BOEM Archaeological Report Template and Information

Archaeological Resource Reports:

Conducting a combined geohazards and archaeological field survey before submitting an archaeological resource report may prevent BOEM from requesting additional information under 30 C.F.R. § 550.194(a). Such reports are suggested, but not required, to be combined with your shallow hazards survey as an appendix. See Notice to Lessees (NTL) No. 2022-G01, Shallow Hazards Program (effective October 01, 2022) for additional information. For information on shallow hazards reports for the Alaska OCS, see NTL No. 2022-A01, Shallow Hazards Survey and Evaluation for OCS Exploration and Development Drilling.

Under 30 C.F.R. § 550.194(a)(1), if your exploration plan (EP), development operations coordination document (DOCD), or development and production plan (DPP) proposes activities involving seafloor disturbance, your plan must be accompanied by an archaeological report based on a high-resolution geophysical survey, a reference to an archaeological report that was previously submitted for your lease, or demonstrated evidence to BOEM's satisfaction that a reasonable and good faith effort was undertaken to identify archaeological resources within the area of potential effect.

A. When you submit your report, you should provide one digital copy (DVD, CD, or mutually acceptable digital storage media) to the appropriate BOEM regional office. If you are submitting your archaeological resource report with your shallow hazard survey report, please refer to NTL 2022-G01 or NTL 2022-A01 (or successor NTLs) for guidance on submittals. Submission of digital copies of reports and maps will assist BOEM by minimizing requests for information related to the review of your EP, DOCD, or DPP.

B. If you believe that preparation of a report is not feasible or cannot be accomplished, you must submit a written request to the Regional Director. Per 30 C.F.R. § 550.194(d) and the Regional Director may approve a departure on a case-by-case basis, if the Regional Director deems the departure necessary due to reasons listed in the regulation. To comply with 30 C.F.R. § 550.194(e)(5), please include in your request a discussion of your rationale and an "as-built" plat (drawn to a scale of 1 inch = 1,000 feet) of the subject OCS block that depicts all existing facilities (including pipelines) and the location of the proposed seafloor-disturbing activities. As appropriate, you may combine your request with a related request to waive or alter an archaeological resource survey, as described in 30 C.F.R. § 550.194(d)-(e). After you submit an archaeological resource report, BOEM will determine whether the archaeological resource report is complete and adequate for evaluating your geophysical interpretations and archaeological conclusions. If the

archaeological report is not complete and adequate for evaluation, BOEM will notify you in writing of the deficiencies and identify the data or information necessary to correct or complete the report as stipulated.

RECOMMENDATIONS FOR ARCHAEOLOGICAL RESOURCE REPORTS

I. Report Overview

Your archaeological resource report must provide sufficient information for the Regional Director to make a determination whether archaeological resources may be present in the area of your lease in accordance with 30 C.F.R. § 550.194. Requirements for specific information within archaeological resource report may vary by region, so please contact the appropriate regional office prior to submission of the report. You must include an evaluation and synthesis of the data you gathered, including information from a geohazard/archaeological resource survey if conducted, in an archaeological resource report prepared, signed, and dated by an archaeologist and a geophysicist.

If your archaeological assessment is submitted with your shallow hazards report, include this assessment as a separate appendix. If you submit your report on CD-ROMs, they should be in a separate portable document format (PDF) file. You should also prepare a digital copy of all survey maps addressed in paragraph II.D of this Appendix as DWG files oriented to the appropriate datum for the region (North American Datum of 1927 (NAD 27) coordinate system for the Gulf of Mexico region, North American Datum of 1983 (NAD 83) for the Alaska, Atlantic, and Pacific regions.

Recommended Template for Archaeological Resource Reports

If you conducted an archaeological resource survey, BOEM recommends including the following information to reduce the frequency of requests for information in the archaeological resource report:

A. A description of the area that you surveyed, including lease number(s), block numbers(s), OCS lease area(s), and minimum and maximum water depths for each lease block covered in the report. It is recommended that you submit an archaeological resource report for a lease survey or a site-specific survey before you submit the related EP, DOCD, or DPP; and

B. A list of the individuals involved in survey planning, fieldwork, and report preparation, and a description of their duties.

C. A discussion of the archaeological resource field survey, including the following:

1. A brief description of the navigation system, including a statement of its estimated accuracy for the area you surveyed;

2. A brief description of survey instrumentation, including scale, sensitivity settings, sampling rates, and tow heights off seafloor, as appropriate for each instrument;

3. A description of the survey vessel, including its size, sensor configuration, instrument set-backs, and navigation antennae locations;

4. Vessel speed and course changes;

5. Sea state and weather conditions;

6. A copy of the original daily survey operations log, including sensor height off seafloor for the magnetometer and sidescan sonar for the beginning and end of each survey line;

7. A description of survey procedures, including a statement of survey and record quality, a comparison of survey line crossings, and discussion of any problems that may affect the ability of the report preparers to determine the potential for archaeological resources in the survey area; and

8. An explanation of the problem(s) if you were prevented from meet the performance standards specified in 30 C.F.R. § 550.194.

D. A navigation postplot map of the survey area at a scale of 1:12,000 showing survey lines, shot points at 152-meter (500-foot) intervals, line direction in the grid projection in which the lease is described (e.g., UTM, Lambert, or geographic coordinates) with tics placed every five inches thereon, and with geodetic graticules every 60 seconds. For each copy of the report submit two digital copies (one in PDF format and one DWG format) of this map. Orient this map, or separate maps at the same scale that also show survey lines, shot points, and line direction, to true north and delineate the following, as appropriate:

1. The horizontal and vertical extent of all relict geomorphic features having potential for associated prehistoric sites. Such areas include, but are not limited to, tidal estuaries, embayments, barrier islands, beach ridge sequences, spits,

alluvial terraces, and stream channels. When relict fluvial systems are recorded, the map should:

a. differentiate between generations of channeling when more than one generation is present;

b. show any internal channel features such as point bar deposits and terraces;

c. delineate any channel margin features such as natural levee ridges;

d. indicate all depths of channel banks and channel axes (thalwegs); and

e. delineate all areas recommended by your archaeologist for avoidance for potential archaeological resources.

Note: An isopach map of channel fill sediments is often the most efficient means of conveying the above information, but this method alone will not allow differentiation between more than one generation of channeling.

2. Bathymetry.

All magnetic anomalies and seafloor sidescan sonar contacts of unknown source (for magnetic anomalies use map symbol: ▲; for sidescan sonar contacts use map symbol: ⊠). Identify these magnetic anomalies and sidescan sonar contacts using only the aforementioned symbols and a unique number keyed to the listings in the unidentified magnetic anomaly and sidescan sonar tables in the text (see paragraph F below). In congested areas with numerous unidentified magnetic anomalies, you may use a map(s) at a scale of 1:6,000 to depict the anomalies. If you do, tie this congested area map(s) into the 1:12,000 survey area map. You should ***plot all recommended potential archaeological avoidance areas on the survey area map.*** Magnetometer data should be contoured accounting for diurnal variation between survey days. This data should also be accompanied with a confidence level for your data, identifying what mass would be detected based on the quality of the data collected (consistent line spacing, consistent altitude of sensor). Examples of acceptable methods can be found in this Study (OCS-14-615).

3. Sites of proposed oil and gas operations (e.g., well locations, platform sites, and/or pipelines), when available at the time of report preparation.

4. Sites of former oil and gas operations (e.g., abandoned well locations, platform sites, and/or pipelines).

E. An analysis of the potential for prehistoric sites within the survey area that includes:

1. A review of current literature on late Pleistocene and Holocene geology, paleogeography, and sea level change, **all specific to the protraction area under survey**; and previous archaeological resource reports in the area, if available;
2. A discussion of relict geomorphic features and their archaeological potential that includes the type, age, and association of the mapped features; the acoustic characteristics of channels and their fill material; evidence for preservation or erosion of channel margins; evidence for more than one generation of fluvial downcutting; and the sea level curves you used in the assessment; and

3. A discussion, based on the capabilities of current technology in relation to the thickness and composition of sediments overlying the area of a potential site, of the potential for identification and evaluation of buried prehistoric sites.

F. A current review of existing records for reported shipwreck locations in the survey area and adjacent areas, and the following, as appropriate:

1. A table of the unidentified magnetic anomalies with the OCS block, shot point, and survey line location (corrected for sensor offset); gamma intensity; lateral extent (duration); whether the anomaly is characterized by a dipolar, monopolar, or complex signature; the magnetometer sensor tow height off seafloor; the NAD 27 decimal degree coordinates of the center of each unidentified anomaly; and the recommended avoidance zone. A suggested format for this unidentified magnetic anomaly table is included in Section III of these recommendations;

2. A table of sidescan sonar contacts with the lease block, shot point, and survey line location (corrected for sensor offset); size; shape; height of protrusion above the seafloor; the NAD27 decimal degree coordinates; and recommended avoidance distance of each. A suggested format for this unidentified sidescan sonar contact table is included in section below titled, “Listing Unidentified Magnetic Anomalies and Sidescan Sonar Contacts”;

3. A discussion of any magnetic anomalies and sidescan sonar contacts of unknown source in terms of their potential as historic shipwrecks (include an analysis of reported nearby wrecks and

their potential association with these contacts on the basis of vessel size and anomaly characterization);

4. A discussion of any correlation between magnetic anomalies or sidescan sonar contacts and known or probable sources;

5. For any archaeological resources that can be positively identified from remote-sensing records, an analysis of their possible significance and recommendations for any further research or special precautions that may be necessary;

6. A discussion of the potential for shipwreck preservation in terms of bottom sediment type and thickness, and the effects of past and present marine processes in the survey area; and

7. A discussion of the potential for identification and evaluation of potential shipwrecks considering the capabilities of current technology in relation to the water depth, probable thickness and composition of sediments overlying the potential shipwreck location, and the preservation potential.

G. Representative data samples from each survey instrument to demonstrate the quality of the records. If appropriate, include the following data samples, which you may use in lieu of the representative data samples:

1. A sample of subbottom profiler data for ***each type of relict landform*** that you identify. When more than one generation of fluvial channeling is evident, include a sample that depicts each generation. Make sure that each sample is readable and includes horizontal and vertical scales. If you want to provide any interpretive highlighting or annotation of the sample data, do so on either a separate overlay or a copy of the sample data. Do not highlight original survey data; and

2. Copies of all sidescan sonar data where contacts representing unidentified objects are recorded. Make sure that the copies are readable and include the scale. If you want to provide any interpretive highlighting or annotation of the sample sidescan sonar data, do so on either a separate overlay or a copy of the sample data. Do not highlight original survey data.

H. A summary of conclusions and recommendations supported by the archaeological resource field survey data and archaeological analyses including:

1. A discussion of known or potential archaeological resources; and

2. Recommendations for avoidance or for further archaeological investigations.

I. A discussion of the data and results from any additional investigations (see Appendix No. 2, Section IV.E) that you may have conducted.

Listing Unidentified Magnetic Anomalies and Sidescan Sonar Contacts

The following are suggested tables, including sample information, for listing unidentified magnetic anomalies and sidescan sonar contacts in archaeological resource reports.

A. Magnetic Anomalies

Anomaly Number	Area/ Block	Line No.	Shot Pt.	Tow Height (feet)	Signature	Intensity (gammas)	Duration (feet)	Coordinate (in decimal degrees)	Minimum Avoidance Dist. (feet)
1	MP 100	0020	11.4	20	Dipole	15	75		100

B. Sidescan Sonar Contacts

Anomaly Number	Area/ Block	Magnetometer Association	Dimensions LxWxH (ft)	Shape	Coordinate (in decimal degrees)	Minimum Avoidance Dist. (feet)
1	MP 100	Mag. Anomaly 1, Line 0020, Shot Point 11.4	100 x 50 x 5	Linear		100