

INDICATED HYDROCARBON LIST

Gulf of Mexico OCS

**Bureau of Ocean Energy Management
Office of Resource Evaluation
Resource Studies Section
Petrophysical Analysis Unit**

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INTRODUCTION

The Indicated Hydrocarbon List (IHL) is now available from the Bureau of Ocean Energy Management (BOEM), Office of Resource Evaluation. The IHL identifies unleased Central and Western Planning Area Gulf of Mexico (GOM) tracts that have wellbores with indicated hydrocarbons. The IHL will be made available to the public approximately three months prior to each GOM sale.

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

OBJECTIVE

On the GOM OCS, there are thousands of unleased blocks with thousands of wellbores. Data on these wellbores are available at the time of lease termination, relinquishment, expiration or in accordance with CFR 250.197 (b). The BOEM believes that a document identifying those tracts with wells that encountered hydrocarbons would be beneficial to prospective bidders. The IHL includes three categories of unleased tracts: Produced, Non- Produced Qualified, and Non-Produced Not Qualified. Produced tracts include unleased tracts that have produced or were part of a field that produced and the lease subsequently expired. These tracts are prime targets for undrilled traps and deeper wildcat plays. Tracts with expired leases, that qualified but have no previous production history, and have at least one wellbore identified as containing hydrocarbons are listed as non-produced qualified tracts. The non- produced, not qualified tracts are for which a request for well producibility has not been made, but a wellbore on the tract contains hydrocarbons that meet the requirements of 30 CFR 550.116. Tracts qualified before January 28, 2000 are pursuant to 30 CFR 250.111 and tracts qualified after January 28, 2000 are per 30 CFR 550.115 or 116 (CFR's are included after this introduction).

It is our hope that the publication of this list will allow industry to focus scarce resources on areas that may be of particular interest.

The Office of Resource Evaluation strives to improve the Indicated Hydrocarbon List in order 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:

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Prior to and including January 28, 2000:

30 CFR 250.111
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 wire line 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 550.115
How do I determine well producibility?

You must follow the procedures in this section to determine well producibility if your well is not in the GOM. If your well is in the GOM you must follow the procedures in either this section or in § 550.116 of this subpart.

- (a) You must write to the Regional Supervisor asking for permission to determine producibility.
- (b) You must either:
 - (1) Allow the Regional Supervisor to witness each test that you conduct under this section;or
 - (2) Receive the Regional Supervisor 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 550.116
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 the procedures in § 550.115 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 BOEM 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 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 of 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:
 - (1) A minimum true resistivity ratio of the producible section to the nearest clean or water-bearing sand of at least 5:1; and
 - (2) 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:

Produced tracts are defined as unleased tracts that have produced or were part of a field that produced and the lease subsequently expired.

Non Produced - Non Qualified tracts are defined as unleased tracts which never produced, but have at least one wellbore which contains hydrocarbons that met the requirements of 30 CFR 250.111 or 30 CFR 550.115/116.

Non - Produced Qualified tracts are defined as unleased tracts with a wellbore that qualified under 30 CFR 250.111 or 30 CFR 550.115/116 but the tract did not produce.

The Included Access Files Contain the Following Fields:

API_WELL_NUMBER: (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.

BASE_OF_PAY_MD: (Well Base of Pay Measured Depth) The measured depth to the base of the pay in a borehole.

BH_TOTAL_MD: (Bottom Hole 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.

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

BOTM_BLOCK_NUM: (Bottom Block Number) The designated number assigned to a Outer Continental Shelf (OCS) block for identification purposes and for use on maps and in databases as applied to the bottom hole location of a well.

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

BOTM_E_W_DIST: (Bottom East West District) The distance from the location of the borehole bottom to either the east or west block boundary.

BOTM_FLD_NAME_CD: (Bottom Field Name Code) Name of the field in which the bottom of the well was located in at the time of well qualification.

BOTM_LATITUDE: (Latitude of Bottom Hole Location) The latitude of the bottom hole location of the well

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

BOTM_LONGITUDE: (Longitude of Bottom Hole Location) The longitude of the bottom hole location of the well.

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

BOTM_N_S_DIST: (Bottom North South Distance) The distance from the location of the borehole bottom to either the north or south block boundary.

FIRST_PROD_DATE: (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.

HAS_PAY: (Pay Indicator) Indicates whether there is potential pay in a well that is fifteen feet or greater.

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

LEASE_QLFY_DATE: (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.

MMS_PLAN_AREA_CD: (MMS Planning Area Code) Indicates an Outer Continental Shelf (OCS) group of offshore blocks that are considered as an entity for administrative planning purposes.

HYDROCARBON_TYPE: (Hydrocarbon Type): The type of hydrocarbons identified in the well. The abbreviations are as follows: O – Oil, G- Gas, and B – Both Oil and Gas.

PERF_BASE_MD: (Perforation Bottom Measured Depth) The measured depth to the lowest interval in the perforation interval in the borehole.

PERF_TOP_MD: (Perforation Top Measured Depth) The measured depth to the top perforation interval in the borehole.

PRODUCTION_DATE: (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.

QLFY_WELL_NAME: (Qualifying Well Name) The well name assigned to the well that is determined to be producible under Title 30 CFR 250.11, 30 CFR 550.115 or 116, and therefore qualifies a lease as producible.

SUMOFMON_G_PROD_VOL: (Monthly Gas Production Volume) The monthly quantity of gas produced from a completion.

SUMOFMON_O_PROD_VOL: (Monthly Oil Production Volume) The monthly quantity of oil produced from a completion.

SUMOFMON_WTR_PROD_VOL: (Monthly Water Production Volume) The monthly quantity of water produced from a completion.

TOP_OF_PAY_MD:(Well Top of Pay Measured Depth) The measured depth to the top of the pay in a borehole.

TOTAL_DEPTH_DATE: (Total Depth Date) The date drilling on a well reached the final total depth.

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

WELL_BORE_TVD: (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.

WELL_NAME: (Well Name) The name assigned to the well, not including bypass and sidetracks.

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

