Workflow for
Obtaining Gulf of Mexico Geological & Geophysical Data from BOEM

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Introduction

The Bureau of Ocean Energy Management, commonly referred to as BOEM, is one of the two re-organized and re-formulated versions of the former Minerals Management Service (MMS) agency. The other agency is the Bureau of Safety and Environmental Enforcement (BSEE), where the purchase of this data can be made. It is necessary to register with BSEE before purchasing, but there is no fee associated with the registration.

If looking for well data, specifically well logs, it would be helpful in reducing the time required for a meaningful search, that if before going to the BOEM website, the specific lease area of the Gulf of Mexico and block number(s) be determined. It is not necessary to know the company operator or the API well designation ahead of the initial visit to the site, this information can be obtained within the site itself.

If looking for seismic data surveys, it is best to check all available as there are fewer than 30 Gulf of Mexico seismic data sets currently available to the public.

How to check for Geological and Geophysical information availability for Gulf of Mexico specific block areas

The link below will take you to the current government website where this data is available to the public for inspection and/or to purchase for a minimal fee:


After clicking on the link, the image on the website should appear as that in Figure 1.

Outline

I. How to find Seismic data………………………………………………………………………………………p. 3

II. How to Purchase Data…………………………………………………………………………………………p. 6

III. How to find Well Logs or other borehole data………………………………………………………………p. 9
Resource Evaluation Program

Geological and Geophysical Data

Gulf of Mexico OCS Region

BOEM makes Geological and Geophysical Data publicly available pursuant to current regulations covering data types and propriety terms. These terms and conditions are set forth in the Code of Federal Regulations (CFR) Parts 290, 251, 262, 360, 581, and 592. Relevant sections of the CFR and conditions and terms of data related to Geological and Geophysical Data are outlined in the following presentation:

- Geological and Geophysical Data Terms

Geological and Geophysical data for the Gulf of Mexico Region can be requested through the BOEM Public Information Office (BOEM Public Information Ordering System) or may be downloaded via the BOEM Data Center.

Bureau of Ocean Energy Management
Public Information Office
Mail Stop 5304
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

Phone: 504-736-2510 or 1-800-200-GULF
E-Mail: GULFPUBLICINFO@boem.gov

Available Data for the Gulf of Mexico OCS Region

Geological Data
- Gulf of Mexico OCS Well Data Query
- Gulf of Mexico OCS Well Logs
- Gulf of Mexico OCS Paleontological Data
- Gulf of Mexico Revised Biostratigraphic Chart
- Gulf of Mexico OCS Chronozones
- Gulf of Mexico OCS Directional Surveys
- Gulf of Mexico OCS Indicated Hydrocarbon List
- Gulf or Mexico OCS Shallow Water Flow Information

Geophysical Data
- Gulf of Mexico OCS Non-proprietary Seismic
- Gulf of Mexico OCS Well Data Query (Velocity Wells)

Figure 1.
Figure 2. below is a continuation of Figure 1. but shown on a larger scale.

Click on the appropriate link for the specific data you hope to obtain. If you want to explore the seismic data sets in the Gulf of Mexico that are available to the general public, select the option as outlined in red in Figure 3. and click on it.
Clicking on the Gulf of Mexico OCS Non-proprietary Seismic option will bring up the screen in Figure 4.

Figure 4.

Seismic Information

Seismic Information includes CD/DVD sets with scanned images of 2D seismic line film, SEG-P1 navigation files, SEG-Y files by permit area (including Atlantic Offshore, Louisiana OCS, Texas OCS, MAPA OCS), projection maps and seismic permits. Additional scanned images of public documents related to applications and permits for Geophysical prospecting for mineral resources and scientific research.

Scanned Documents (Original Public Copy)
- CD/DVD Sets Query (Online Ordering System)
- Public Information Query for G&G

Figure 5.

CD/DVD Sets Query

Note: Certain fields may now be searched on by submitting multiple search criteria, separated by commas.

We strive to make all public data available as soon as it is releasable. If you do not find the data you are looking for, please check again the next business day since certain circumstances may delay the posting of data. We apologize for the inconvenience.

Unless you know the specific name of the seismic data set you are interested in, it is better to look at all seismic data sets available. Also, be sure it is set for DVD instead of CD set...

Click on Submit Query
This brings up the following screen, labeled Figure 6. Scroll down through The Atlantic Margin and offshore Alaska data sets until you come to the Gulf of Mexico data sets, which begin with the letter “G”. Since the location descriptions are generally not specific, click on the left column serial number and that will bring up a map showing the location and the relative area the seismic data set covers. See Figure 7. as an example.

<table>
<thead>
<tr>
<th>CD Set</th>
<th>Official Protraction Diagrams and Leasing Maps (1 CD)</th>
<th>January 2005</th>
<th>$15.00</th>
<th>Add to Cart</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDRECA</td>
<td>Statistical Summaries and Bid Recaps (1 CD)</td>
<td>1954 - 2011</td>
<td>$15.00</td>
<td>Add to Cart</td>
</tr>
<tr>
<td>CDTECH</td>
<td>Gulf of Mexico OCS Technical Papers GP 8301 - 9804 (1 CD)</td>
<td>GP 8301 - 9804</td>
<td>$10.00</td>
<td>Add to Cart</td>
</tr>
<tr>
<td>G3D1106-001</td>
<td>GOM OCS 3D Seismic Information Release - 2011 Offshore Mobile (1 DVD)</td>
<td>June 2011</td>
<td>$20.00</td>
<td>Add to Cart</td>
</tr>
<tr>
<td>G3D1109-001</td>
<td>GOM OCS 3D Seismic Information Release - 2011 Offshore Louisiana (1 DVD)</td>
<td>September 2011</td>
<td>$20.00</td>
<td>Add to Cart</td>
</tr>
<tr>
<td>G3D1109-002</td>
<td>GOM OCS 3D Seismic Information Release - 2011 Offshore Louisiana (1 DVD)</td>
<td>September 2011</td>
<td>$20.00</td>
<td>Add to Cart</td>
</tr>
<tr>
<td>G3D1201-001A</td>
<td>GOM OCS 3D Seismic Information Release - 2012 Offshore Louisiana (1 DVD)</td>
<td>January 2012</td>
<td>$20.00</td>
<td>Add to Cart</td>
</tr>
<tr>
<td>G3D1201-001B</td>
<td>GOM OCS 3D Seismic Information Release - 2012 Offshore Louisiana (1 DVD)</td>
<td>January 2012</td>
<td>$20.00</td>
<td>Add to Cart</td>
</tr>
</tbody>
</table>

The map in Figure 7. shows that the seismic data set for item number G3D 1201-001A is located at the southern boundaries between East Cameron and Vermilion areas and also includes part of the central northern part of the Garden Banks area.

**If this is the area you are interested in**, click on the **Add to Cart** button. If this is the only data set you want at this time, proceed to checkout. The first time buying anything on the BSEE website requires registration with your name and address. If you are purchasing this data for use at the university, then just put “University of Houston” in the blank for the company name.

**If this is not the right data set for your project, keep looking through the list.**

**If this is not the only seismic data set** or any other data set listed on this screen that you wish to purchase, then keep adding the data sets to your “cart” until you are finished. There is no limit on the number of data sets that you may purchase.
Step 1. Assuming you wish to purchase the G3D1201-001 seismic data set shown on the map in Figure 7, click on the “Add to Cart” box for both G3D1201-001A (the stacking velocity files) and G3D1201-001B (the SEG Y files). See Figure 8. Note the first time you click on the “Add to Cart”, it takes you to the screen in Figure 9, which shows what is in your cart. **You can only add one item at a time.** So, to keep adding to your cart, click on the “Continue browsing CD DVD sets”.

Step 2. When you are ready to check out, click on the **Check out** box. This brings up the screen in Figure 10. If you are a returning user with an established purchasing account, fill in your username and password. If this is your first time to order, click on the “New users register here” link. This will bring up the screen in Figure 11. Click on “Yes” and that will bring up the screen in Figure 12. Fill it out. If you are a student ordering data, enter your university’s name in the “Company” box. When finished, click “Submit”.

**Figure 7.**

**Procedure for Purchasing GOM (or other offshore US) Seismic Data**
Figure 8.

- G3D1109-002 DVD Set: COM OCS 3D Seismic Information Release - 2011 Offshore Louisiana (1 DVD)
  - 3D SEG-Y files for Seismic permit L85-075
  - September 2011
  - $20.00
  - Add to Cart

- G3D1201-001A DVD Set: COM OCS 3D Seismic Information Release - 2012 Offshore Louisiana (1 DVD)
  - 3D SEG-Y files for L87-003. Stacking Velocities for G3D1201-001
  - January 2012
  - $20.00
  - Add to Cart

- G3D1201-001B DVD Set: COM OCS 3D Seismic Information Release - 2012 Offshore Louisiana (1 DVD)
  - 3D SEG-Y files for L87-003.
  - January 2012
  - $20.00
  - Add to Cart

- G3D1201-002A DVD Set: COM OCS 3D Seismic Information Release - 2012 Offshore Louisiana (1 DVD)
  - 3D SEG-Y files for L87-003.
  - January 2012
  - $20.00
  - Add to Cart

- G3D1201-002B DVD Set: COM OCS 3D Seismic Information Release - 2012 Offshore Louisiana (1 DVD)
  - 3D SEG-Y files for L87-003. 2 Stacking Velocities Text Files
  - January 2012
  - $20.00
  - Add to Cart

Figure 9.

- Click here to return to the screen in Fig 8 in order to keep adding to the cart.
WARNING: This is a United States Government computer system, maintained by the Department of the Interior, to provide Official Unclassified U.S. Government information only. Use of this computer system by any authorized or unauthorized user constitutes consent to monitoring, retrieval, and disclosure by authorized personnel. USERS HAVE NO REASONABLE EXPECTATION OF PRIVACY IN THE USE OF THIS SYSTEM. Unauthorized use may subject violators to criminal, civil, and/or disciplinary action.

Username:  
Password:  
Submit  Reset

Click here if this is your 1st time to order

*New users register here*

Figure 10.

The registration information consists of your name, address, company, telephone number, and email address. This information is used to ship your orders and to contact you if there is a problem with your order. This information will not be given out to anyone. Would you like to register?

Yes  No

Figure 11.
Go back to the screen in Figure 3. and this time click on the second option in the Geophysical Query box. See Figure 13.
The next screen is shown in Figure 14. Here, which link you click depends on how much information you already have. If you don’t know if there is a well (or wells) in a specific area and specific block number, this is where you can look it up. This brings up the screen in Figure 15. If you don’t know the block number, default to the area and it will bring up all wells drilled within the area, which could number in the thousands. It is much better to look at an area map and confine your search to just a few specific blocks; otherwise it could take a very long time to find data suitable for your project. You can click on the American Petroleum Institute (API) Lookup to find the API number for a specific well bore, or in a more efficient search, click on the Borehole option and it will give you not only the API number, but the latitude and longitude, the operator, the dates drilled and completed, the water depth, the KB, and the well status (PA (plugged and abandoned), TA (temporarily abandoned) or DRIL (still drilling), etc.).
Well Information

Well information includes information on borehole activities such as drilling activity, counts on the number of boreholes completed, and number of shut-in’s. Additional information includes the lease number, well name, spud date, the well class, surface area/block number, and statistics on well status summary. Additional files are available on well completions and well tests.

Online Queries

- Application for Permit to Drill (APD)
- American Petroleum Institute (API) Lookup
- American Petroleum Institute (API) Number Changes
- Borehole
- Bottomhole Pressure Survey
- eWell Submissions Applications for Permit to Drill
- eWell Submissions Applications for Permit to Modify
- eWell Submissions End of Operations Report
- eWell Submissions Well Activity Reports

Other Searchable Information

- Well Data Query (Online Ordering System) (Includes Directional Surveys, Velocity, Borehole, Well Logs, etc.)

NOTE: The boxes must be checked, or else it will not search on the criteria you have specified. Here, in this example the query is for what wells are in Keathley Canyon, block 736. The company name has not been checked, so it will not search on that information.

Borehole Online Query

Note: API Numbers are now searched using wildcards. You may now enter multiple 10 digit API Numbers and retrieve all corresponding parent and children wells.

We strive to make all public data available as soon as it is releasable. If you do not find the data you are looking for, please check again the next business day since certain circumstances may delay the posting of data. We apologize for the inconvenience.

Figure 14.

Figure 15.
The results of this specific query are shown below in Figure 16. There are two wells in KC 736, both drilled by Chevron. Since these wells have been drilled within the last 3 years, Chevron is not required (yet) to tell how deep the wells were drilled and give the TVD (true vertical depth). Well 001 was plugged and abandoned (PA). Well 002 is a huge commercial oil discovery. Well logs for these two wells will not be available on this government website (or commercially) until 2014 and 2015, respectively.

Borehole Query Search Results

*Your search returned 2 entries, you chose to display 50 entries per page.*

Current page number: 1

Click here to **Query Your Results**

<table>
<thead>
<tr>
<th>API Well Number</th>
<th>Well Name</th>
<th>Well Name Suffix</th>
<th>Bottom Lease Number</th>
<th>Bottom Area</th>
<th>Bottom Block</th>
<th>Company Name</th>
<th>Spud Date</th>
<th>Bit Total MD</th>
<th>True Vertical Depth</th>
<th>TVD Subsea</th>
<th>RKB/KOP</th>
<th>Total Depth Date</th>
<th>Status Date</th>
<th>Status Code</th>
<th>Status Code</th>
<th>Water Depth (feet)</th>
<th>Underwater Comp Slab</th>
<th>Surface Lease Number</th>
<th>Surface Latitude</th>
<th>Surface Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>60803000200002</td>
<td>STOBIP00</td>
<td>G22367</td>
<td>KC</td>
<td>736</td>
<td></td>
<td>Chevron U.S.A. Inc.</td>
<td>10/12/2012</td>
<td>*****</td>
<td>*****</td>
<td>92</td>
<td></td>
<td>12/17/2012</td>
<td>10/26/2012</td>
<td>DRL</td>
<td>6537</td>
<td>11</td>
<td>232267</td>
<td>26.27411093</td>
<td>92.77122</td>
<td>92.77122</td>
</tr>
</tbody>
</table>

Figure 16.

Now, let’s query a well, known to have available well logs. Query based on Walker Ridge block 456 produces the following screen in Figure 17. Note the difference in information available since these wells were drilled in 2000. Note there are three different API numbers for Well 001. All three have the same exact surface latitude and longitude; however the bottom latitudes and longitudes are different and the drilled depths are different for the wells with API numbers ending in 301 and 302. Apparently, what happened is that there was an oil show or something worth pursuing at the very bottom of the 300 well, so another permit had to be obtained to drill deeper and a sidetrack was made. Apparently the same thing happened again with well 301 causing a third permit and another sidetrack. Now, choose which API numbers you want to search on for well logs and go back to the Well Information screen in Figure 14. See Figure 18.

Borehole Query Search Results

*Your search returned 3 entries, you chose to display 50 entries per page.*

Current page number: 1

Click here to **Query Your Results**

<table>
<thead>
<tr>
<th>API Well Number</th>
<th>Well Name</th>
<th>Well Name Suffix</th>
<th>Bottom Lease Number</th>
<th>Bottom Area</th>
<th>Bottom Block</th>
<th>Company Name</th>
<th>Spud Date</th>
<th>Bit Total MD</th>
<th>True Vertical Depth</th>
<th>TVD Subsea</th>
<th>RKB/KOP</th>
<th>Total Depth Date</th>
<th>Status Date</th>
<th>Status Code</th>
<th>Status Code</th>
<th>Water Depth (feet)</th>
<th>Underwater Comp Slab</th>
<th>Surface Lease Number</th>
<th>Surface Latitude</th>
<th>Surface Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>60812400030001</td>
<td>STOBIP00</td>
<td>G16993</td>
<td>VIR</td>
<td>456</td>
<td></td>
<td>Exxon Mobil Corporation</td>
<td>7/7/2000</td>
<td>24340</td>
<td>24250</td>
<td>24175</td>
<td>75</td>
<td>9/10/2000</td>
<td>10/10/2000</td>
<td>ST</td>
<td>6680</td>
<td>N</td>
<td>16993</td>
<td>26.50401928</td>
<td>91.1549</td>
<td>91.1549</td>
</tr>
<tr>
<td>60812400030101</td>
<td>STOBIP00</td>
<td>G16993</td>
<td>VIR</td>
<td>456</td>
<td></td>
<td>Exxon Mobil Corporation</td>
<td>10/10/2000</td>
<td>24890</td>
<td>24748</td>
<td>24673</td>
<td>75</td>
<td>10/10/2000</td>
<td>11/16/2000</td>
<td>ST</td>
<td>6680</td>
<td>N</td>
<td>16993</td>
<td>26.50401928</td>
<td>91.1549</td>
<td>91.1549</td>
</tr>
</tbody>
</table>

Figure 17.
Well Information

Well information includes information on borehole activities such as drilling activity, counts on the number of boreholes completed, and number of shut-in's. Additional information includes the lease number, well name, spud date, the well class, surface area/block number, and statistics on well status summary. Additional files are available on well completions and well tests.

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- eWell Submissions Well Activity Reports

Other Searchable Information

- Well Data Query (Online Ordering System) (Includes Directional Surveys, Velocity, Borehole, Well Logs, etc.)

This action will bring up the screen in Figures 19a. and 19b. which are actually continuous. This screen is from the BSEE website. It is important at this point to know the well API number before continuing in this next step. After submitting the well data query, the screen shown in Figure 20 appears. The list of well logs available is actually several pages long, so Figure 20 only shows the first three well logs.

Well Data Query

Note: Certain fields may be searched on by submitting multiple search criteria, separated by commas. For a logic reference, check boxes are considered “And” while commas are considered “Or”.

We strive to make all public data available as soon as it is releasable. The Gulf of Mexico Region Notice to Lessees (NTL) No. 2008-G22 further clarifies the availability of well data and information. The availability of data through the Online Ordering System will be based on the following:

1. For leases that are still in effect, the availability of well data and information to the public through the Online Ordering System is based on the data and information type according to the schedule outlined in NTL 2008-G22. However, sidewall core data for wells that are less than 10 years old has been removed from the system pending an internal data review.

2. If the lease is no longer in effect, the availability of well data and information to the public through the Online Ordering System will be determined by the earlier of the following 2 criteria:
   a. Availability dates as determined in the table in NTL 2008-G22.
   b. 50 days after the date that the lease status is changed in our database, to allow time for appeal rights to be exhausted and for processing data if the lease status is under appeal or litigation. Then availability of well data and information will be the same as for leases that are still in effect pending the resolution of the lease status.

As data and information are processed, additional data will be made available through the Online Ordering System.

If you do not find the data you are looking for, please check again the next business day since certain circumstances may delay the posting of data. We apologize for the inconvenience.
NOTE: The boxes must be checked, or else it will not search on the criteria you have specified. Here, in this example, the query is for the well logs available in a specific well in Walker Ridge, block 456. The Lease # and the well name are optional, provided that the API is specified. API is a unique well-identifier worldwide.

Figure 19b. Click here once information is filled in and boxes are checked.

Well Data Search Results

Search by Block and Lease Number and API Well Number and Well Name and Group and Region, Sorted by Area.

Your search returned 43 entries; you chose to display 50 entries per page.

Click here to: Query Your Results

Figure 20.
Sort through the entire list of available well logs because there may be several runs at different depth intervals for the same type well log. Be sure the one you select covers the stratigraphic interval you are interested in. If you don’t know or aren’t sure what that interval is in terms of depth range, it is wise to get all of the logs available. The cost is the same for one DVD, whether it has one well log or a hundred well logs on it.

**Select the logs you want to order by checking the boxes in the left most column.** This is equivalent to “add to cart” on a shopping website. You can either sign in before this step, if you already have registered previously, or you can add all the well logs from all the wells you wish to purchase and then register before checking out. If you wish to order logs from other wells, simply go back to the screen in Figure 19b and change the query information.

If your research project requires both seismic data and correlating well logs...

Then, it is best to select the seismic data first for two reasons: (1) there is less seismic data available than well logs; and (2) once the seismic data has been selected, then the area and block numbers are known in order to search for available well logs. For example: you choose the seismic data set shown in the Garden Banks area in Figure 21., which also includes a few blocks each of Vermilion and South Marsh Island at the northern extreme. Now, you have a map showing all the potential blocks that could contain wells with useful well logs. There are maps on the website showing where wells are located, but these are not as up to date as the borehole query, which is updated several times a week.

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**Figure 21.**

[Map Image]
If you want to check deepwater for GOM discovered oil or gas discoveries/fields within this seismic data set area, then see the list found by using the link below:

http://www.data.boem.gov/homepg/data_center/other/tables/deeptbl2.asp

This list is current and it will help you determine what seismic data to order. The chart will tell which area and blocks the field is in, as well as date of discovery. If the chart is printed out long in a “landscape” format, it is 28 pages long.

**EXAMPLE: All oil & gas discoveries in the vicinity of this Garden Banks 3D seismic data set**

Once you have selected your data and checked out, using the same procedure for purchasing seismic data, your data should arrive within one week by US mail. The difference between purchasing seismic data and well logs is that the seismic data is sold by a single CD or DVD and with the well logs, you can load as many well logs as the CD or DVD will hold for the same price. As you continue to add well logs to your purchase, an automatic counter will let you know how much disc space remains on your CD or DVD.