
Kharasaveyskoye	71.15	67.12	1974	PP	Gas
Kruzenshternskoye Yuzhnoye	70.60	67.20	1980	SI	Gas
Leningradskoye	65.50	72.20	1990	SI	Gas
Maloyamalskoye(Lesser Yamal)	68.32	71.60	1975	DV	Gas
Malyginskoye	72.20	70.44	1979	PP	Gas
Nerstinskoye	70.20	68.50		SI	Gas
Ney-To (Neytinskoye)	70.06	70.16	1975	DV	Gas
Novoportovskoye	67.88	72.43	1964	DV	Gas
Nurminskoye	68.77	71.77	1970	SI	Gas
Rostovtsevszkoye	68.43	72.40	1986	DV	Gas
Rusanovskoye	73.40	65.50	1989	SI	Gas
Seyakhinskoye Zapadnoye	70.85	70.86	1989	SI	Gas
Sredneyamalskoye	69.06	71.16	1970	DV	Gas
Syadorskoye (Syadorakha)	71.60	69.16	1982	SI	Gas
Tambeyskoye Severnoye	71.83	71.55	1982	SI	Gas
Tambeyskoye Yuzhnoye	71.21	71.95	1974	DV	Gas
Tambeyskoye Zapadnoye	71.54	70.97	1985	SI	Gas
Tasiyskoye	71.98	72.01	1988	SI	Gas
Ust-Yuribayskoye	68.86	70.07	1989	SI	Gas
Verkhnetiuteyskoye	70.77	69.89	1982	SI	Gas

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned.
Alternate field names or combinations in parenthesis.

Source: Energy information Administration, Office of Oil and Gas.

Table 4D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Yamal Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Arkticheskoye			7831.83	77.07
Baydaratskoye			344.72	
Bol'shoye Kruzenshternskoye (Kruzenshternskoye)			20287.40	
Bovanenko			99681.21	217.10
Bovanenko Severnoye			194.03	
Bovanenko Vostochnoye			892.22	
Kamennomysskoye			1363.72	
Kharasaveyskoye			16783.40	77.22
Kruzenshternskoye Yuzhnoye			3511.07	
Leningradskoye				
Maloyamalskoye(Lesser Yamal)			604.73	
Malyginskoye			2865.93	
Nerstinskoye			629.14	
Ney-To (Neytinskoye)	6.26	4.91	943.95	3.74
Novoportovskoye	134.69	30.20	6422.57	151.58
Nurminskoye			3437.06	14.75
Rostovtsevszkoye			629.14	
Rusanovskoye				
Seyakhinskoye Zapadnoye			2298.15	
Sredneyamalskoye			16678.72	26.02
Syadorskoye (Syadorakha)			413.15	
Tambeyskoye Severnoye			1932.39	22.80
Tambeyskoye Yuzhny			2177.27	
Tambeyskoye Zapadnoye			1946.63	
Tasiyskoye			1853.87	
Ust-Yuribayskoye			524.54	
Verkhnetiuteyskoye			751.10	
TOTAL	140.95	35.11	194997.94	590.28

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 5D. Basic Field Information, Gydan Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Antipayutaskoye	68.93	77.38	1978	SI	Gas
Bugornaya-Vostochnaya	69.60	74.60	1990	SI	Gas
Em-Yakhtinskoye	68.83	76.45	1976	SI	GC
Geofizicheskoye	69.86	73.69	1975	SI	Gas
Gydanskoye	70.44	76.30	1978	SI	Gas
Kazantsevskoye(UstYenisey)	69.70	83.30	1969	SI	Gas
Khambateyskoye	68.77	72.90	1987	SI	Gas
Messoyakhaskoye Yuzhnoye	68.06	79.40	1986	SI	Gas
Messoyakhaskoye Zapadnoye	68.50	79.12	1982	SI	Oil
Messoyakhskoye (Norilisk City1970) (Yenisey-Khatanga)	69.20	82.40	1967	PP	Gas
Minkhovskoye	69.37	76.02	1989	SI	Gas
Minkhovskoye Vostochnoye	69.37	76.02	1991	SI	Gas
Nizhne Khetskoye (Yenisey-Khatanga)	69.50	84.50	1966	ABND	Gas
Parusovoye	68.44	74.67	1985	PP	Oil
Pelyatinskoye (Yenisey-Khatanga)	69.60	81.80	1977	DV	Gas
Semakovskoye-Anderpayuta	68.90	75.53	1971	SI	Gas
Soleninskoye Severnoye(UstYenisey)	69.24	81.48	1971	PP	Gas
Soleninskoye Yuzhno (Ust Yenisey)	69.10	81.70	1969	PP	Gas
Soletskoye	69.72	75.21	1984	SI	Gas
Totayakhinskoye	69.14	76.52	1984	DV	Gas
Trekhbugornoye	69.56	74.39	1990	SI	Gas
Utrenneyeskoye	70.95	74.63	1980	DV	Gas
Utrenneyeskoye Severnoye	71.07	74.07	1979	SI	Gas
Zimneyeskoye	69.20	83.70	1977	DV	Gas

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned, GC=Gas Condensate.
Alternate field names or combinations in parenthesis.

Source: Energy information Administration, Office of Oil and Gas.

Table 6D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Gydan Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Antipayutaskoye			12294.01	
Bugornaya-Vostochnaya			174.70	
Em-Yakhtinskoye			478.28	
Geofizicheskoye			4832.79	11.79
Gydanskoye			1626.86	
Kazantsevskoye(UstYenisey)			409.87	
Khambateyskoye			528.42	
Messoyakhaskoye Yuzhnoye			792.63	
Messoyakha Zapadnoye	211.06	165.68		
Messoyakhskoye (Norilsk City1970) (Yenisey-Khatanga)			843.28	
Minkhovskoye			263.34	
Minkhovskoye Vostochnoye			409.87	
Nizhne Khetskoye (Yenisey-Khatanga)			58.71	0.10
Parusovoye	70.54	55.37		
Pelyatkinskoye (Yenisey-Khatanga)			1985.80	
Semakovskoye-Anderpayuta			30198.29	
Soleninskoye Severnoye(UstYenisey)			409.87	
Soleninskoye Yuzhno (Ust Yenisey)			561.30	12.30
Soletskoye			1893.51	
Totayakhinskoye			1563.24	
Trekhbugornoye			2822.40	26.69
Utrenneyeskoye			7041.36	
Utrenneyeskoye Severnoye			1783.42	
Zimneyeskoye			446.99	0.63
TOTAL	281.60	221.06	71418.92	51.52

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 7D. Basic Field Information, Nadym-Pur Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Apakapurskoye	63.78	76.44	1989	SI	Oil
Ayeganskoye	61.86	77.42	1985	PS	Oil
Ayvasedopur Severnoye (Tarasovskoye Sev.)	64.60	77.67	1990	SI	Oil
Barsukovskoye	64.42	75.50		PP	Gas
Barsukovskoye Zapadnoye	64.25	75.50			Oil
Dobrovol'skoye	65.37	77.45	1990	SI	Oil
Gubkinskoye Severnoye	65.00	76.70	1980	SI	Oil
Gubkinskoye (Gubkin Sev., Prisklonoye)	65.00	76.70	1965	PP	Gas
Izvestinskoye	64.52	76.21	1990	PP	Oil
Karasevskoye (Tyumen)	64.73	73.86	1989	SI	Oil
Kharvutinskoye	67.29	74.18	1976	PP	Oil
Komsomol'skoye (Barsukovskoye)	64.44	75.98	1966	PS	Gas
Komsomolskoye Severnoye	64.73	75.35	1969	PP	Gas
Kraynyeyeskoye	63.75	74.33	1982	PS	Oil
Lenzitskoye	66.32	72.87	1984	SI	Oil
Malonovogodneye	61.18	77.08	1980	SI	Oil
Malovar'yeganskoye	62.20	77.02	1986	SI	Oil
Medvezhyeskoye	66.23	74.00	1966	PP	Gas
Meretayakhaskoye	64.61	74.59	1986	SI	Oil
Muravlenkoskoye	63.99	74.95	1978	PS	Oil
Nadymskoye	65.50	72.97	1972	SI	Gas
Nakhodkaskoye	68.02	78.17	1974	SI	Gas
Neponyatnoye	66.80	77.77	1986	SI	Oil
Novoaganskoye	61.83	78.13	1985	SI	Oil
Novogodneyeskoye	63.49	76.92	1976	PS	Oil
Novogodneyeskoye Zapadnoye	63.47	76.41	1987	SI	Oil
Novomolodezhnoye	61.60	78.08	1977	PS	Oil
Novopurpeyskoye	64.20	75.43	1983	PS	Oil
Nydinskoye			1981	SI	Gas
Pangodyskoye	65.56	74.53	1979	SI	Gas
Paysyataskoye	64.30	73.90	1988	SI	Oil
Pestsovoye Zapadnoye	66.91	74.73	1985	PP	Gas
Prisklonovoye	65.18	76.97			Oil
Pulpuyakhskoye	63.83	73.67	1977	SI	Oil
Purpeyskoye Yuzhnoye	64.17	74.28	1984	SI	Oil
Purpeyskoye Zapadnoye	64.59	75.54	1987	PP	Oil
Pyamaliyakhskoye Severnoye	64.00	74.20	1982	PS	Oil
Pyreynoye	65.62	77.69	1976	DV	Gas
Pyreynoye Yuzhnoye	65.62	77.69	1980	SI	Oil
Ruch'yevskoye	63.30	78.12	1987	SI	Oil
Samburgskoye Yuzhnoye(Urengoy)	66.81	77.37	1979	SI	Oil
Samburgskoye (Urengoy)	66.81	77.37	1975	DV	Oil
Sandibinskoye	66.76	73.20	1982	PP	Oil
Selivonikskoye	62.73	76.56	1988	SI	Oil
Sutorminskoye	63.75	74.55	1975	PS	Oil
Sutorminskoye Yuzhnoye	63.48	74.78	1988	SI	Oil
Sutorminskoye Zapadnoye	64.00	74.58			Oil
Tagrinskoye	62.32	78.21	1975	PS	Oil
Tanlovskoye Yuzhnoye	64.49	75.20	1976	PP	Oil

Table 7D. Basic Field Information, Nadym-Pur Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Tanusalinskoye	66.88	73.80	1987	SI	Gas
Tarasovskoye (Ayvasedopurskoye)	64.47	77.73	1967	PS	Oil
Tarko-Sale Vostochnoye	65.05	78.10	1971	DV	Gas
Tarko-Sale Yuzhnoye	63.97	78.59	1984	SI	Oil
Tarko-Sale Zapadnoye	64.79	77.20	1972	PP	Gas
Tavlovskoye Yuzhnoye	64.57	75.08		SI	Oil
Umseyskoye	64.08	74.39	1982	PP	Oil
Umseyskoye Vostochnoye	64.19	74.61	1988	SI	Oil
Urengoyenskoye (Pestsovoye)	66.95	75.36	1970	SI	Gas
Urengoyenskoye (Samburg, Yevo-Yakha, Yen-Yakha, Urengoy Sev., Pestsovoye)	66.05	76.95	1966	PP	Gas
Urengoyenskoye Severnoye	67.54	76.55	1970	PP	Gas
Urengoyenskoye Vostochnoye	66.08	77.49	1978	UK	Gas
Var'yeganskoye	61.85	77.23	1974	PS	Oil
Var'yeganskoye	62.11	77.57	1967	PS	Oil
Var'yeganskoye Severnoye	62.44	77.40	1971	PS	Oil
Var'yeganskoye Yuzhnoye	62.20	76.73	1982	SI	Oil
Var'yeganskoye Zapadnoye	62.31	76.69	1981	PS	Oil
Vengapurskoye	63.09	76.59	1968	PP	Gas
Vengapurskoye Severnoye	63.20	76.70	1992	SI	Oil
Vengapurskoye Yuzhnoye	62.63	76.82	1973	PP	Oil
Vengapurskoye Zapadnoye	63.17	76.35	1992	SI	Oil
Vengayakha (Vengayakha Vost.)	63.97	76.90	1968	PS	Gas
Verkhnepurpey	64.57	75.50	1976	PP	Gas
Yamburgskoye	67.98	75.84	1969	PP	Gas
Yamsoveyskoye	65.56	75.32	1970	DV	Gas
Yangtaskoye Severnaya	64.23	74.94	1985	SI	Oil
Yaraynerskoye	63.17	77.79	1973	PP	Oil
Yaraynerskoye Severnoye	63.17	77.90	1987	SI	Oil
Yaraynerskoye Vostochnoye	63.08	77.89	1987	SI	Oil
Yaraynerskoye Yuzhnoye	62.75	78.01	1988	SI	Oil
Yareyskoye	65.18	75.85	1989	SI	Gas
Yenyakhaskoye	67.00	76.50	1976	SI	Oil
Yetykurskoye	63.95	77.63	1971	DV	Gas
Yevo-Yakhaskoye	65.85	77.30	1980	SI	Gas
Yubileynoye (Tyumen)	65.99	75.76	1969	PP	Gas
Yubileynoye Vostochnoye	65.88	76.17	1988	SI	Gas
Yumantyl'skoye	65.06	72.89	1988	SI	Oil
Yurkharovskoye	67.78	77.08	1970	SI	Gas

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned, uKN=Unknown.
Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 8D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Nadym-Pur Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Apakapurskoye	80.93	63.53		
Ayeganskoye	33.74	22.82		
Ayvasedopur Severnoye (Tarasovskoye Sev.)	46.20	36.54		
Barsukovskoye			4,531.10	222.02
Barsukovskoye Zapadnoye	2.49	2.23		
Dobrovol'skoye	54.08	26.93		
Gubkinskoye Severnoye	342.50	313.76	624.07	30.58
Gubkinskoye (Gubkin Sev., Prisklonoye)	0.22	0.17	10,580.14	0.16
Izvestinskoye	64.63	57.91		
Karasevskoye (Tyumen)	54.30	48.65		
Kharvutinskoye	57.06	28.42	346.91	
Komsomol'skoye (Barsukovskoye)			23,190.35	
Komsomolskoye Severnoye			4,052.30	4.10
Kraynyeyeskoye	165.21	82.28		
Lenzitskoye	163.80	83.87		
Malonovogodneye	4.79	4.29		
Malovar'yeganskoye	10.19	8.56		
Medvezhyeskoye	0.11	0.09	54,896.48	
Meretayakhaskoye	95.83	85.86		
Muravlenkoskoye	816.81	376.16	5,185.13	
Nadymskoye			1,227.61	
Nakhodkaskoye			3,857.11	
Neponyatnoye	64.57	57.86		
Novoaganskoye	79.67	71.38		
Novogodneyeskoye	143.20	86.94	100.41	
Novogodneyeskoye Zapadnoye	2.95	2.37		
Novomolodezhnoye	232.65	132.71		
Novopurpeyskoye	438.01	154.15		
Nydinskoye			110.41	
Pangodyskoye	170.59	75.75	1,726.22	
Paysyataskoye	161.67	605.94		
Pestsovoye Zapadnoye			2,885.48	
Prisklonovoye	32.23	28.88		
Pulpuyakhskoye	185.03	92.14		
Purpeyskoye Yuzhnoye	12.97	5.22		
Purpeyskoye Zapadnoye	35.85	32.12		
Pyamaliyakhskoye Severnoye	64.43	57.73		
Pyreynoye			77.80	
Pyreynoye Yuzhnoye	342.08	170.35	1,124.35	
Ruch'yevskoye	2.76	1.20		
Samburgskoye Yuzhnoye(Urengoy)	157.46	78.42		
Samburgskoye (Urengoy)	692.04	344.63		
Sandibinskoye	63.30	29.69		
Selivoniskoye	10.54	6.38		
Sutorminskoye	2,479.98	1,364.58		
Sutorminskoye Yuzhnoye	24.68	22.11		
Sutorminskoye Zapadnyy	39.13	19.49		

Table 8D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Nadym-Pur Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Tagrinskoye	374.81	71.82		
Tanlovskoye Yuzhnoye	143.29	128.39		
Tanusalinskoye			331.01	
Tarasovskoye (Ayvasedopurskoye)	4,117.24	3,191.67	2,675.57	15.33
Tarko-Sale Vostochnoye	422.77	131.68	4,122.40	26.90
Tarko-Sale Yuzhnoye	79.63	71.35		
Tarko-Sale Zapadnoye	80.15	39.92	2,709.00	
Tavlovskoye Yuzhnoye	129.02	115.60		
Umseyskoye	247.05	90.93		
Umseyskoye Vostochnoye	9.55	8.56		
Urengoyevskoye (Pestsovoye)	293.56	230.44	4,955.25	
Urengoyevskoye (Samburg, Yevo-Yakha, Yen-Yakha, Urengoy Sev., Pestsovoye)	6,617.30	404.15	269,586.82	1,858.08
Urengoyevskoye Severnoye			23,117.35	41.78
Urengoyevskoye Vostochnoye			1,115.97	39.06
Var'yeganskoye	1,135.66	457.64	1,264.33	34.66
Var'yeganskoye	2,091.55	8,336.78	496.21	
Var'yeganskoye Severnoye	1,292.93	1,699.88	412.54	8.25
Var'yeganskoye Yuzhnoye	73.70	61.44		
Var'yeganskoye Zapadnoye	213.47	112.01		
Vengapurskoye	595.91	1,814.72	5,722.36	
Vengapurskoye Severnoye	64.39	57.69		
Vengapurskoye Yuzhnoye	899.51	365.95		
Vengapurskoye Zapadnoye	64.39	57.69		
Vengayakha (Vengayakha Vost.)	501.34	189.42	3,635.31	
Verkhnepurpey	201.17	100.18	330.67	
Yamburgskoye			117,806.60	432.63
Yamsoveyskoye			9,937.19	22.51
Yangtaskoye Severnaya	135.82	32.48		
Yaraynerskoye	323.58	167.74		
Yaraynerskoye Severnoye	8.19	18.80		
Yaraynerskoye Vostochnoye	13.12	30.10		
Yaraynerskoye Yuzhnoye	18.36	8.01		
Yareyskoye			138.81	
Yenyakhaskoye	270.37	134.64	1,268.31	
Yetypurskoye	143.62	94.44	4,686.52	
Yevo-Yakhaskoye			184.04	
Yubileynoye (Tyumen)	115.94	57.74	6,903.56	
Yubileynoye Vostochnoye			314.43	
Yumantyl'skoye	64.36	57.67		
Yurkharovskoye			5,491.03	5.50
TOTAL	28,170.44	23,021.65	581,721.12	2,741.56

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 9D. Basic Field Information, Pur-Taz Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Bakhilovskoye	62.47	79.65	1983	PS	Oil
Beregovoye	65.87	78.97	1982	SI	Gas
Chaselskoye Severnoye	66.04	79.33	1987	SI	Gas
Chatylkynskoye	63.44	80.99	1989	SI	Oil
Chernichnoye	65.54	81.97	1985	SI	Oil
Festivalnoye (Tyumen)(Kamy)	63.73	79.48	1985	DV	Oil
Gaz-Sale	67.40	80.43	1989	SI	Gas
Iokhturskoye Severnoye	63.72	79.14	1987	SI	Oil
Khadyryakhaskoy	65.30	79.53	1989	SI	Gas
Khadyryakhaskoye Yuzhnaya	65.03	79.98	1990	SI	Oil
Khalmerpayutaskoye	67.75	81.15	1989	SI	Gas
Khancheyskoye (or Khangey)	64.82	79.41	1990	SI	Gas
Kharam-Pur Yuzhnoye	63.85	79.87	1981	SI	Gas
Kharampur (Kharampur Yuz.)	64.22	79.65	1978	PS	Oil
Kharampur Zapadnoye	64.17	78.92	1987	SI	Oil
Khay-Yakhinskoy	66.27	77.67		SI	Oil
Kholmistoye	63.26	80.11	1988	SI	Oil
Kynskoye	65.15	80.58	1982	SI	Oil
Limbayakhaskoye	67.20	80.40	1991	SI	Oil
Mangazeyaskoye	66.80	82.67	1987	SI	Oil
Messoyakhaskoye Vostochnaya	68.60	80.12	1989	SI	Oil
Novochaselskoye	65.42	80.17	1989	SI	Oil
Perekatnoye	67.74	78.69	1988	SI	Gas
Purovskoye Severnoye	66.54	78.33	1986	SI	Gas
Pyakyakhinskoye	67.84	80.13	1989	SI	Gas
Ravninnoye	63.33	79.52	1987	SI	Oil
Russkorechenskoye	67.14	81.82	1985	SI	Oil
Russkoye	66.75	80.44	1968	DV	Oil
Russkoye Yuzhnoye	65.93	80.38	1969	DV	Gas
Salekaptskoye	67.50	78.30	1986	SI	Oil
Srede-Kharampur	64.10	73.63		SI	Oil
Stakhanovskoye	63.41	78.52	1988	SI	Oil
Stakhanovskoye Severnoye				SI	Oil
Suzunskoye	68.34	83.60	1971	SI	Oil
Tagul'skoye	67.75	82.78	1988	SI	Oil
Tapskoye	64.58	78.82	1986	SI	Oil
Tazskoye	67.39	78.92	1962	PP	Oil
Tazovskoye Vostochnoye	67.32	79.63	1980	SI	Gas
Tekto-Kharampur	63.87	79.83	1990	SI	Oil
Terel'skoye	64.38	80.04	1986	SI	Gas
Termokarstovoye	65.43	82.54	1988	SI	Gas
Tolkinskoye	64.33	82.28	1989	SI	GC
Ust Chaselskoye	65.12	81.10	1981	SI	Oil
Ust Kharampur	64.30	78.19	1983	PP	Oil
Verkhne Chasel'kaskoye	65.20	80.40	1980	SI	Oil
Verkhne-Kolikyeganskoye	62.42	80.15	1981	PS	Oil
Yakhturskoye Severnoye	63.75	79.00		SI	Oil
Yarovoye	66.00	79.50	1991	SI	Gas
Yaroyakhaskoye	66.23	78.75	1984	PP	Gas
Yesetinskoye	66.42	77.58		SI	Oil
Yesetinskoye Severnoye	66.50	77.50		SI	Oil

**Table 9D. Basic Field Information, Pur-Taz Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)**

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Yutyrmalskoye	64.82	81.41	1988	SI	Gas
Zapolyarnoye	66.87	79.63	1965	DV	Gas
Zapolyarnoye Zapadnoye	66.70	78.78	1979	SI	Gas

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration. Office of Oil and Gas.

Table 10D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Pur-Taz Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Bakhilovskoye			315.72	178.49
Beregovoye	130.13	102.15	5,777.28	
Chaselskoye Severnoye			241.86	
Chatylkynskoye	52.51	29.57		
Chernichnoye	26.91	15.25		
Festivalnoye (Tyumen)(Kamy)	40.16	8.83		
Gaz-Sale			257.34	9.01
Iokhturskoye Severnoye	22.67	12.84		
Khadyryakhaskoye			434.66	
Khadyryakhaskoye Yuzhnaya	15.31	12.02		
Khalmerpayutaskoye			106.76	
Khancheyskoye (or Khangey)			98.62	1.13
Kharam-Pur Yuzhnoye	97.67	103.54	3,080.19	
Kharampur (Kharampur Yuz.)	634.43	485.37	17,927.84	14.82
Kharampur Zapadnoye	32.94	18.66		
Khay-Yakhinskoye	7.55	4.16		
Kholmistoye	23.73	8.56		
Kynskoye			55.40	
Limbayakhaskoye	42.13	23.78		
Mangazeyskoye	45.18	14.64		
Messoyakhaskoye Vostochnaya	179.01	21.66	495.65	
Novochaselskoye	260.28	146.90		
Perekatnoye			211.90	
Purovskoye Severnoye			923.65	
Pyakyakhinskoye			1,494.14	
Ravninnoye	66.25	37.39		
Russkorechenskoye	123.04	69.44		
Russkoye	2,702.07	402.61	2,804.31	
Russkoye Yuzhnoye			16,121.27	
Salekaptskoye	189.29	106.84		
Srede-Kharampur	7.55	4.14		
Stakhanovskoye	661.27	243.96		
Stakhanovskoye Severnoye	42.13	23.78		
Suzunskoye	389.37	193.90	2,424.70	
Tagul'skoye	95.64	17.79		
Tapskoye	109.22	60.90		
Tazskoye	462.50	363.06	4,278.68	50.49
Tazovskoye Vostochnoye			2,603.30	
Tekto-Kharampur	2.00	1.00		
Terel'skoy			869.32	
Termokarstovoye			918.46	45.00
Tolkinskoye			364.13	8.74
Ust Chaselskoye	211.21	105.18	394.35	15.40
Ust Kharampur	52.60	28.82		
Verkhne Chasel'kaskoye	13.04	10.23		
Verkhne-Kolikyeganskoye	4,896.64	3,040.00	3,615.02	4.49
Yakhturskoye Severnoye	7.55	4.14		
Yarovoye			241.86	
Yaroyakhaskoye			7,271.16	254.49
Yesetinskoye	7.55	4.19		

Table 10D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Pur-Taz Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Yesetinskoye Severnoye	7.55	4.14		
Yutyrnalskoye			311.54	3.43
Zapolyarnoye			78,082.95	650.24
Zapolyarnoye Zapadnoye			871.55	
Total	11,972.80	5,907.93	152,277.89	1,057.23

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration Office of Oil and Gas.

Table 11D. Basic Field Information, Frolov Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Aprel'skoye	62.38	68.63	1982	SI	Oil
Bol'shoye	62.90	67.27	1984	SI	Oil
Dekabr'skoye	62.02	70.25	1969	SI	Oil
Erginskoye	60.70	69.29	1983	SI	Oil
Erginskoye Vostochnoye	60.69	69.82	1988	SI	Oil
Frolovskoye Vostochnoye	60.90	69.81	1987	SI	Oil
Galley'skoye	61.77	66.27			Oil
Galyanovskoye	61.50	68.29	1982	SI	Oil
Gorshkovskoye Zapadnoye	61.62	70.19	1988	SI	Oil
Ingaskoye (Inginsk)(Krasnoleninskoye)	61.57	66.57	1975	SI	Oil
It'yakhskoye	62.30	68.97	1992	SI	Oil
Krasnoleninskoye	61.65	67.32	1962	PS	Oil
Karempostskoye	62.18	66.18	1986	SI	Oil
Kazym'skoye Severnoye	63.98	67.41	1965	SI	Gas
Khanty-Mansiyskoye (Tsentralnoye)	61.04	69.21	1986	SI	Oil
Kislorskoye	63.65	66.55	1993	SI	Oil
Krasnoleninskoye	61.70	66.77	1962	PS	Oil
Lebyazhieskoye	61.98	66.91	1981	SI	Oil
Lorbinskoye	61.52	67.83	1966	PS	Oil
Lykhminskoye	63.25	65.82	1982	SI	Oil
Malopriobskoye					Oil
Nazym'skoye	62.48	67.89	1988	SI	Oil
Novoyendyrskoye	61.85	67.87	1977	SI	Oil
Ol'khovskoye (Tyumen)	63.20	67.86	1986	SI	Oil
Ontokhskoye	60.81	66.15	1989	SI	Oil
Palyanovskoye	61.75	65.92	1972	PP	Oil
Paytykhskoye	61.26	65.37	1987	SI	Oil
Peschanoye	62.23	65.95	1987	SI	Oil
Pottym'skoye	61.22	66.99	1988	SI	Oil
Priobskoye	61.13	70.46	1982	PS	Oil
Priobskoye Severnoye	61.56	70.50	1988	SI	Oil
Priobskoye Zapadnoye	61.59	70.37	1988	SI	Oil
Prirakhtovskoye	57.36	72.21	1975	SI	Oil
Rogozhnikovskoye	62.21	67.29	1988	SI	Oil
Rogozhnikovskoye Severnoye	62.30	67.20	1990	SI	Oil
Rogozhnikovskoye Yuzhnoye	62.10	67.50	1990	SI	Oil
Rogozhnikovskoye Zapadnoye	62.20	67.20		SI	Oil
Seliyarovskoye	61.50	70.17		SI	Oil
Seliyarovskoye Severnoye	61.81	69.49	1988	SI	Oil
Sheburskoye Vostochnoye	60.32	66.98	1990	SI	Oil
Sosnovomysskoye (Krasnoleninskoye)	62.06	66.41	1975	SI	Oil
Sote-Yuganskoye Severnoye	62.30	64.50	1963	PP	Gas
Sote-Yuganskoye Yuzhnoye	62.19	64.55	1964	PP	Gas
Sote-Yuganskoye	62.25	64.50	1963	SI	Gas
Srednenazym'skoye	61.95	68.34	1978	SI	Oil
Sredniy Lykhmskoye	63.51	66.44	1982	SI	Oil
Srednenazym'skoye	61.98	68.35	1978	SI	Oil
Syn'yeganskoye	61.65	69.45	1984	SI	Oil
Talinskoye	62.00	66.55		SI	Oil
Talinskoye Zapadnoye	62.00	66.50	1992	SI	Oil
Taytym'skoye	57.96	73.45	1975	SI	Oil

Table 11D. Basic Field Information, Frolov Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Tevrizskoye	57.55	72.29	1971	SI	Gas
Tevrizskoye Vostochnoye	57.52	72.30		SI	Gas
Tortasinskoye	62.19	69.59	1989	SI	Oil
Tsentralnoye (Khanty-Mansiyskoye)	62.62	67.55	1987	SI	Oil
Tugrovskoye Severnoye	61.88	64.75	1992	SI	Oil
Tugrovskoye Vostochnoye	61.70	64.80	1989	SI	Gas
Tugrovskoye Zapadnoye				SI	Oil
Tumannoye	61.85	70.38	1974	SI	Oil
Tunkorskoye	62.36	68.30	1989	SI	Oil
Verkhne-Lyaminskoye (Upper Lyama)	62.15	70.54	1970	SI	Oil
Verkhniy Kazymskoye				SI	Oil
Yelizarovskoye(Krasnoleninskoye)	61.48	67.77	1963	SI	Oil
Yemyegovskoye(Krasnoleninskoye)	61.75	66.42	1971	DV	Oil
Yendryskoye	59.97	69.28	1992	SI	Oil
Zaozernoye	59.97	68.10	1987	SI	Oil

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 12D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Frolov Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Aprel'skoye	51.92	14.07		
Bol'shoye	131.39	65.35		
Dekabr'skoye	4.17	1.70		
Erginskoye	94.61	14.76		
Erginskoye Vostochnoye	255.96	73.79		
Frolovskoye Vostochnoye	108.67	33.43		
Galleyskoye	3.77	1.27		
Galyanovskoye	439.81	183.40		
Gorshkovskoye Zapadnoye	70.03	21.64		
Ingaskoye (Inginsk)(Krasnoleninskoye)	18.22	6.72		
It'yakhskoye	9.11	3.36		
Kamennoye(Krasnoleninskoye)	58.88	14.80		
Karempostskoye	8.53	4.11		
Kazym'skoye Severnoye			292.43	3.22
Khanty-Mansiyskoye (Tsentralnoye)	171.59	39.06		
Kislorskoye	16.21	5.45		
Krasnoleninskoye				
Lebyazhyskoye			691.73	7.61
Lorbinskoye	8.11	1.15		
Lykhminskoye	4.09	0.92		
Malopriobskoye	32.42	10.89		
Nazym'skoye	80.11	26.92		
Novoyendyrskoye	160.70	59.30		
Ol'khovskoye (Tyumen)	427.54	50.02		
Ontokhskoye	344.37	135.68		
Palyanovskoye	280.53	42.63		
Paytykhskoye	86.52	29.07		
Peschanoye	13.19	3.50		
Pottym'skoye	26.84	3.25		
Priobskoye	4,219.82	1,202.65		
Priobskoye Severnoye	6.81	2.29		
Priobskoye Zapadnoye	1.30	0.40		
Prirakhtovskoye	5.03	1.86		
Rogozhnikovskoye	1,388.21	246.20		
Rogozhnikovskoye Severnoye	32.42	10.89		
Rogozhnikovskoye Yuzhnoye	14.42	4.84		
Rogozhnikovskoye Zapadnoye	32.42	10.89		
Seliyarovskoye	12.97	10.89		
Seliyarovskoye Severnoye	48.98	8.82		
Sheburskoye Vostochnoye	12.04	1.69		
Sosnovomysskoye(Krasnoleninskoye)	140.33	51.78		
Sote-Yugan Severnoye			10.52	0.12
Sote-Yugan Yuzhnoye			91.37	1.01
Sote-Yuganskoye				
Srednenazym'skoye	136.59	96.32		
Sredniy Lykhmskoye	72.10	24.22		
Srednenazym'skoye				
Syn'yeganskoye	54.46	21.27		
Talinskoye	299.39	110.47		
Talinskoye Zapadnoye	32.42	10.89		

Table 12D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Frolov Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Taytymskoye	23.99	8.85		
Tevrizskoye			124.86	2.25
Tevrizskoye Vostochnoye			75.19	1.35
Tortasinskoye	66.90	18.06		
Tsentralnoye (Khanty-Mansiyskoye)	37.32	18.73		
Tugrovskoye Severnoye	59.82	22.07		
Tugrovskoye Vostochnoye	78.70	26.44		
Tugrovskoye Zapadnoye	32.42	10.89		
Tumannoye	12.06	3.68		
Tunkorskoye	7.53	2.53		
Verkhne-Lyaminskoye (Upper Lyar a)	57.59	29.84		
Verkhniy Kazymskoye	32.42	10.89		
Yelizarovskoye (Krasnoleninskoye)	39.83	10.32		
Yemyegovskoye (Krasnoleninskoye)	44.33	13.87		
Yendryskoye	211.45	78.03		
Zaozernoye	383.48	127.70		
TOTAL	10,504.83	3,044.55	1,286.09	15.55

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 13D. Basic Field Information, Urals Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Alyasovskoye Severnoye	64.09	65.49	1956	SI	Gas
Alyasovskoye Yuzhnoye	64.06	65.44	1956	SI	Gas
Berezovskoye (Tyumen)	63.94	65.04	1953	PP	Gas
Chancharskoye Severnoye	60.61	64.16		SI	Oil
Chuelskoye	63.86	65.93	1958	SI	Gas
Danilovskoye	60.93	64.11	1966	PS	Oil
Danilovskoye Severnoye	61.07	63.95	1983	PS	Oil
Danilovskoye Vostochnoye	61.00	64.00	1983	PP	Oil
Danilovskoye Zapadnoye	61.00	64.00	1966	PP	Oil
Deminskoye	64.00	65.00	1955	SI	Gas
Filippovskoye	60.91	64.83	1967	PS	Oil
Gornoye (Tyumen)	62.40	63.50	1962	DV	Gas
Igrimskoye Severnoye	63.13	64.44	1959	ABND	Gas
Igrimskoye Yuzhnoye	63.09	64.34	1961	PP	Gas
Karabashskoye(Leninskoye)	58.64	65.92	1964	SI	Gas
Kartop'ya	61.10	65.31	1967	SI	Oil
Kartopya Zapadnoye	60.13	65.28	1967	SI	Oil
Kartopya-Okhanskoye	61.05	65.55	1967	PS	Oil
Kayumovskoye	60.78	65.39	1971	SI	Oil
Khulturskoye	60.48	64.10		SI	Oil
Lazarevskoye	61.06	64.93	1984	PS	Oil
Lem'inskoye Vostochnoye	61.00	63.83	1964	SI	Oil
Lem'inskoye Zapadnoye	61.00	63.66	1965	SI	Oil
Leminskoye (Lemya)	60.88	63.91	1964	DV	Oil
Leninskoye(Karabashskoye)	58.67	66.33	1964	PP	Gas
Lopukhovskoye	60.90	63.55		UKN	Oil
Lovinskoye	61.30	65.19	1982	PS	Oil
Lovinskoye Zapadnoye	61.25	65.00	1982	SI	Oil
Malo-Tolumskoye	60.51	65.29	1978	PP	Oil
Malodanilovskoye			1966	SI	Oil
Malopotanayskoye	61.36	65.75	1989	SI	Oil
Mortym'yaskoye Severnoye	60.40	64.80	1977	PP	Oil
Mortym'yaskoye Yuzhnoye	60.40	64.80	1962	PP	Oil
Mortym'yaskoye Zapadnoye 1	60.40	64.80	1962	PP	Oil
Mortym'yaskoye Zapadnoye 2	60.40	64.80	1962	PP	Oil
Mortym'yaskoye Zapadnoye 3	60.40	64.80	1962	PP	Oil
Mulym'yaskoye	60.24	64.42	1960	PS	Oil
Mulymyaskoye Srednyaya	60.62	64.77	1963	SI	Oil
Mulymyaskoye Zapadnaya	60.24	64.42	1960	PP	Oil
Nulin-Turskoye	62.95	64.22	1961	SI	Gas
Okhanskoye	61.03	65.68	1967	SI	Oil
Ozernoye (Vostochnoye & Zapadnoye)	62.25	63.50	1963	DV	Gas
Paul-Turskoye	63.09	64.16	1960	SI	Gas
Pokhromskoye	64.08	65.83	1960	PP	Gas
Potanayskoye	61.17	65.62	1965	SI	Oil
Potanayskoye Severnoye	61.22	65.60	1965	SI	Oil
Potanayskoye Vostochnoye	61.17	65.62	1990	SI	Oil
Potanayskoye Yuzhnoye (Potanaysk)	61.13	65.68	1966	SI	Oil
Punginskoye	62.76	64.44	1961	PP	Gas
Semividovskoye Vostochnoye	60.70	65.19	1967	PS	Oil
Shukhtungorskoye Vostochnny	62.32	64.15	1963	DV	Gas

Table 13D. Basic Field Information, Urals Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Shukhtungorskoye Zapadnoye	62.45	64.00	1962	DV	Gas
Shukhtungorskoye	62.35	63.84	1962	SI	Gas
Shushminskoye	61.22	64.14	1984	PS	Oil
Shushminskoye Severnoye	61.25	64.32	1992	SI	Oil
Shushminskoye Yuzhnoye	61.22	64.14		SI	Oil
Slavinskoye	60.75	64.50		SI	Oil
Srednekondinskoye	60.88	63.83	1982	SI	Oil
Sredneteterevskoye	60.70	64.40	1970	PP	Oil
Surprinskoye Vostochnoye	61.25	64.28	1986	SI	Oil
Symor'yakhskoye	61.27	64.46	1988	SI	Oil
Syskonsyninskoye	62.90	63.64	1961	SI	Gas
Syskonsynyaskoye Vostochnoye	62.96	63.92	1961	PP	Gas
Syskonsynyaskoye Yuzhnoye	62.88	63.70	1963	DV	Gas
Syskonsynyaskoye Zapadnoye	62.93	63.69	1961	DV	Gas
Tal'nikovoye	60.97	63.66	1989	SI	Oil
Teterevo-Mortyminskoye	60.41	64.63	1961	PS	Oil
Teterevskoye Severnoye(Mortym)	60.41	64.97	1968	PP	Oil
Teterevskoye Vostochnoye(Mortymin)	60.41	64.97	1964	PS	Oil
Teterevskoye Yuzhnoye(Mortymin)	60.33	64.83	1963	PS	Oil
Tolumskoye Vostochnoye	60.56	65.29	1967	PP	Oil
Tolum-Semividovskoye	60.75	65.33	1966	PS	Oil
Tolumskoye Severnoye	60.75	65.33	1966	PS	Oil
Tolumskoye Yuzhnoye	60.75	65.33	1966	PS	Gas
Trekhozernoye	60.21	64.70	1960	PS	Oil
Trekhozernoye Severnoye	60.21	64.70	1969	PS	Oil
Tugiyanskoye	63.62	65.80	1960	SI	Gas
Ubinskoye	60.74	64.87	1964	PP	Oil
Ubinskoye Lesser	60.82	64.83	1967	PP	Oil
Ubinskoye Servenoye	60.82	64.83	1964	PP	Oil
Ubinskoye Yuzhnoye	60.82	64.83	1965	PP	Oil
Ubinskoye Zapadnoye	60.82	64.83	1966	PP	Oil
Uzbekskoye	60.27	64.22	1988	PP	Oil
Uzbekskoye Severnoye	60.27	64.22	1989	PP	Oil
Uzbekskoye-Sredne-Chanchar	60.53	64.22	1988	PS	Oil
Uzbel'skoye Yuzhnoye	60.27	64.22	1988	SI	Oil
Verkhnelem'inskoye	61.09	64.13	1966	PS	Oil
Verkhnesuprinskoye	61.25	64.30	1986	SI	Oil
Verkhnyaya Kondaskoye	61.40	63.88	1963	SI	Gas
Yakhlaskoye	61.40	65.43	1971	PS	Oil

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned, UKN=Unknown. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 14D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Urals Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Alyasovskoye Severnoye			36.18	0.44
Alyasovskoye Yuzhnoye			48.52	0.55
Berezovskoye (Tyumen)			336.47	3.70
Chancharskoye Severnoye	12.51	4.35		
Chuelskoye			174.13	1.92
Danilovskoye	89.21	28.73		
Danilovskoye Severnoye	12.51	4.35		
Danilovskoye Vostochnoye	12.51	4.35		
Danilovskoye Zapadnoye	12.51	4.35		
Deminskoye			149.82	1.78
Filippovskoye	10.58	3.33		
Gornoye (Tyumen)			89.36	0.98
Igrimskoye Severnoye			123.20	1.36
Igrimskoye Yuzhnoye			95.25	1.05
Karabashskoye(Leninskoye)			20.42	0.22
Kartop'ya	40.43	27.98		
Kartopya Zapadnoye	0.40	0.09		
Kartopya-Okhanskoye	8.49	1.80		
Kayumovskoye	14.11	6.65		
Khulturskoye	72.22	25.09		
Lazarevskoye	12.51	4.35		
Lem'inskoye Vostochnoye	11.74	4.08		
Lem'inskoye Zapadnoye	11.74	4.08		
Leminskoye (Lemya)	5.05	1.86		
Leninskoye(Karabashskoye)			52.32	0.58
Lopukhovskoye	12.51	4.35		
Lovinskoye	55.97	25.74		
Lovinskoye Zapadnoye	158.51	58.49		
Malo-Tolumskoye	1.81	0.63		
Malodanilovskoye	12.51	4.35		
Malopotanayskoye	1.81	0.63		
Mortym'yaskoye Severnoye	92.65	30.22		
Mortym'yaskoye Yuzhnoye	22.41	9.40		
Mortym'yaskoye Zapadnoye 1	12.51	4.35		
Mortym'yaskoye Zapadnoye 2	12.51	4.35		
Mortym'yaskoye Zapadnoye 3	18.38	4.28		
Mulym'yaskoye	18.79	5.92		
Mulymyaskoye Srednyaya	16.91	6.24		
Mulymyaskoye Zapadnaya	1.35	0.47		
Nulin-Turskoye			10.66	0.12
Okhanskoye	12.51	4.35		
Ozernoye (Vostochnoye & Zapadnoye)			8.07	0.09
Paul-Tur			8.98	0.10
Pokhromskoye			889.34	9.78
Potanayskoye	95.50	90.25		
Potanayskoye Severnoye	3.32	1.41		
Potanayskoye Vostochnoye	1.81	0.63		
Potanayskoye Yuzhnoye (Potanayskoye)	15.87	6.69		
Punginskoye			544.84	5.99
Semividovskoye Vostochnoye				

Table 14D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Urals Region, West Siberian Basin (Sorted Alphabetically by Field Name). (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Shukhtungorskoye Vostochnny			149.86	1.65
Shukhtungorskoye Zapadnoye			92.74	1.02
Shukhtungorskoye			135.96	1.50
Shushminskoye	65.94	23.96		
Shushminskoye Severnoye	6.49	2.40		
Shushminskoye Yuzhnoye	12.51	4.36		
Slavinskoye	12.51	4.38		
Srednekondinskoye	2.00	1.00		
Sredneteterevskoye	12.51	4.36		
Surprinskoye Vostochnoye	2.00	1.00		
Symor'yakhskoye	12.51	4.36		
Syskonsyninskoye			1,513.39	16.65
Syskonsynyaskoye Vostochnaya			242.79	2.67
Syskonsynyaskoye Yuzhnaya			91.41	1.01
Syskonsynyaskoye Zapadnaya			188.38	2.07
Tal'nikovoye	56.83	20.97		
Teterevo-Mortyminskoye	341.37	120.71	888.28	9.77
Teterevskoye Severnoye(Mortym)	62.80	22.21		
Teterevskoye Vostochnoye(Mortym)	12.69	1.76		
Teterevskoye Yuzhnoye(Mortym)	146.62	54.39	80.70	0.89
Tolumskoye Vostochnoye	29.69	10.95		
Tolum-Semividovskoye				
Tolumskoye Severnoye	40.97	7.73		
Tolumskoye Yuzhnoye	25.42	5.00		
Trekhozernoye	161.19	45.83		
Trekhozernoye Severnoye	23.10	11.97		
Tugiyanskoye			2.13	0.02
Ubinskoye	6.40	2.36		
Ubinskoye Lesser	5.57	1.08		
Ubinskoye Severnoye	7.60	1.47		
Ubinskoye Yuzhnoye	3.83	0.55		
Ubinskoye Zapadnoye	5.20	1.00		
Uzbekskoye	191.95	70.83		
Uzbekskoye Severnoye	12.51	4.36		
Uzbekskoye-Sredne-Chanchar	17.01	5.93		
Uzbekskoye Yuzhnoye	12.51	4.36		
Verkhnelem'inskoye	36.83	13.59		
Verkhnesuprinskoye	2.00	1.00		
Verkhnyaya Kondaskoye			146.14	1.61
Yakhlaskoye	509.74	238.08		
TOTAL	2,732.53	1,080.13	6,119.33	67.50

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 15D. Basic Field Information, Kaymysov Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Archinskoye	57.49	78.50	1985	SI	Oil
Ay-Yaunskoye	59.31	72.76	1968	SI	Oil
Aykurskoye	59.80	73.72	1988	SI	Oil
Chvorovoye (Vasyuganskiy)	58.58	76.95	1980	SI	Oil
Demyanskoye Severnoye	59.53	70.81	1988	SI	Oil
Duklinskoye	59.33	75.80	1990	PP	Oil
Fedyushkinskoye	57.77	76.31	1985	PP	Oil
Fedyushkinskoye Severnoye	57.88	76.35	1987	SI	Oil
Gerasimovskoye	57.65	78.92	1983	PP	Oil
Glukhovskoye	58.03	76.78	1983	SI	Oil
Gustorechenskoye	58.07	73.55	1992	SI	Oil
Igol'sko-Talovoye	57.64	76.24	1977	PS	Oil
Kalchinskoye	59.20	69.99	1990	PP	Oil
Kalchinskoye Severnoye	59.30	70.00	1991	SI	Oil
Kalinovoye	57.42	79.10	1973	SI	Gas
Kalinovoye Severnoye	57.51	79.01	1980	SI	Oil
Kalinovoye Vostochnoye	57.44	79.21	1973	SI	Oil
Karasevskoye (Tomsk)	58.43	76.04	1985	SI	Oil
Karasevskoye Severnoye	58.48	76.06	1988	SI	Oil
Karasevskoye Zapadnoye				SI	Oil
Karayskoye	57.70	75.96	1980	DV	Oil
Karayskoye Zapadnoye	57.75	75.62	1983	SI	Oil
Katyl'ginskoye	59.14	76.29	1965	PS	Oil
Katyl'ginskoye Zapadnoye	59.07	76.07	1972	PS	Oil
Kazanskoye	57.21	79.34	1967	SI	Gas
Krapivinskoye	58.03	75.68	1969	SI	Oil
Krapivinskoye Severnoye	58.07	75.74	1986	SI	Oil
Krapivinskoye Vostochnoye	58.09	75.73	1986	SI	Oil
Larlominskoye Yuzhnoye	58.98	75.30		SI	Oil
Larlominskoye	59.08	75.31	1971	SI	Oil
Lontyn'yakhskoye	58.88	76.00	1964	PP	Oil
Lower Tabaganskoye	57.30	79.00	1985	SI	Oil
Maloichskoye	56.82	78.48	1974	PP	Oil
Maloveselovskoye	56.42	77.98	1964	SI	Oil
Mezhovskoye	56.54	77.86	1964	SI	Oil
Mezhovskoye Vostochnoye	56.59	78.12	1966	SI	Oil
Moiseyevskoye	58.19	76.06	1970	SI	Oil
Moiseyevskoye Zapadnoye	58.20	75.83	1992	SI	Oil
Multanovskoye	60.08	73.55	1971	DV	Oil
Nalim'yeskoye	57.84	76.74	1987	SI	Oil
Nizhne Tabaganskoye	58.25	79.17	1973	SI	Oil
Nizhniy Keumskoye	59.59	71.36		SI	Oil
Novyy-Tutymskoye	58.80	74.20	1988	SI	Oil
Olen'yeskoye	59.36	76.34	1967	PS	Oil
Olen'yeskoye Severnoye	59.40	76.40	1989	PP	Oil
Ozernoye (Tomsk)	59.20	76.47	1970	PS	Oil
Pavlovskoye (Tomsk)	58.50	75.78	1989	SI	Oil
Pervomayskoye (Tomsk)	59.05	75.96	1969	PS	Oil
Polun'yakhskoye	59.54	73.03	1990	SI	Oil
Pon'zhevoye	57.92	76.52	1983	SI	Oil
Poselkovoye	58.56	76.47	1982	SI	Oil

Table 15D. Basic Field Information, Kaymysov Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Rakitinskoye	56.96	78.96	1971	SI	Oil
Shirotnoye	56.68	80.78	1988	SI	Oil
Smolyanoye	57.35	78.41	1987	SI	Oil
Solonovskoye	57.21	78.99	1986	SI	Oil
Stolbovoye	59.27	76.57	1986	DV	Oil
Tabagan Yuzhnoye	57.29	78.96	1983	SI	Oil
Tagayskoye	57.97	76.02	1987	SI	Oil
Tambayeyskoye Yuzhnoye	57.69	78.58	1986	SI	Oil
Tarskoye Vostochnoye	56.86	78.86	1986	SI	Oil
Tay-Das (Dasskoye)	56.73	79.13	1971	SI	Oil
Tay-Das Vostochnoye	56.68	79.22		SI	Oil
Taylakovskoye	59.14	74.11	1964	SI	Oil
Travyanoye	59.08	74.05		SI	Oil
Tukanskoye	59.82	72.39	1963	SI	Oil
Urmanskoye	57.62	78.45	1974	SI	Oil
Urnskoye	58.66	73.38	1970	SI	Oil
Usanovskoye	58.56	73.68	1971	SI	Oil
Verkhnetarskoye	56.74	78.75	1971	PP	Oil
Veselovskoye	56.52	78.15	1965	SI	Gas
Vesennee	59.08	76.00	1973	SI	Oil
Vesenneye Zapadnoye				SI	Oil
Vostochnoye(Novosibirsk)	56.70	79.29	1986	SI	Oil
Yagyl'yakhskoye	57.74	75.20	1982	SI	Oil
Yelleyskoye(Yelley)	57.60	77.68	1983	SI	Oil
Yutymskoye Severnoye	59.00	74.16	1989	SI	Oil

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 16D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Kaymysov Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Archinskoye	59.72	22.04		
Ay-Yaunskoye	524.22	89.12	790.74	
Aykurskoye	144.08	54.46		
Chvorovoye (Vasyuganskiy)	3.81	1.44		
Demyanskoye Severnoye	20.66	3.39		
Duklinskoye	27.37	10.35		
Fedyushkinskoye	113.32	13.37		
Fedyushkinskoye Severnoye	2.71	0.35		
Gerasimovskoye	49.67	18.50	106.29	3.11
Glukhovskoye	4.09	1.55		
Gustorechenskoye	25.27	9.55		
Igol'sko-Talovoye	143.75	31.77		
Kalchinskoye	33.07	5.52		
Kalchinskoye Severnoye	11.12	9.82		
Kalinovoye Severnoye	30.39	12.40	533.59	28.71
Kalinovoye Vostochnoye	0.22	0.10		
Kalinovoye	191.60	2,912.44	455.90	17.49
Karasevskoye Severnoye	10.47	3.96		
Karasevskoye (Tomsk)	30.89	11.68		
Karasevskoye Zapadnoye	11.12	9.82		
Karayskoye Zapadnoye	17.97	6.79		
Karayskoye	25.11	6.23		
Katyl'ginskoye Zapadnoye	21.37	4.86		
Katyl'ginskoye	150.91	35.13		
Kazanskoye			1,702.66	26.35
Krapivinskoye Vostochnoye	34.22	5.99		
Krapivinskoye Severnoye	17.31	3.25		
Krapivinskoye	150.28	50.50		
Larlominskoye Yuzhnoye	11.12	9.82		
Larlomkinskoye	5.12	1.33		
Lontyn'yakhskoye	16.14	3.44		
Lower Tabaganskoye	20.85	129.04	55.73	1.63
Maloichskoye	36.10	12.18		
Maloveselovskoye	1.94	0.35		
Mezhovskoye Vostochnoye	50.57	20.74		
Mezhovskoye	119.27	36.85		
Moiseyevskoye Zapadnoye	9.53	3.60		
Moiseyevskoye	29.25	6.58		
Multanovskoye	41.91	15.84		
Nalim'yeskoye	17.26	6.53		
Nizhne Tabaganskoye	111.58	42.14		
Nizhniy Keumskoye	11.12	9.82		
Novyy-Tutymskoye	11.12	9.82		
Olen'yetskoye Severnoye	27.24	11.47		
Olen'yetskoye	1,089.17	351.80		
Ozernoye (Tomsk)	15.77	8.12		
Pavlovskoye (Tomsk)	18.16	16.03		
Pervomayskoye (Tomsk)	108.85	28.19		
Polun'yakhskoye	11.12	9.82		
Pon'zhevoye	4.37	0.59		

Table 16D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Kaymysov Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Poselkovoye	6.14	1.38		
Rakitinskoye	148.49	28.21		
Shirotnoye	47.32	17.89		
Smolyanoye	6.43	2.43		
Solonovskoye	10.60	4.45		
Stolbovoye	82.71	23.16		
Tabaganskoye Yuzhnoye	4.71	2.22		
Tagayskoye	152.48	25.62		
Tambayeyskoye Yuzhnoye	2.76	1.02		
Tarskoye Vostochnoye	1.60	0.71		
Tay-Das Vostochnoye	11.12	9.82		
Tay-Das (Dasskoye)	3.94	1.49		
Taylakovskoye	15.23	5.76		
Travyanoye	49.65	9.82		
Tukanskoye	226.04	85.44		
Urmanskoye	225.63	85.29		
Urnskoye	16.32	10.41		
Usanovskoye	63.40	23.97		
Verkhnetarskoye	49.06	29.59		
Veselovskoye			18.03	0.29
Vesennee	9.63	2.77		
Vesenneye Zapadnoye	11.12	9.82		
Vostochnoye(Novosibirsk)	31.90	28.17		
Yagyl'yakhskoye	11.12	9.82		
Yelleyskoye(Yelley)	0.56	0.21		
Yutymyskoye Severnoye	2.00	1.00		
TOTAL	4,812.24	4,488.92	3,662.94	77.59

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 17D. Basic Field Information, Vasyugan Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Ariolskoye	61.34	78.52	1992	SI	Oil
Chebacheskoye	60.62	78.83	1966	DV	Oil
Cheremshanskoye Yuzhnoye	58.90	76.85	1970	SI	Oil
Chkalovskoye	59.69	78.74	1977	PS	Oil
Enitorskoye	61.52	78.93	1982	SI	Oil
Enitorskoye Yuzhnoye	61.40	78.97	1988	SI	Oil
Festivalnoye (Tomsk)(Aykgol'skoye)	58.28	77.28	1971	SI	Oil
Festivalnoye Yuzhno	58.20	77.28	1969	SI	Oil
Gorstovoye	60.54	78.36	1987	SI	Oil
Grushevoye	59.38	77.13	1987	SI	Oil
Ininskoye	61.05	78.83	1990	SI	Oil
Khokhryakovskoye	61.53	79.39	1972	PS	Oil
Khokhryakovskoye Severnoye	62.04	79.52	1976	PS	Oil
Klyuchevskoye (Tomsk)	58.84	77.53	1968	PP	Oil
Kolikyeganskoye	61.34	79.16	1971	DV	Oil
Kolikyeganskoye Vostochnoye			1987	SI	Oil
Kolotuchnoye	58.68	77.50	1986	SI	Oil
Kondakovskoye (Tomsk)	60.37	78.74	1982	SI	Oil
Kondinskoye Vostochnoye			1991	SI	Oil
Koshilsko-Vakhskoye	61.07	79.22	1987	PS	Oil
Krasnoyarskoye Zapadnoye	59.08	77.83	1965	SI	Oil
Kulyeganskoye(Tomsk)	60.01	77.76	1988	SI	Oil
Lomovoye	59.28	77.04	1970	PP	Oil
Luginetskoye	58.25	78.87	1967	PP	Gas
Luginetskoye Zapadnoye	58.20	78.88	1990	SI	Oil
Malo Kolikyeganskoye			1987	SI	Oil
Mirnoye	57.67	79.50	1982	SI	Gas
Mykhlor'skoye	61.31	77.53	1985	SI	Oil
Myldzhinskoye	58.74	78.44	1964	DV	Gas
Myldzhinskoye Yuzhnoye	58.51	78.15	1967	SI	Oil
Nazinskoye Yuzhnoye	60.07	78.73	1961	SI	Oil
Nikol'skoye (Tomsk)	59.97	79.05	1971	SI	Oil
Nikol'skoye (Tyumen)	61.45	77.58	1985	PS	Oil
Nizhne-Tobolyanskoye	58.42	78.83	1975	SI	Oil
Okhteurskoye Vostochnoye			1994	SI	Oil
Okhteurskoye Yuzhnyy	60.76	78.50	1990	SI	Oil
Ostaninskoye	57.70	79.37	1970	DV	Gas
Ostaninskoye Severnoye	57.91	79.29	1977	SI	Oil
Ostaninskoye Zapadnoye	57.73	79.04	1972	PS	Oil
Permyakovskoye	61.34	79.55	1972	PS	Oil
Pindzhinskoye	57.64	79.68	1985	SI	Oil
Pionerskoye	58.97	77.27		SI	Oil
Poludennoye (Tomsk)	60.08	78.25	1967	PS	Oil
Poludennoye Severnoye			1992	SI	Oil
Protochnoye	60.65	78.33	1978	SI	Oil
Protochnoye Severnoye	60.63	78.20	1979	SI	Oil
Protochnoye Yuzhnoye	60.52	78.17	1978	SI	Oil
Puglalymskoye	58.89	77.73	1971	SI	Oil
Rechnoye	58.39	77.92	1981	SI	Gas
Rybalnoye	58.18	79.83	1988	SI	Oil
Selimkhanovskoye	57.87	80.18	1981	SI	Oil

Table 17D. Basic Field Information, Vasyugan Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Severnoye	60.76	78.50	1965	PS	Oil
Shinginskoye	58.31	78.49	1971	SI	Oil
Siktorskoye Severnoye	62.03	79.62	1976	SI	Oil
Sredne-Vasyuganskoye	59.13	77.83	1965	PP	Oil
Srednenyurol'skoye	58.92	77.87	1965	SI	Oil
Stavropolskoye			1990	SI	Oil
Tul'yeganskoye	61.35	77.90	1983	SI	Oil
Tungolskoye	60.33	80.49	1973	SI	Oil
Vakh River			1965	DV	Oil
Vakhskoye Severnoye	60.98	78.96	1967	SI	Oil
Vakhskoye Yuzhnoye	60.85	78.98		SI	Oil
Vartovskoye	60.28	79.88	1968	SI	Oil
Vasyugan Severnoye	59.37	78.38	1964	PP	Gas
Verkhne-Salatskoye	58.48	78.04	1967	SI	Oil
Verkhnekambarskoye	57.50	80.28	1971	SI	Gas
Vonterskoye	61.75	79.13	1982	SI	Oil

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration, (Office of Oil and Gas.

Table 18D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Vasyugan Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Ariolskoye	38.56	14.65		
Chebachyeskoye	297.55	109.80		
Cheremshanskoye Yuzhnoye	20.24	3.95		
Chkalovskoye	23.57	15.24	221.77	4.44
Enitorskoye	39.05	14.76		
Enitorskoye Yuzhnoye	11.17	6.87		
Festivalnoye Yuzhnoye	7.36	2.78		
Festivalnoye (Tomsk)(Aykagol'skoye)	236.55	52.08		
Gorstovoye	7.67	2.39		
Grushevoye	28.49	7.49		
Ininskoye	5.14	1.94		
Khokhryakovskoye Severnoye	187.28	189.23		
Khokhryakovskoye	353.42	146.32		
Klyuchevskoye (Tomsk)	28.82	10.66		
Kolikyeganskoye	13.24	5.01		
Kolikyeganskoye Vostochnoye	11.17	6.87		
Kolotuchnoye	293.43	110.92		
Kondakovskoye (Tomsk)	9.43	4.45		
Kondinskoye Vostochnoye	11.17	6.87		
Koshil'sko-Vakhskoye	388.68	239.04		
Krasnoyarskoye Zapadnoye	16.12	6.09		
Kulyeganskoye (Tomsk)	19.52	5.08		
Lomovoye	118.92	66.41		
Luginets Zapadnoye	11.17	6.87		
Luginetskoye			386.86	11.33
Malo Kolikyeganskoye	11.17	6.87		
Mirnoye			861.53	25.24
Mykhlor'skoye	3.89	1.10		
Myldzhinskoye Yuzhnoye	35.00	9.97		
Myldzhinskoye			8,959.91	199.55
Nazinskoye Yuzhnoye	17.75	3.73		
Nikol'skoye (Tomsk)	9.40	2.88		
Nikol'skoye (Tyumen)	11.17	6.87		
Nizhne-Tobolyanskoye	1.13	0.12		
Okhteurskoye Vostochnoye	11.17	6.87		
Okhteurskoye Yuzhnoye	24.16	8.12		
Ostaninskoye Zapadnoye	14.27	6.73		
Ostaninskoye Severnoye	4.89	2.54		
Ostaninskoye	76.80	38.55	1,451.68	52.48
Permyakovskoye	150.44	30.42		
Pindzhinskoye	63.01	7.25		
Pionerskoye	11.17	6.87		
Poludennoye Severnoye	11.17	6.87		
Poludennoye (Tomsk)	74.80	18.48		
Protochnoye	49.63	9.53		
Protochnoye Severnoye	2.64	0.48		
Protochnoye Yuzhnoye	1.76	0.32		
Puglalymskoye	141.34	431.08		
Rechnoye			5.65	0.11
Rybalnoye	19.77	7.47		

Table 18D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Vasyugan Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Selimkhanovskoye	116.57	45.08	16.38	0.48
Severnoye	241.61	80.63	782.87	15.54
Shinginskoye	12.30	5.30		
Siktorskoye Severnoye	49.65	46.88		
Sredne-Vasyuganskoye	254.82	75.53	93.65	2.74
Srednenyurol'skoye	132.64	23.88		
Stavropolskoye	2.00	1.00		
Tul'yeganskoye	3.38	2.08		
Tungolskoye	6.30	1.68		
Vakh Severnoye	0.71	0.27		
Vakh River	38.57	12.65		
Vakh Yuzhnoye	32.01	6.80		
Vartovskoye	6.03	57.51		
Vasyuganskoye Severnoye			390.18	1.95
Verkhne-Salatskoye	17.19	24.95	49.35	1.45
Verkhnekambarskoye			932.95	18.86
Vonterskoye	80.62	122.22		
TOTAL	3,918.65	2,155.35	14,152.78	334.17

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 19D. Basic Field Information, Paydugan Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Beloyarskoye	58.68	80.06	1962	SI	Gas
Dvoynoye	58.83	79.45	1986	SI	Oil
Kiyevyeganskoye	60.11	80.84	1970	SI	Oil
Lineynoye	60.57	80.50	1972	SI	Oil
Sil'ginskoye Severnoye	58.94	80.12	1971	SI	Gas
Snezhnoye	58.97	79.78	1983	SI	Oil
Sobolinoye	58.46	79.53	1967	PP	Oil
Srednesil'ginskoye	58.87	80.14	1962	SI	Gas
Ust'-Sil'ginskoye	58.87	80.00	1961	SI	Gas
Varyngskoye	62.67	80.17		SI	Oil

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 20D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Paydugan Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Beloyarskoye			65.27	1.91
Dvoynoye	5.01	1.89		
Kiyevyeganskoye	19.95	8.84		
Lineynoye	6.77	2.10		
Sil'ginskoye Severnoye			244.63	7.17
Snezhnoye	37.04	14.00		
Sobolinoye	183.05	28.56		
Srednesil'ginskoye			40.39	0.32
Ust'-Sil'ginskoye			489.43	11.26
Varyngskoye	97.64	36.91		
TOTAL	349.46	92.30	839.71	20.66

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 21D. Basic Field Information, Middle Ob Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Achimovskoye (Achimov)	60.07	75.34	1981	SI	Oil
Aganskoye	61.47	76.02	1965	PS	Oil
Aganskoye Yuzhnoye	61.30	75.88	1980	PS	Oil
Aganskoye Zapadnoye	61.45	77.02	1981	PP	Oil
Alekhinskoye	62.16	71.88	1971	PS	Oil
Alenkinskoye	60.43	77.21	1964	SI	Oil
Asomkinskoye	61.01	73.84	1981	PS	Oil
Asomkinskoye Vostochnoye	61.30	75.83	1990	SI	Oil
Asomkinskoye Yuzhnoye	60.91	73.88	1988	DV	Oil
Asomkinskoye Zapadnoye	60.90	73.51	1988	SI	Oil
Aypim Lobat-Yugan (Ai Pim)	62.23	71.14	1971	PP	Oil
Balykskoye Yuzhnoye	60.50	72.50	1964	PS	Oil
Bittermskoye	61.92	71.23	1989	SI	Oil
Boloshekotukhtinskoye(Kotukhta)			1972	SI	Oil
Bystrinskoye (Bystrin)	61.46	72.24	1964	PS	Oil
Chakhloneyskoye	60.52	75.80	1988	DV	Oil
Chernogorskoye	61.50	76.67	1972	PP	Oil
Chistinnoye	59.82	75.99	1985	SI	Oil
Chukhlorskoye	61.87	76.53	1989	SI	Oil
Chumpaskoye	61.25	75.11	1979	PS	Oil
Chupal'skoye	60.15	72.45	1971	DV	Oil
Chupal'skoye Severnoye	60.29	72.68	1977	SI	Oil
Druzhnoye	62.45	74.62	1982	PS	Oil
Dunayevskoye	61.62	73.20	1986	PS	Oil
Fainskoye	61.10	73.75	1989	PP	Oil
Fedorovskoye	61.39	73.12	1971	PS	Oil
Fobosskoye	60.87	77.62	1988	DV	Oil
Golevoye	61.71	76.25	1988	SI	Oil
Gribnoye	62.56	74.86	1982	DV	Oil
Gun-Yeganskoye	61.62	77.44	1973	PS	Oil
Ikilorskoye	62.11	73.93	1981	SI	Oil
Imlorskoye	63.00	73.87		SI	Oil
Imlorskoye Zpapidnoye	62.97	73.50		SI	Oil
Istochnoye	63.17	73.83		SI	Oil
Kamynskoye	62.17	71.62	1982	PS	Oil
Kamynskoye Severnoye	62.29	70.79	1989	SI	Oil
Kamynskoye Yuzhnoye	61.80	70.50	1989	SI	Oil
Karamovskoye	63.25	74.44	1975	PS	Oil
Karamovskoye Severnoye	63.31	74.58	1975	PP	Oil
Karyaunskoye	62.03	72.27	1980	SI	Oil
Kechimovskoye	61.80	74.50		SI	Oil
Kechimovskoye Yuzhnoye	61.17	74.37		SI	Oil
Ketovskoye	60.85	75.13	1980	PS	Oil
Khokhlovskoye	60.90	76.25	1987	SI	Oil
Kholmogoryskoye	62.94	74.35	1973	PS	Oil
Khorlorskoye	62.89	71.52	1993	SI	Oil
Khorlorskoye Verkhniy			1994	SI	Oil
Khulymskoye Yuzhnoye	64.25	70.72	1986	SI	Oil
Khvoynoye	60.12	77.24	1984	PP	Oil
Kinyaminskoye Yuzhnoye	60.37	74.92	1990	SI	Oil
Kinyaminskoye			1990	SI	Oil

Table 21D. Basic Field Information, Middle Ob Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North	East	Discovery Date	Producing Status	Primary Product
	Latitude (degrees)	Latitude (degrees)			
Kochevskoye Severnoye	62.68	73.43		PP	Oil
Kochevskoye(Tevlin-Konitlor)	62.50	73.40	1979	PS	Oil
Kogolymskoye	62.44	73.79	1972	PS	Oil
Kogolymskoye Severnoye	62.74	73.86	1984	SI	Oil
Kogolymskoye Yuzhnoye	62.37	73.95	1972	SI	Oil
Komar'inskoye	61.48	72.13	1971	PS	Oil
Konitlorskoye Severnoye	62.70	72.79	1986	SI	Oil
Konitlorskoye Vostochnoye	62.50	72.80	1990	SI	Oil
Konitlorskoye Yuzhnoye	62.15	72.83	1988	SI	Oil
Konitlorskoye Zapadnoye	62.26	72.54	1989	SI	Oil
Konitlorskoye(Tevlin-Konitlor)	62.50	72.80	1972	SI	Oil
Kotukhtaskoye Zapadnoye	62.64	75.47	1981	SI	Oil
Kudrinskoye	60.83	72.50	1990		Oil
Kul'yeganskoye (Tyumen)	59.99	76.17	1986	SI	Oil
Kurraganskoye	61.72	75.95	1980	SI	Oil
Kurraganskoye Yuzhnoye	61.66	75.92	1988	SI	Oil
Kustovoye Yuzhnoye	62.03	74.33	1986	SI	Oil
Kvartovoye	60.05	77.08	1974	SI	Oil
Kysomskoye	61.50	77.17	1987	PP	Oil
Larkinskoye	62.13	72.42	1986	SI	Oil
Lasyeganskoye(Pokachev-Ur'yev)	61.50	75.00	1979	PS	Oil
Ledovoye Severnoye (Tomsk)	59.62	76.77		SI	Oil
Ledovoye (Tomsk)	59.54	76.69	1972	SI	Oil
Ledyanoye	59.66	76.15	1987	SI	Oil
Lempinskoye Zapadnoye (Pravdinsk-Salym)	60.83	71.42	1964	SI	Oil
Lokosovoskoye	61.20	74.91	1963	PS	Oil
Loryeganskoye	61.44	77.04	1980	PS	Oil
Losevyeskoye	62.84	71.85	1987	SI	Oil
Lyantorskoye (Taybinskoye)	61.54	72.11	1966	PS	Oil
Malo-Aganskoye Yuzhnoye	61.45	76.02	1980	PP	Oil
Malo-Perevalnoye	63.25	72.62	1991	SI	Oil
Malobalykskoye	60.48	72.25	1966	PS	Oil
Malochernogorskoye	61.49	77.20	1969	PS	Oil
Maloklyuchevoye	61.59	75.83	1983	SI	Oil
Malokustovoye	62.07	74.48	1986	SI	Oil
Maloledyanoye	59.60	76.17	1989	SI	Oil
Malopokachevskoye	61.81	75.19	1973	SI	Oil
Malopyakutaskoye	63.70	73.28	1986	SI	Oil
Malorechenskoye	60.52	77.24	1965	PS	Oil
Malovat'yeganskoye	62.15	75.32	1984	PP	Oil
Maloyagunskoye	62.30	74.30		SI	Oil
Maloyuganskoye Severnoye	60.20	75.10		SI	Oil
Maloyuganskoye	60.19	75.18	1975	SI	Oil
Mamontovskoye(Ust-Balyk)	61.09	72.57	1965	PS	Oil
Maslikhovskoye	61.70	71.64	1985	PS	Oil
Matyushkinskoye	59.89	76.98	1969	SI	Oil
Mayskoye	60.41	72.80	1978	PS	Oil
Megionskoye	61.13	76.00	1964	PS	Oil
Minchimbaskoye	61.88	72.87	1969	SI	Oil
Minchimbaskoye Severnaya	61.92	72.67	1969	SI	Oil

Table 21D. Basic Field Information, Middle Ob Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Mogutlorskoye	62.03	75.82	1987	SI	Oil
Mogutlorskoye Zapadnoye	62.02	75.65	1986	PP	Oil
Mokhovoye Vostochnoye	61.88	74.34	1973	SI	Oil
Mokhtikovskoye	60.44	76.58	1988	SI	Oil
Mykhpayskoye(Samotlor)	61.20	76.60	1961	PS	Oil
Nezhdannoye	60.43	76.87	1981	SI	Oil
Nivagalskoye(Pokachev-Ur'yev)	61.66	74.80	1968	PS	Oil
Nizhne-Shapshinskoye	60.50	70.33		SI	Oil
Nizhne-Sortymskoye	62.48	71.68	1974	PS	Oil
Nizhnevartovskoye	60.80	77.10	1965	PP	Oil
Nong'yeganskoye	61.89	74.86	1974	PS	Oil
Nong'yeganskoye Vostochnoye	61.84	75.01	1974	SI	Oil
Novopokurskoye	60.75	74.50	1981	PS	Oil
Noyabr'skoye Zapadnoye	63.39	75.01	1987	PS	Oil
Ob River Area			1982	SI	Oil
Ombinskoye	61.05	72.83	1989	PP	Oil
Orekhovskoye Severnoye	61.00	76.23		SI	Oil
Orekhovskoye	60.82	75.70	1976	SI	Oil
Osomkinskoye Zapadnoye	61.00	73.55		SI	Oil
Ostrovnoye	60.93	75.18	1980	SI	Oil
Ostrovnoye Severnoye	61.01	74.84	1978	PP	Oil
Ostrovnoye Yuzhnoye	60.75	74.92	1989	SI	Oil
Otdelnoye	62.93	74.86	1985	SI	Oil
Pal'nikovskoye	64.63	72.18	1992	SI	Oil
Pereval'noye Vostochnoye	63.26	72.63	1990	SI	Oil
Perevalnoye Yuzhnoye			1991	SI	Oil
Petelinskoye	60.55	71.92	1982	PS	Oil
Pil'tanskoye	61.68	73.15	1985	PP	Oil
Pogranichnoye (Tyumen)	62.91	75.19	1982	PS	Oil
Pokachevsko-Ur'yevskoye (Akhskeye, Lasyeganskoye, Nivagalskoye, Potochnoye, Potochnoye Severnoye, Pokachevskoye Yuzhnoye, Ur'yevskoye)	61.73	75.23	1970	PS	Oil
Pokachevskoye Severnoye (Pokachev-Ur'yev)	61.89	75.56	1980	PP	Oil
Pokachevskoye Vostochnoye	61.85	75.90	1980	SI	Oil
Pokachevskoye Yuzhnoye (Pokachev-Ur'yev)	61.64	75.33	1976	PP	Oil
Pokamasovskoye	61.20	74.39	1972	PS	Oil
Pokamasovskoye Yuzhnoye	61.07	74.50		SI	Oil
Pokamasovskoye Zapadnoye	61.32	74.40		SI	Oil
Pokurskoye Severskoye	61.20	75.50	1964	PS	Oil
Poludennoye (Tyumen)	60.54	76.64	1983	PP	Oil
Pomaliyakhskoye Severnoye	64.08	74.25	1989	PP	Oil
Potochnoye Severnoye(Poka-Ury)			1979	SI	Oil
Potochnoye(Poka-Ury)			1974	SI	Oil
Povkhovskoye	62.36	75.81	1972	PS	Oil
Povkhovskoye Severnoye	62.80	76.20		SI	Oil
Povkhovskoye Yuzhnoye	62.39	76.19	1972	SI	Oil
Pravdinsk-Salymskoye	60.94	71.78	1964	PS	Oil

Table 21D. Basic Field Information, Middle Ob Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Pridorozhnoye Vostochnoye	62.10	74.67		SI	Oil
Promezhutochnoye	61.33	71.50		SI	Oil
Pyakutaskoye	63.74	73.10	1987	SI	Oil
Pyakutaskoye Vostochnoye	63.58	74.14	1982	DV	Oil
Pylinskoye	61.05	77.54	1980	PP	Oil
Pylinskoye Zapadnoye	61.05	77.50	1991	SI	Oil
Ravenskoye	61.90	74.17	1981	SI	Oil
Rodnikovoye	61.73	74.25	1988	PP	Oil
Romanovskoye	63.80	73.89	1987	SI	Oil
Roslavl'skoye	62.03	76.48	1988	DV	Oil
Rubinovoye	61.13	76.28	1982	PP	Oil
Ruf'yeganskoye	61.30	77.59	1982	PP	Oil
Russkinskoye(Tevlin-Konit.)			1982	SI	Oil
Ryamnoye	60.91	76.75	1989	DV	Oil
Sakhalinskoye (Tyumen)	61.41	71.03	1983	SI	Oil
Sakhalinskoye Vostochnoye	61.51	71.28	1984	SI	Oil
Salym'skoye	60.00	71.00	1965	DV	Oil
Salym'skoye Central (Srednesalym)	60.00	71.00	1967	PS	Oil
Salym'skoye Severnyy	60.00	71.00	1978	PS	Oil
Salym'skoye Vostochnoye	60.20	71.18	1989	SI	Oil
Salym'skoye Zapadnoye	60.31	70.93	1987	SI	Oil
Samotlorskoye (Vata, Megion, Pokur Sev., Mykhpay, Orekhovo Sev.)	60.95	76.37	1961	PS	Oil
Saporkinskoye	61.72	72.18	1982	SI	Oil
Sardakovskoye Yuzhnoye	62.18	76.19	1989	SI	Oil
Savuy'skoye	61.88	73.78	1971	PS	Oil
Saygataskoye	61.27	72.89	1966	PS	Oil
Shapshinskoye	60.40	70.30	1981	DV	Oil
Shchuch'yenskoye	61.79	76.88	1986	SI	Oil
Shirokovskoye	61.39	74.05	1977	DV	Oil
Soimlorskoye Severnoye	63.34	73.83	1981	DV	Oil
Sokhtym'skoye	62.50	72.35	1990	SI	Oil
Solkinskoye Zapadnoye	61.35	72.42	1976	PP	Oil
Sorominskoye	61.20	77.36	1971	PS	Oil
Sorominskoye Severnoye	61.23	77.42	1971	SI	Oil
Sorominskoye Zapadnoye	61.26	77.36	1971	SI	Oil
Sortym'skoye	62.40	71.70	1992	SI	Oil
Sorym'skoye			1982	SI	Oil
Sovetskoye			1962	DV	Oil
Sredne Khulymskoye	64.55	71.29	1989	SI	Oil
Sredne-Iterskoye	63.50	74.67		SI	Oil
Sredne-Shapshinskoye	60.67	70.33		SI	Oil
Sredne-Vatlorskoye	63.19	71.41	1988	SI	Oil
Sredneasomkinskoye	61.00	73.00	1987	PS	Oil
Srednebalyk'skoye	60.53	72.52	1965	PS	Oil
Srednechernogorskoye	61.41	76.78	1986	SI	Oil
Sredneugut'skoye	60.50	73.97	1988	SI	Oil
Strezhevoye	60.79	77.46	1968	PS	Oil
Strezhevoye Vostochnoye				SI	Oil
Studenoye	61.84	70.93	1975	SI	Oil

Table 21D. Basic Field Information, Middle Ob Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Sugmutskiye	63.84	73.64	1987	SI	Oil
Surgutskoye Severnoye	61.74	73.44	1963	PS	Gas
Surgutskoye Vostochnny (Federovo-Surgut)	61.70	73.40	1977	SI	Oil
Surgutskoye Yuzhny(Federovo)	61.70	73.40	1973	PS	Oil
Surgutskoye Zapadnoye (Federovo-Surgut)	61.70	73.40	1962	PS	Oil
Sutorlinskoye	61.30	73.50	1975	DV	Oil
Taplorskoye	61.92	72.67	1978	SI	Oil
Tarkhovskoye Severnoye	61.17	77.20	1981	SI	Oil
Tarkhovskoye Yuzhnoye	61.10	77.07	1981	SI	Oil
Tarkhovskoye Zapadnoye	61.11	77.08	1987	SI	Oil
Taybinskoye (Lyantor)	61.87	72.13	1968	SI	Gas
Teplin-Russkinskoye	62.25	73.50	1990	PP	Oil
Teplovskoye	60.76	72.47	1966	PS	Oil
Tevlin-Konitlorskoye	62.50	73.68	1971	PS	Oil
Tevlinskoye	62.51	73.65	1972	SI	Oil
Tochinskoye	62.18	72.25	1989	SI	Oil
Tonchinskoye			1989	SI	Oil
Trom-Yeganskoye	63.00	71.86	1986	SI	Oil
Trom-Yeganskoye Severnoye	63.40	71.50	1993	SI	Oil
Trom-Yeganskoye Vostochnoye	61.37	74.57	1988	SI	Oil
Tundrinskoye	61.27	72.08	1981	SI	Oil
Tutlimskoye (Tutlimskoye)(Tutlym)	62.05	72.07	1966	DV	Oil
Tyanovskoye	62.98	72.34	1986	DV	Oil
Tyumenskoye	61.65	77.62	1971	PS	Oil
Udachnoye	60.50	71.83		SI	Oil
Ugutskoye	60.49	74.13	1985	PS	Oil
Ugutskoye Zapadnoye	60.46	73.73	1984	PP	Oil
Uryevskoye(-Potochnoye) (Pokachev-Ur'yev)	61.42	75.45	1971	PS	Oil
Ust-Balykskoye Zapadnoye	61.10	72.35	1985	SI	Oil
Ust-Balykskoye-Mamontovo	61.09	72.57	1961	PS	Oil
Ust-Kotukhtinskoye	62.50	76.00	1990	SI	Oil
Ust-Koyukhtaskoye				SI	Oil
Vachimskoye	61.81	72.62	1971	PS	Oil
Vadelypskoye	60.15	71.06	1989	SI	Oil
Vartov-Sovetskoye	60.81	77.09	1962	PS	Oil
Vartovskoye-Sosinskoye	60.77	77.35	1962	DV	Oil
Vat'yeganskoye	62.15	75.32	1970	PP	Oil
Vat'yeganskoye Severnoye	62.40	75.30	1983	SI	Oil
Vat'yeganskoye Yuzhnoye	62.03	75.02	1971	DV	Oil
Vataskoye	61.17	75.78		SI	Oil
Vataskoye Severnaya	61.20	75.80	1980	PP	Oil
Vatinskoye	61.25	75.90	1964	PS	Oil
Verkhne Nadymskoye	63.40	72.88	1992	SI	Oil
Verkhnesalymskoye	59.99	70.97	1966	DV	Oil
Verkhneshapshinskoye	60.82	70.34	1972	SI	Oil
Verkhniy Kazymskoye	63.60	70.93	1990	SI	Oil
Vershinnoye	61.57	73.07	1964	DV	Oil
Vladigorskoye Yuzhnoye	60.50	71.50		SI	Oil

Table 21D. Basic Field Information, Middle Ob Region, West Siberian Basin
(Sorted Alphabetically by Field Name) (Continued)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Vyintoyskoye	62.90	75.78	1982	SI	Oil
Vyintoyskoye Vostochnoye	62.86	75.93	1989	SI	Oil
Vyintoyskoye Yuzhnoye	62.80	75.80	1988	SI	Oil
XXVII CPSU Congress	60.68	74.53		SI	Oil
Yagunskoye	62.36	74.32	1978	PS	Oil
Yagunskoye Severnoye	62.70	74.45	1982	DV	Oil
Yagunskoye Vostochnoye	62.16	74.34	1982	SI	Oil
Yagunskoye Yuzhnoye	62.20	74.30	1979	PS	Oil
Yamskoye	60.33	71.50		SI	Oil
Yaunlorskoye	61.52	72.93	1967	PS	Oil
Yefremovskoye	60.60	73.00	1989	PP	Oil
Yegur'yakhskoye	61.72	76.40	1988	SI	Oil
Yegur'yakhskoye Severnoye	61.77	76.31	1987	SI	Oil
Yegur'yakhskoye Yuzhnoye	61.70	76.27	1990	SI	Oil
Yelovoye Vostochnoye	61.37	74.09	1987	PP	Oil
Yermakovskoye	60.79	76.09	1974	PS	Oil
Yermakovskoye Severnoye	60.80	76.10		SI	Oil
Yershovskoye (Tyumen)	61.13	77.79	1979	PS	Oil
Yuganskoye			1975	SI	Oil
Yur'yevskoye Severnoye	61.99	72.98	1988	SI	Oil
Yuzhnoye-1	60.63	75.91	1986	PP	Oil
Yuzhnoye-2	60.62	76.01	1987	SI	Oil

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 22D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Middle Ob Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Achimovskoye (Achimov)	210.42	62.75		
Aganskoye	1,792.72	523.33		
Aganskoye Zapadnoye	1.53	0.48		
Aganskoye Yuzhnoye	12.74	4.00		
Alekhinskoye	651.33	194.60		
Aleninskoye	11.37	3.24		
Asomkinskoye Zapadnoye	88.08	36.55		
Asomkinskoye	22.95	6.24		
Asomkinskoye Vostochnoye	7.56	2.81		
Asomkinskoye Yuzhnoye	10.40	2.83		
Aypim Lobat-Yuganskoye (Ai Pim)	486.10	61.94		
Balykskoye Yuzhnoye	317.37	93.10		
Bitemskoye	74.13	21.94		
Boloshekotukhtinskoye(Kotukhta)	19.90	5.23		
Bystrinskoye (Bystrin)	1,261.34	250.17		
Chakhloneyskoye	2.37	0.74		
Chernogorskoye	199.52	74.97		
Chistinnoye	61.05	16.02		
Chukhlorskoye	22.13	8.94		
Chumpaskoye	205.63	52.93		
Chupal'skoye Severnoye	160.20	45.66		
Chupal'skoye	241.87	68.93		
Druzhnoye	1,354.11	264.67		
Dunayevskoye	24.55	7.71		
Fainskoye	132.04	48.99		
Fedorovskoye	1,792.45	808.46	1,133.65	20.41
Fobosskoye	38.07	12.60		
Golevoye	17.01	7.36		
Gribnoye	72.09	27.33		
Gun-Yeganskoye	98.13	38.04		
Ikilorskoye	250.18	86.82		
Imlorskoye	24.55	7.81		
Imlorskoye Zpadadnyy	24.55	7.81		
Istochnoye	24.55	7.80		
Kamynskoye Yuzhnoye	60.66	19.09		
Kamynskoye Severnoye	254.88	80.14		
Kamynskoye	153.88	53.41		
Karamovskoye Severnoye	31.41	7.10		
Karamovskoye	383.90	81.84		
Karyaunskoye	3.82	1.09		
Kechimovskoye	24.55	7.81		
Kechimovskoye Yuzhnoye	24.55	7.81		
Ketovskoye	216.48	47.73		
Khokhlovskoye	6.24	2.47		
Kholmogoryskoye	722.86	190.78		
Khorlorskoye Verkhniy	24.55	7.73		
Khorlorskoye	41.05	11.70		
Khulymskoye Yuzhnoye	69.33	21.85		
Khvoynoye	13.99	6.03		
Kinyaminskoye Yuzhnoye	9.35	4.09		

Table 22D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Middle Ob Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Kinyaminskoye	2.00	1.00		
Kochevskoye Severnoye	24.55	7.74		
Kochevskoye(Tevlin-Konitlor)	128.88	40.61	135.51	2.44
Kogolymskoye Severnoye	27.02	8.53		
Kogolymskoye Yuzhnoye	13.25	4.19		
Kogolymskoye	433.46	129.73		
Komar'inskoye	30.59	9.67		
Konitlorskoye Zapadnoye	100.93	31.92		
Konitlorskoye Yuzhnoye	818.68	373.08		
Konitlorskoye Vostochnoye	20.39	6.45		
Konitlorskoye Severnoye	221.37	107.95		
Konitlorskoye(Tevlin-Konitlor)	101.64	31.94		
Kotukhtaskoye Zapadnoye	93.80	29.65		
Kudrinskoye	10.39	2.96		
Kul'yeganskoye (Tyumen)	18.85	4.54		
Kurraganskoye Yuzhnoye	7.05	2.15		
Kurraganskoye	27.17	8.81		
Kustovoye Yuzhnoye	3.57	1.13		
Kvartovoye	80.38	8.68		
Kysomskoye	7.07	2.02		
Larkinskoye	35.68	11.26		
Lasyeganskoye(Pokachev-Ur'yev)	232.36	59.93		
Ledovoye Severnoye (Tomsk)	24.55	7.75		
Ledovoye (Tomsk)	21.43	7.95		
Ledyanoye	9.01	2.69		
Lempinskoye Zapadno (Pravdinsk-Salym)	45.10	16.73		
Lokosovoskoye	565.99	143.64		
Loryeganskoye	27.29	3.86		
Losevoye	9.92	4.89		
Lyantorskoye (Taybinskoye)	2,321.63	685.97		
Malo-Perevalnoye	24.55	7.75		
Malo-Aganskoye Yuzhnoye	5.61	1.77		
Malobalykskoye	537.35	130.98		
Malochernogorskoye	105.21	39.19		
Maloklyuchevoye	85.38	56.79		
Malokustovoye	6.12	1.93		
Maloledyanoye	23.47	4.89		
Malopokachevskoye	24.55	7.75		
Malopyakuta	67.29	21.27		
Malorechenskoye	198.18	94.12		
Malovat'yeganskoye	6.12	1.93		
Maloyaganskoye	24.55	7.75		
Maloyuganskoye	171.27	116.68		
Maloyuganskoye Severnoye	24.55	7.75		
Mamontovskoye(Ust-Balyk)	616.20	153.57		
Maslikhovskoye	18.22	6.45		
Matyushkinskoye	8.64	2.20		
Mayskoye	123.41	35.78		
Megionskoye	630.17	193.79		

Table 22D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Middle Ob Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Minchinskoye	111.75	34.61		
Minchinskoye Severnaya	0.29	0.07		
Mogutlorskoye Zapadnoye	13.25	4.19		
Mogutlorskoye	17.84	5.64		
Mokhovoye Vostochnoye	91.64	21.46		
Mokhtikovskoye	23.67	9.23		
Mykhpayskoye (Samotlor)	304.48	86.03		
Nezhdannoye	4.37	1.62		
Nivagalskoye(Pokachev-Ur'yev)	1,487.92	384.76		
Nizhne-Sortymskoye	161.42	48.68		
Nizhne-Shapshinskoye	24.55	7.82		
Nizhnevartovskoye	24.44	7.72		
Nong'yeganskoye Vostochnoye	25.49	8.05		
Nong'yeganskoye	1,337.97	580.93		
Novopokurskoye	224.34	363.29		
Noyabr'skoye Zapadnoye	249.30	72.91		
Ob River Area	112.69	33.18		
Ombinskoye	22.20	8.24		
Orekhovskoye	19.78	7.34		
Orekhovskoye Severnoye	24.55	7.82		
Osomkinskoye Zapadnoye	24.55	7.82		
Ostrovnoye Yuzhnoye	24.55	7.76		
Ostrovnoye	5.55	2.37		
Ostrovnoye Severnoye	8.03	1.46		
Otdelnoye	43.50	8.53		
Pal'nikovskoye	8.35	3.10		
Pereval'noye Vostochnoye	196.65	46.61		
Perevalnoye Yuzhnoye	24.55	7.76		
Petelinskoye	202.21	37.11		
Pil'tanskoye	24.55	7.76		
Pogranichnoye (Tyumen)	225.97	51.36		
Pokachevsko-Ur'yevskoye (Akhsikoye, Lasyeganskoye, Nivagalskoye, Potochnoye, Potochnoye Severnoye, Pokachevskoye Yuzhnoye, Ur'yevskoye)	5,281.87	1,507.62		
Pokachevskoye Severnoye (Pokachev-Ur'yev)				
Pokachevskoye Vostochnoye	16.82	5.32		
Pokachevskoye Yuzhnoye (Pokachev-Ur'yev)				
Pokamasovskoye	357.53	144.38		
Pokamasovskoye Yuzhnoye	24.55	7.81		
Pokamasovskoye Zapadnoye	24.55	7.81		
Pokurskoye Severskoye	398.12	79.43		
Poludennoye (Tyumen)	622.66	104.82		
Pomaliyakhskoye Severnoye	6.20	1.77		
Potochnoye Severnoye (Poka-Ury)	376.54	107.31		
Potochnoye (Poka-Ury)	337.15	84.66		

Table 22D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Middle Ob Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Povkhovskoye	2,100.71	797.07		
Povkhovskoye Severnoye	24.55	7.76		
Povkhovskoye Yuzhnoye	24.55	7.76		
Pravdinsk-Salymskoye	2,255.19	656.06		
Pridorozhnoye Vostochnoye	24.55	7.82		
Provezhutochnoye	24.55	7.82		
Pyakutaskoye	45.88	14.50		
Pyakutaskoye Vostochnoye	61.82	17.62		
Pylinskoye	32.94	23.98		
Pylinskoye Zapadnoye	24.55	7.75		
Ravenskoye	36.00	13.35		
Rodnikovoye	352.28	100.40		
Romanovskoye	103.86	21.91		
Roslavlskoye	76.46	32.50		
Rubinovoye	3.07	0.70		
Ruf'yeganskoye	4.78	1.72		
Russkinskoye(Tevlin-Konit.)	71.68	21.91		
Ryamnoye	6.10	2.76		
Sakhalinskoye Vostochnoye	60.46	17.78		
Sakhalinskoye (Tyumen)	90.49	22.10		
Salymskoye Severnyy	163.66	46.64		
Salymskoye	24.55	7.75		
Salymskoye Vostochnoye	19.88	6.28		
Salymskoye Zapadnoye	65.25	20.64		
Salymskoye Central (Srednesalym)	104.32	29.73		
Samotlorskoye (Vata, Megion, Pokur Sev., Mykhpay, Orekhovo Sev.)	24,660.99	11,879.84	3,161.97	
Saporkinskoye	36.91	10.52	47.20	0.85
Sardakovskoye Yuzhnoye	15.29	4.83		
Savvyskoye	291.32	83.90		
Saygataskoye	150.53	36.46		
Shapshinskoye	124.62	35.52		
Shchuch'yenskoye	41.42	24.11		
Shirokovskoye	89.77	25.80		
Soimlorskoye Severnoye	87.66	36.56		
Sokhtymskoye	2.00	1.00		
Solkinskoye Zapadnoye	7.06	1.61		
Sorominskoye Severnoye	2.55	0.81		
Sorominskoye	5.13	1.90		
Sorominskoye Zapadnoye	0.51	0.16		
Sortymskoye	24.55	7.77		
Sorymskoye	33.08	8.27		
Sovetskoye	6,050.59	1,579.28		
Sredne-Vatlorskoye	64.22	16.12		
Sredne-Khulymskoye	354.46	101.02		
Sredne-Iterskoye	24.55	7.82		
Sredne-Shapshinskoye	24.55	7.82		
Sredneasomkinskoye	34.15	10.81		
Srednebalykskoye	104.79	14.73	584.50	10.52
Srednechernogorskoye	22.83	8.63		

Table 22D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Middle Ob Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Sredneugutskoye	24.55	7.78		
Strezhevoye Vostochnoye	3.06	0.97		
Strezhevoye	28.63	7.19		
Studenoye	40.28	21.71		
Sugmutskeye	3,327.14	768.57		
Surgutskoye Severnoye	431.28	85.18	1,137.75	20.48
Surgutskoye Vostochnoye (Federovo-Surgut)	125.68	34.08		
Surgutskoye Yuzhnyy(Federovo)	1,540.86	356.26		
Surgutskoye Zapadnoye (Federovo-Surgut)	787.05	177.33		
Sutorlinskoye	42.23	12.04		
Taplorskoye	3.70	1.37	175.55	3.16
Tarkhovskoye Severnoye	8.08	2.93		
Tarkhovskoye Yuzhnoye	2.22	0.80		
Tarkhovskoye Zapadnoye	5.54	2.53		
Taybinskoye (Lyantor)			178.02	3.20
Tepin-Russkinskoye	230.83	85.64		
Teplovskoye	867.99	185.66		
Tevlin-Konitlorskoye	530.15	167.95		
Tevlinskoye	350.49	99.89		
Tochinskoye	19.86	7.37		
Tonchinskoye	24.55	7.78		
Trom-Yeganskoye Severnoye	9.78	3.10		
Trom-Yeganskoye	236.21	65.14		
Trom-Yeganskoye Vostochnoye	12.00	3.81		
Tundrinskoye	35.42	16.15		
Tutlinskoye (Tutlym)	33.10	9.43		
Tyanovskoye	1,237.75	2.00		
Tyumenskoye	244.63	63.34	158.18	
Udachnoye	24.55	7.82		
Ugutskoye	184.69	48.51		
Ugutskoye Zapadnoye	15.68	6.47		
Uryevskoye(-Potochnoye) (Pokachev-Ur'yev)	735.80	205.17		
Ust-Koyukhtskoye	24.55	7.79		
Ust-Balykskoye Zapadnoye	2.55	0.81		
Ust-Balyk-Mamontovskoye	2,134.36	454.22		
Ust-Kotukhtinskoye	24.55	7.76		
Vachimskoye	515.79	173.57		
Vadelypskoye	73.91	23.44		
Vartov-Sovetskoye	272.70	101.17		
Vartovskoye-Sosinskoye	3,001.85	1,079.54		
Vat'yeganskoye	3,987.53	1,087.74		
Vat'yeganskoye Severnoye	29.68	8.35		
Vat'yeganskoye Yuzhnoye	17.40	6.46		
Vataskoye Severnaya	24.55	7.79		
Vataskoye	86.66	27.48		
Vatinskoye	1,130.17	306.23		
Verkhne Nadymskoye	24.55	7.79		

Table 22D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Middle Ob Region, West Siberian Basin (Sorted Alphabetically by Field Name) (Continued)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Verkhnesalymskoye	400.07	130.31		
Verkhneshapshinskoye	62.34	23.13		
Verkhniy Kazymskoye	23.28	7.40		
Vershinnoye	9.94	3.35		
Vladigor Yuzhnoye	24.55	7.82		
Vyintoy	94.26	27.32		
Vyintoy Yuzhnoye	1.53	0.49		
Vyintoy Vostochnoye	21.41	6.81		
XXVII CPSU Congress	160.06	50.94		
Yagunskoye Severnoye	21.92	6.98		
Yagunskoye	142.73	45.45		
Yagunskoye Yuzhnoye	1,151.14	320.71		
Yagunskoye Vostochnoye	18.94	5.82		
Yamskoye	2.00	1.00		
Yaunlorskoye	820.12	225.96	8.09	0.15
Yefremovskoye	95.66	27.26		
Yegur'yakhskoye Yuzhnoye	61.79	26.20		
Yegur'yakhskoye	20.17	7.93		
Yegur'yakhskoye Severnoye	2.56	1.02		
Yelovoyeskoye Vostochnoye	62.70	19.96		
Yermakovskoye Severnoye	24.55	7.81		
Yermakovskoye	993.86	275.74		
Yershovskoye (Tyumen)	159.56	51.93		
Yuganskoye	24.55	7.81		
Yur'yevskoye Severnoye	474.39	155.82		
Yuzhnoye-1	289.91	144.11		
Yuzhnoye-2	57.09	18.17		
TOTAL	98,227.09	33,160.34	6,720.42	61.20

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 23D. Basic Field Information, Unknown Region, West Siberian Basin
(Sorted Alphabetically by Field Name)

Field Name	North Latitude (degrees)	East Latitude (degrees)	Discovery Date	Producing Status	Primary Product
Akaytemskoye			1991	SI	Gas
Anomalnoye			1992	SI	Oil
Kulginskoye			1992	SI	Oil
Maksimkinskoye			1992	SI	Oil
Muryaunskoye				SI	Oil
Posnokortskoye				SI	Oil
Shtomovoye			1992	SI	Gas
Sporishevskoye			1993	SI	Oil
Sredne-Imurskoye			1990	SI	Oil
Triyurtinskoye			1988	SI	Oil
Triyurtinskoye Vostochnoye			1988	SI	Oil
Udmurt Yuzhnoye			1992	SI	Oil
Unlorskoye			1989	SI	Oil
Valyuninskoye Vosstochnoye			1988	SI	Oil
Vankorskoye			1990	SI	Oil

Notes: PP=Producing Primary, PS=Producing Secondary, DV=Developing, SI=Shut In, ABND=Abandoned. Alternate field names or combined field names in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Table 24D. Calculated Crude Oil, Natural Gas, and Condensate Recovery by Field, Unknown Region, West Siberian Basin (Sorted Alphabetically by Field Name)

Field Name	Ultimate Crude Oil (million barrels)	Associated- Dissolved Gas (billion cubic feet)	Nonassociated Gas (billion cubic feet)	Condensate (million barrels)
Akaytinskoye			15.00	
Anomalnoye	2.00	1.00		
Kulginskoye	2.00	1.00		
Maksiminskoye	2.00	1.00		
Muryaunskoye	2.00	1.00		
Posnokort	2.00	1.00		
Shtomovoye			15.00	
Sporishevskoye	2.00	1.00		
Sredne-Imurskoye	2.00	1.00		
Triyurtinskoye	2.00	1.00		
Triyurtinskoye Vostochnoye	2.00	1.00		
Udmurt Yuzhnoye	2.00	1.00		
Unlorskoye	2.00	1.00		
Valyuninskoye Vosstochnoye	2.00	1.00		
Vankorskoye	2.00	1.00		
TOTAL	26.00	13.00	30.00	

Notes: Alternate field names or combinations in parenthesis.

Source: Energy Information Administration, Office of Oil and Gas.

Glossary

Glossary

API: American Petroleum Institute, a trade association.

API Gravity: Arbitrary scale of measurement for expressing the specific gravity of oil or condensate.

EUR: Estimated Ultimate Recovery. Technical hydrocarbon recovery without current economic, operational, and regulatory limits.

Net/Gross Ratio: Net pay divided by gross pay.

R/P Ratio: Estimated ultimate recovery minus cumulative production divided by current annual production.

Abandonment Pressure: Reservoir pressure at time of abandonment of a gas reservoir.

Area (of West Siberia): Four subdivisions of the basin based on the combination of geographical Regions with common age of reservoir rocks, type of trap, and kind of hydrocarbon produced.

Associated-Dissolved Gas: Natural gas in solution with a liquid oil phase in a reservoir (also called "solution gas").

Basin: An geographic area in which sediments accumulate.

Condensate: Hydrocarbon liquid separated at the surface from natural gas.

Crude Oil: Hydrocarbon occurring as a liquid in the reservoir and remaining a liquid when brought to the surface.

Depletion: Removal of a hydrocarbon from a reservoir.

Developed: Having an installed infrastructure necessary for production.

Discover: Find a reservoir containing hydrocarbons by drilling.

Exploration: Search for reservoirs containing hydrocarbons.

Field: Common area of hydrocarbon production.

Field Size: Sum of estimated ultimate recovery from reservoirs in a field.

Fluid Volume Factor: Factor for the conversion of hydrocarbon volumes from reservoir conditions to surface conditions (Also called Formation Volume Factors).

Geology: The study of the history of the earth as recorded in its rocks; the study of the earth's rocks to locate hydrocarbons.

Gross Pay: Total thickness of a reservoir.

Hydrocarbon: An organic chemical compound of carbon and hydrogen produced in a gaseous or liquid phase.

Improved Recovery: Increasing the hydrocarbon recovery from a reservoir by injection of a substance such as water or gas to displace hydrocarbons from the reservoir or to maintain the reservoir pressure.

Natural Gas: A hydrocarbon occurring in the gaseous phase.

Net Pay: Thickness of the productive portion of the reservoir.

Non-Associated Gas: Hydrocarbon in the gaseous phase in the reservoir and at surface conditions.

Peak Production: Highest production rate in the life of the measured unit (well, field, area, etc.).

Porosity: Void space of the reservoir rock relative to the total volume of the rock.

Possible Reserves: Unproved volume of reserves which analysis of geologic and engineering data suggests are less likely to be recovered than probable reserves.

Primary Recovery: Amount of hydrocarbon recovered without adding energy to the reservoir.

Probable Reserves: Unproved volume of reserves which analysis of geologic and engineering data suggest are more likely than not to be recovered.

Production Decline: Reduction in producing rate caused by depletion.

Proved Reserves: Quantity of hydrocarbon that can be estimated with reasonable certainty, by analysis of geologic and engineering data, to be commercially recoverable, from a given date, from known reservoirs and under current economic conditions, operating methods, and government regulations.

Province: Large area or region with common characteristics.

Recovery Factor: Estimate of recoverable hydrocarbons relative to the total volume originally in place.

Recovery Efficiency: (See recovery factor).

Region (Of West Siberia): Ten geographical subdivisions of the basin.

Reserves: Recoverable hydrocarbons within limits (proved, probable, or possible).

Reservoir: Subsurface geologic formation containing hydrocarbons.

Reservoir Parameter: Describes the physical characteristics of the rocks and fluids of a reservoir.

Resource: Estimated volume of potentially recoverable hydrocarbons including producing, non-producing, and undiscovered estimated volumes.

Undiscovered: Hydrocarbon volume projected to be discovered in the future.