INDICATED HYDROCARBON LIST

Central, Eastern and Western Areas
Gulf of Mexico OCS

Minerals Management Service
Office of Resource Evaluation
Petrophysical Analysis Unit
George Hasseltine
Geologist

INDICATED HYDROCARBON LIST
Central, Eastern and Western Areas
Gulf of Mexico OCS

INTRODUCTION

An **Indicated Hydrocarbon List (IHL)** is now available from the Resource Evaluation Office of the Minerals Management Service (MMS). The list identifies unleased Central, Eastern and Western Gulf of Mexico tracts that have wellbores with indicated hydrocarbons. In addition, the list provides hydrocarbon information for two categories of selected wells from active leases in the Gulf of Mexico. The **(IHL)** will be made available to the public approximately three months prior to each Gulf of Mexico sale.

Approximately one month before a sale the list will be updated to consider the most recently relinquished tracts and ensure a current **(IHL)** for the upcoming sale.

OBJECTIVE

In the Gulf of Mexico OCS, there are hundreds of unleased blocks with thousands of wellbores. Data on these wellbores are available at the time of lease termination, relinquishment, or expiration. The MMS believes that a document identifying those tracts with wells that encountered hydrocarbons would be beneficial to prospective bidders. The **Indicated Hydrocarbon List** includes three categories of unleased tracts: Classes C, F, and Q. Class C comprises expired tracts having wellbores with indicated hydrocarbons, for which the operators did not request qualification status. Class F tracts include leases that have produced and subsequently expired. These tracts are prime targets for undrilled traps and deeper wildcat plays. Tracts with expired leases that qualified and have at least one wellbore identified as containing hydrocarbons are listed as Class Q tracts. Tracts qualified before January 28, 2000 are pursuant to 30 CFR 250.11 and tracts qualified after January 28, 2000 are per 30 CFR 250.115 or 116.*****

*****The CFRs are included after this introduction for the reader’s convenience.

There are hundreds of wellbores drilled each year on active leases in the Gulf of Mexico OCS. The data on these wellbores

are releasable to the public two years after the completion of operations or 30 days after the date of first production. The MMS believes it would benefit the industry to have a list that identifies those NONPROPRIETARY wellbores from active leases that have indicated hydrocarbons. The **IHL** includes two categories of wellbores on active leases: nonproducing and producing. The nonproducing wellbores have indicated hydrocarbons. If any of these wellbores qualified, the qualifying information is included. All producing wells must have produced for a period of time since they were completed. Various production data are included.* Information not covered in any future **IHL** will be available upon request from this office. It is our hope that the publication of this list will permit industry to focus scarce resources on areas that may be of particular interest.

The Office of Resource Evaluation is anxious to improve the List to meet the needs of industry. Any comments or suggestions for potential enhancements to the **IHL** would be appreciated. These may be offered by contacting:

George Hasseltine
Geologist
george.hasseltine@mms.gov
Minerals Management Service
(504) 736-5730

*This issue contains information from December 12, 1998 to December 12, 2008.

30 CFR 250.11
Determination of Well Producibility

Upon receiving a written request from the lessee, the District Supervisor will determine whether a well is capable of producing. Such a determination shall be based upon the following:

(a) A production test for oil wells shall be of at least 2 hours duration following stabilization of flow. A deliverability test for gas wells shall be of at least 2 hours duration following stabilization of flow or a four-point back-pressure test. The lessee shall provide the District Supervisor a reasonable opportunity to witness all tests. Test data accompanied by the lessee's affidavit, or third-party test data, may be accepted in lieu of a witnessed test, provided prior approval is obtained from the District Supervisor.

(b) In the Gulf of Mexico OCS Region, the following shall also be considered collectively as reliable evidence that a well is capable of producing oil or gas:

(1) A resistivity or induction electric log of the well showing a minimum of 15 feet of producible sand in one section that does not include any interval which appears to be water-saturated. In some cases, wells with less than 15 feet of producible sand in one section may be approved by the District Supervisor. All of the section counted as producible shall exhibit the following properties:

(I) Electrical spontaneous potential exceeding 20-negative millivolts beyond the shale base line. If mud conditions prevent a 20-negative millivolt reading beyond the shale base line, a gamma ray log deflection of at least 70 percent of the maximum gamma ray deflection in the nearest clean water-bearing sand may be substituted.

(ii) A minimum true resistivity ratio of the producible section to the nearest clean water-bearing sand of at least 5:1.

(2) A log indicating sufficient porosity in the producible section.

(3) Sidewall cores and core analyses which indicate that the section is capable of producing oil or gas or evidence that an attempt was made to obtain such cores.

(4) A wireline formation test and/or mud-logging analysis which indicates that the section is capable of producing oil or gas, or evidence that an attempt was made to obtain such tests.

After January 28, 2000:

30 CFR 250.115
How do I determine well producibility?

You must follow the procedures in this section to determine well producibility if you're well is not in the GOM. If your well is in the GOM you must follow the procedures in either this section or in 250.116 of this subpart.

(a) You must write to the Regional Supervisor asking for permission to determine producibility.

(b) You must either:

(1) Allow the District Manager to witness each test that you conduct under this section; or

(2) Receive the District Manager's prior approval so that you can submit either test data with your affidavit or third party test data.

(c) If the well is an oil well, you must conduct a production test that lasts at least 2 hours after flow stabilizes.

(d) If the well is a gas well, you must conduct a deliverability test that lasts at least 2 hours after flow stabilizes, or a four-point back pressure test.

30 CFR 250.116
How do I determine producibility if my well is in the Gulf of Mexico?

If your well is in the GOM, you must follow either procedure in 250.115 of this subpart or the procedures in this section to determine producibility.

(a) You must write to the Regional Supervisor asking for Permission to determine producibility.

(b) You must provide or make available to the Regional Supervisor, as requested, the following log, core, analyses, and test criteria that MMS will consider collectively:

(1) A log showing sufficient porosity in the producible section.

(2) Sidewall cores and core analyses that show that the section is capable of producing oil or gas.

(3) Wireline formation test and/or mud-logging and/or mud-logging analyses that show that the section is capable of producing oil or gas.

(4) A resistivity or induction electric log of the well showing a minimum 15 feet (true vertical thickness except for horizontal wells) of producible sand in one section.

(c) No section that you count as producible under paragraph (b) (4) of this section may include any interval that appears to be

water saturated.

(d) Each section you count as producible under paragraph(b)(4) of this section must exhibit: A minimum true resistivity ratio of the producible section to the nearest clean or water-bearing sand of at least 5:1; and

(1) One of the following:

(i) Electrical spontaneous potential exceeding 20-negative millivolts beyond the shale baseline; or

(ii)Gamma ray log deflection of at least 70 percent of the maximum gamma ray deflection in the nearest clean water-bearing sand – if mud conditions prevent a 20-negative millivolt reading beyond the shale baseline.

The IHL includes:

Class C tracts which are defined as unleased tracts which never produced, but have at least one wellbore which contains hydrocarbons of sufficient quantity and/or quality to have met the requirements of 30 CFR 250.11 30 CFR 250.115/116, had the operator requested a determination of well producibility.

Class F tracts are defined as unleased tracts that were formerly fields or portions of fields that produced.

Class Q tracts are defined as unleased tracts with a wellbore that qualified under 30 CFR 250.11 or 30 CFR 250.115/116 but the tract did not produce.

Selected Producing Wells are defined as wellbores on active tracts that produced for a period of time and reached total depth between December 12, 1998 and the present.

Selected Nonproducing Wells are defined as wellbores that (1) are located on active leases, (2) were completed or had drilling operations finalized between December 12, 1998, and the present, (3) had a well name between 001 and 005, and (4) never produced but contain hydrocarbons of sufficient quantity and/or quality to have met the requirements of 30 CFR 250.11 or 30 CFR250.115/116 for determination of well producibility.

The Included Access Files Contain the Following Fields:

BAR (BOTAR):(Bottom Area Code) The designated abbreviation assigned to Outer Continental Shelf(OCS) geographical units for identification purposes and for use on maps and in data bases as applied to the bottom hole location of a well.

ARBLK:(Bottom Area Code & BOTM BLOCK NUM)A combination of **BAR** and the designated abbreviation assigned to Outer Continental Shelf(OCS) geographical units for identification purposes and for use on maps and in data bases as applied to the bottom hole location of a well.

BBLOCK (BOTBLK):(Bottom Block Number) Identifies a subdivision of an Official Protraction Diagram as applied to the subdivision containing the bottom hole location of a well.

BNSDIST:(Bottom N S District) The distance from the location of the borehole bottom to either the east or west block boundary.

BNS:(Bottom N S Code) Indicates whether the borehole bottom location is measured from the north(N) or south (S) block boundary.

BEWDIST:(Bottom E W District) The distance from the location of the borehole to either the east or west block boundary.

BEW:(Bottom E W Code) Indicates whether the borehole bottom location is measured from the east(E) or west(W) block boundary.

BLEASE:(Bottom Lease Number) The number assigned to the lease that contains the bottom location of a well.

WELL:(Well Name) The name assigned to the well. It may be a special name or the name of the property to which the well belongs.

MD:(Well Bore Measured Depth) The measured distance along the axis of the borehole from the rig kelly bushing to the depth of maximum depth of the well.

TDDATE:(TOTAL DEPTH DATE) The date drilling on a well reached the final total depth.

TDMD(BhTotalMd):(BH TOTAL MD) The actual distance measured along the axis of the borehole from the rig kelly bushing to the depth of maximum penetration of the well.

TVD(WellBoreTvd):(Well Bore True Vertical Depth) The vertical distance measured along the axis of the borehole from the rig kelly bushing to the depth of maximum depth of the well.

API:(API Well Number) A unique well identification number consisting of (from left to right) a two digit state code(or pseudo for Offshore),a three digit county code(or pseudo for Offshore),a five digit unique well code, and if applicable, a two digit sidetrack code as defined in API Bulletin D12A.

SPUD DATE:(Well Spud Date) The date that the drilling rig first begins boring into the earth’s surface.

FIELD:(Bottom Field Name CD) Name of the field in which the bottom of the well is located.

WATER DEPTH:(Water Depth) The depth of the water at a well/platform location from the water level to the mud line.

PLN(PlanArea&MmsPlanAreaCd):(MMS Plan Area CD) Indicates an Outer Continental Shelf(OCS) group of offshore blocks that are considered as an entity for administrative planning purposes. Four unofficial codes(LND, NEZ, NUS, and UND) are included to identify blocks outside of Federal jurisdiction.

LEXPIR:(Lease Expiration Date) The date a lease expires, is relinquished or terminated.

LSESTAT:(LEASE STATUS CD) Identifies the development stage of the lease as assigned by the Minerals Management Service's Office of Leasing and Environment.

Q WELL(QWELL):(Qualifying Well Name) The well name assigned to the well that is determined to be producible under Title 30 CFR250.11, and therefore qualifies a lease as producible. Caveat:"Well" is used ambiguously.

Q DATE(LeaseQlfyDate):(Lease Qualification Date) The day, month, and year that a lease is determined capable of production in paying quantities as established by the Minerals Management Service.

ST PROD(FIRSTPRD):(First Production Date) The date a lease is first placed on continuous extraction of solid minerals or flow of fluid minerals that is primary for sales rather than for testing.

PERF TP(PerfTopMd):(Perforation top) The measured depth to the top perforation interval.

PERF BT(PerfBaseMd):(Perforation Bottom) The measured depth to the lowest interval in the perforation interval.

PROD O:(Cumulative Oil Production Volume) The quantity of oil produced from a completion in BBLS.

PROD G:(Cumulative Gas Production Volume) The quantity of gas produced from a completion in MCF.

PROD W:(Cumulative Water Production Volume) The quantity of water produced from a completion in BBLS.

LAST PROD:(Last Production Date) The year and month of a production record for a well completion in this case, the last month that the completion produced.

N WELL TP:(New Well Top) The measured depth to the top of the pay.

N WELL BT:(New Well Bottom) The measured depth to the bottom of the pay.

PAY:(Pay) Indicates whether there is potential pay within the isopach thickness in a well.

SHOW:(Show) Indicates whether there is a potential show within the isopach thickness in a well.

STATDT:(BOREHOLE STAT DT) The date the borehole status becomes effective.

STAT:(BOREHOLE STAT CD)Indicates the conditions relating to a borehole.

BotmFldNameCD:(BOTM FLD NAME CD)Name of the field in which the bottom of the well is located.

To find **Class C**, **Class F**, and **Class Q** wellbores in the Access Files:

Class Q = Field **Q Date** (Lease Qualification Date) is not null and field **stProd** (First Production Date) is null.

Class F = Field **Field** (Bottom Field Name CD) is not null and field **st Prod** (First Production Date) is not null.

Class C = Field **Q Date** (Lease Qualification Date) is null; field **st Prod** (First Production Date) is null and field **Pay**(Pay) is Yes.