Echo Offshore LLC

Application for Letter of Authorization for the Non-Lethal Taking of Marine Mammals

Outer Continental Shelf, Gulf of America

25-P-Echo Offshore
Letter of Authorization Application

V1

13 August 2025

TETRA TECH

PREPARED BY

RPS, A Tetra Tech Company
20 Park Plaza #322
Boston, MA 02116

Prepared by:

Name Russell Dauksis
Email: Russell.dauksis@tetratech.com

Name: Stephanie Milne
Email: Stephanie.milne@tetratech.com

Echo Operations Contact

Name: Donald Spicer
Email: spicerd@echo-offshore.net
Phone: +1 225 673-2163

PREPARED FOR

Echo Offshore LLC
36499 Perkins Road
Prairieville, LA 70769

TETRA TECH

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Table of Abbreviations

µPa	micropascal
2D	two-dimensional
2DHR	Two-dimensional high resolution
3D	three-dimensional
AUV	Autonomous underwater vehicle
BOEM	Bureau of Ocean Energy Management
cm	centimeters
dB	decibels
ft	feet
GOA	Gulf of America
Hz	Hertz
in	inches
ITR	Incidental take regulation
kg	kilogram
LLC	Limited Liability Company
LOA	Letter of Authorization
m	meter
MV	Motor Vessel
NAZ	Narrow azimuth
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NTL	Notice to Lessees
OCS	Outer continental shelf
OSPAR	Oslo and Paris Convention for the Protection of the Marine Environment of the NE Atlantic
PSOs	Protected Species Observers
psi	pounds per square inch
PSO	Protected Species Observer
RMS	Root mean squared
ROV	Remotely operated underwater vehicle
VSP	Vertical seismic profile
WAZ	Wide azimuth

DESCRIPTION OF PROPOSED ACTIVITIES

Following the most recent incidental take regulation (ITR) that took effect on April 19, 2021 (86 Federal Register 5322) and was updated on April 24, 2024 (89 Federal Register 31488) and the requirements of 50 Code of Federal Regulations (CFR) § 216.104, Echo Offshore, LLC, referred to as the "Applicant", is submitting this request for a Letter of Authorization (LOA) for the unintentional, non-lethal taking of marine mammals from geophysical activities conducted in the Central Gulf of America (GOA).

1.1 PROJECT DESCRIPTION

The Applicant proposes to conduct a seismic investigation within the Bureau of Ocean Energy Management's (BOEM's) Central Planning Area of the GOA that overlaps with ITR assessment Zone 2 (Figure 1 and 2). Field operations will be conducted on behalf of Juneau Oil & Gas, LLC in compliance with BOEM NTL 2005-G07 (Archaeological Resources) and NTL 2022-G01 (Geohazards). The parameters of the survey are summarized in Table 1 below. The investigation is planned to occur within the protraction area of Vermilion Area and will cover a portion of lease block area VR178. The proposed 1.5 day survey is expected to begin as soon as permitted, which is currently anticipated to occur before December 2025. This will be before the NMFS exposure calculator switches to winter values, which are also provided in Table 8.

Table 1: Type of investigation

Please indicate which type of investigation will be used in the proposed activity
___ Deep Penetration Seismic (greater than 1,500 in^3 total airgun array volume) • **2D Seismic-towed Streamer** • **2D Seismic-Seafloor Cable or Nodes** • **3D Seismic-towed Streamer** • **3D Seismic-Seafloor Cable or Nodes** • **NAZ** • **WAZ** • **4D (Time Lapse)** • **Vertical Cable** • **Borehole Seismic (VSP)** **_X_ Shallow Penetration Seismic (less than 1,500 in^3 total airgun array volume)** • **Surface Vessel** • **Surface Vessel and AUV/ROV** • **Borehole Seismic (VSP)** **___ HRG Investigations (no airguns used)** • **Surface vessel** • **AUV/ROV** • **Both** **___ Other** **Describe (if Other):**

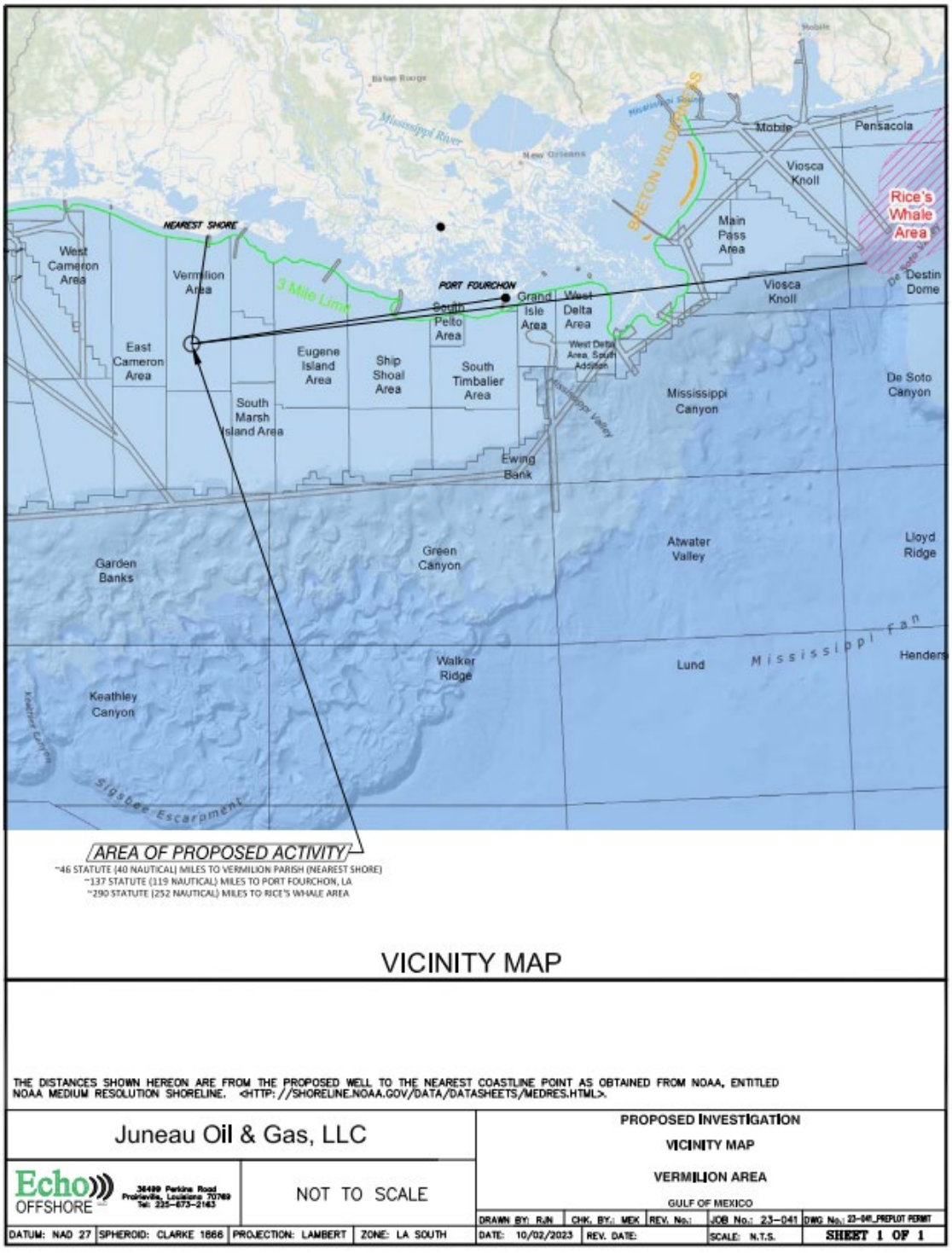

Figure 1: Location of proposed seismic survey within the Vermilion Area, protraction area. Vessel transit will be a 119 nautical mile route to the west from Port Fourchon, LA.

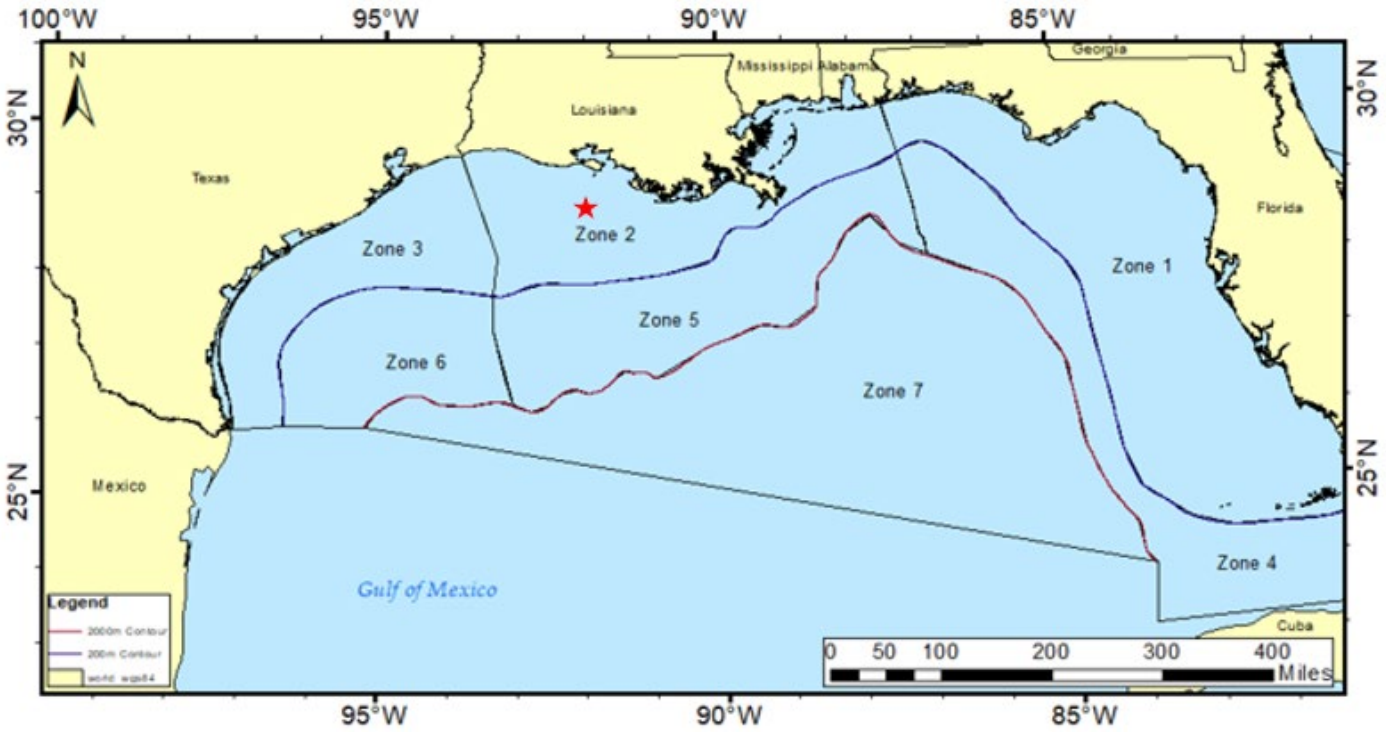

Figure 2: Approximate location of the proposed survey within ITR Zone 2. The ITR Zone 2 southern boundary is along a 200-meter depth contour, which is south of the survey location.

1.2 ACTIVITIES CONSIDERED IN APPLICATION

A one-day seismic investigation is planned to occur within the Vermillion Area protraction area, located in a depth of approximately 97 feet of water on average. All equipment will be towed in the water column, and then all equipment will be recovered back onto the vessel and no contact with the seafloor is expected during the proposed investigation. This investigation is expected to occur during 1.5 days between an expected start of August 2025 and December of 2026.

Table 2: Study area and operational plan

Question:	Response:
Location: (Lease Block(s), Facility or Prospect Name, Lat/Lon, etc.)	Vermilion Area – Lease Block 178 (28° 52' 34.187" N, 92° 27' 0.597" W)
Proposed Start Date:	Expected August 2025
Proposed End Date:	No later than December 2026
Overall Duration of the Activity (days):	1.5 days (18 hours of seismic sources)
Purpose of Activity:	Geohazard investigation
Lease Number(s):	VR178
OCS Area(s):	Vermilion Area
OCS Lease Block(s):	1 lease block
Range of water depths (ft or m):	Between 96 and 98 feet
Average water depth (ft or m):	~97 feet
Areal extent of the investigation area: (in OCS lease blocks or km^2) (Attach GIS file(s)geo of investigation lines and/or investigation area perimeter)	Portion of 1 lease block (see Figure 5)
G&G ITR/PEIS Modeling Zone(s) in which the activity will occur (1-7):	2
Number of days during the overall activity period on which the sound source(s) listed in Section 1.3 will operate: (If the activity will occur in more than one Modeling Zone, provide the number of operating days within each Modeling Zone.)	1 day

1.3 SOUND SOURCES

The Applicant intends to use three high resolution sources of an Edgetech sidescan sonar, an Edgetech sub-bottom profiler, and R2 Sonic mulitbeam echosounder. One ION Geophysical 2DHR air gun will be used with a maximum total volume of 20 in^3. The towing depth of this air gun will be 3 meters. This one-day (~18 hour) air gun investigation will cover 22 nautical miles over 20 transects extending across a portion of VR178 lease block (Figure 5). There will also be 24 non-seismic lines running east to west with the three high resolution sources, with all lines over the full 1.5-day survey covering 71 nautical miles.

Table 3: Sound sources to be used in the proposed investigation

Energy Source	**Manufacturer**	**Model**	**Total Array Volume & Number of Elements** (cubic inches)	**Source Level (SL) in dB re 1µPa@1m in water** (RMS)	**Source Level (SL) in dB re 1µPa@1m in water** (Peak to Peak)	**Operating Frequency** (Hz, kHz, range)	**Pulse Duration** (seconds, milli-seconds)	**Pulse Rate (or Cycle)** (Pulses per second or minute)	**Towing Depth of the Source** (m)	**Towing Depth of the Receiver(s)** (ft or m)	**Duration of Use** (Number of Days or Percent of Active Sound Source Days)
Sidescan Sonar	Edgetech	4200-FS	N/A	163-169 dB rms	N/A	120 – 410 kHz	10 µ	2.6 Hz	1.5-2 m	N/A	1.5 days
Chirp Subbottom Profiler	Edgetech	3400	N/A	203 dB	210 dB	4 – 16 kHz	20 ms	0.5 – 8/sec	1-1.5 m	N/A	1.5 days
Multibeam	R2 Sonic	2024	N/A	191-221 dB rms	N/A	200-400 kHz	15 µ-1ms	0-60 Hz	N/A	N/A	1.5 days
2DHR	ION Geophysical	SG II	20 in^3	207 dB	231 dB	0 – 1,500 Hz	25 µ	6 sec	1-1.5 m	N/A	1 day

Table 4: Vessel information

Vessel Type	**Vessel Name**	**Registration Number**	**Registered Owner**	**Typical investigation speed** (knots)	**Highest Travelling Speed** (knots)	**Home Port**	**Vessel/Activity Support Base**	**Transit Route:**
Supply vessel (Sound source vessel)	M/V Elliot Cheramie	1064603	Cheramie Marine LLC	3 knots	12 knots	Port Fourchon, LA	Port Fourchon, LA	Direct route from Port Fourchon to Vermillion Area

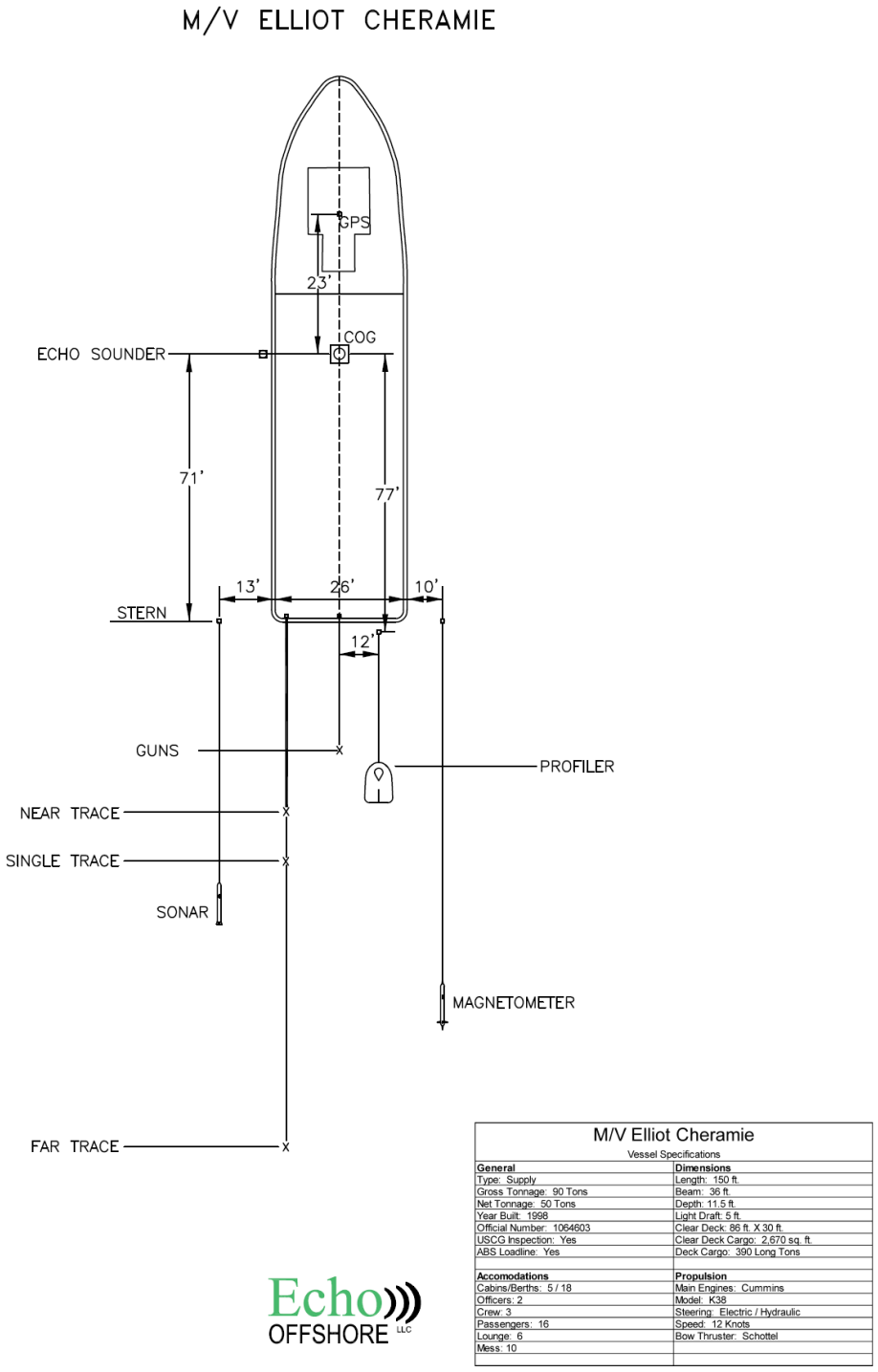

Figure 3: Schematic of high-resolution sources and air gun towing location from vessel M/V Elliot Cheramie. The 2DHR air gun (20 in^3) will be towed approximately 3 meters below the surface.

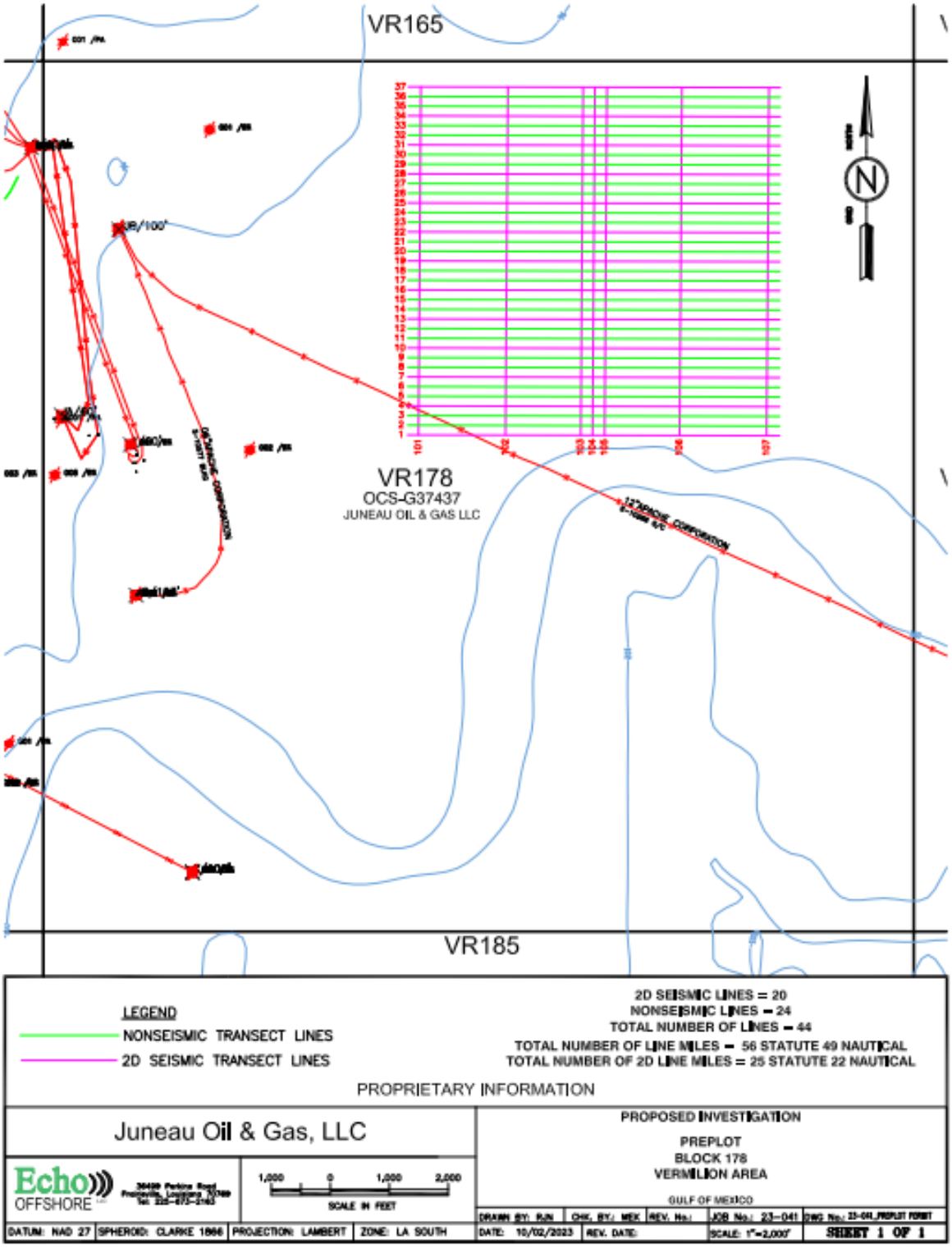

Figure 4: Proposed 2DHR air gun (20 in^3) investigation occurring during one day with magenta lines showing seven transects running north to south and 13 transects running east to west for a total of 22 nautical miles of 2D seismic lines across Vermilion Area, lease block 178.

2.0 OPERATION DATES, DURATION AND GEOGRAPHIC REGION

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The Applicant proposes the investigation to occur in the months that the NOAA GOA exposure calculator classifies as summer if the survey occurs before December 2025 (Table 9), or winter if the survey occurs between December 2025 and March 2026 (Table 8). The 2DHR seismic portion of the investigation will take place during only one day, and other high resolution sources will complete the survey for a total survey duration of 1.5 days. The investigation will occur within Vermilion Area, lease block 178 within BOEM's Central Planning Area of the GOA. This location falls within ITR assessment Zone 2, and this was used for the marine mammal exposure estimation. The investigation vessel M/V Elliot Cheramie will depart from Port Fourchon, LA and transit directly southwest to the survey, avoiding any transit or operation near the Bryde's Whale Core Distribution Area that is over 100 miles to the east of Port Fourchon, LA (Figure 1).

3.0 MARINE MAMMAL SPECIES AND ABUNDANCES

The published ITR (86 Federal Register 5322) provides information about marine mammal protection status, distribution, and predicted mean/maximum abundances for marine mammal species. Predicted population abundance estimates were updated in 2024 (89 Federal Register 31488; Table 5).

Table 5: Summary information of marine mammal species according to the northern Gulf of America

Common Name	Scientific Name	Stock	ESA Status[1]	NMFS Stock Abundance (CV, Nmin, most recent abundance survey)	Predicted Mean Abundance
Rice's whale	*Balaenoptera edeni*	GOA	E/D	51 (0.50; 34; 2017-2018)	37
Sperm whale	*Physeter macrocephalus*	GOA	E/D	1,180 (0.22; 983; 2017-2018)	3,007
Pygmy sperm whale[2]	*Kogia breviceps*	GOA	N	336 (0.35; 34; 2017-2018)	980
Dwarf sperm whale[2]	*K. sima*	GOA	N		
Cuvier's beaked whale[3]	*Ziphius cavirostris*	GOA	N	18 (0.75, N/A, 2020)	803
Gervais beaked whale[3]	*Mesoplodon europaeus*	GOA	N	20 (0.98, N/A, 2020)	
Blainville's beaked whale[3]	*M. densirostris*	GOA	N	N/A	
Unidentified Mesoplodont species	N/A	GOA	N	98 (0.46, N/A, 2020)	
Unidentified Ziphiids	N/A	GOA	N	181 (0.31, N/A, 2020)	

Common Name	Scientific Name	Stock	ESA Status[1]	NMFS Stock Abundance (CV, Nmin, most recent abundance survey)	Predicted Mean Abundance
Rough-toothed dolphin	*Steno bredanensis*	GOA	N	3,509 (0.67; Unk.; 2009)	4,853
Common bottlenose dolphin[4]	*Tursiops truncatus truncatus*	GOA Oceanic, Continental Shelf, Coastal Northern, and Coastal Western	N	7,462 (0.31; 5,769; 2017-2018; Oceanic) 63,280 (0.11; 57,917; 2017-2018; Continental Shelf) 11,543 (0.19; 9,881; 2017-2018; Coastal, Northern) 20,759 (0.13; 18,585; 2017-2018; Coastal, Western) 103,044 (Total)	155,453 (Shelf) 9,672 (Oceanic) 165,125 (Total)
Clymene dolphin	*Stenella clymene*	GOA	N	513 (1.03; 250; 2017-2018)	4,619
Atlantic spotted dolphin[4]	*S. frontalis*	GOA	N	21,506 (0.26; 17,339; 2017-2018)	6,187 (Shelf) 1,782 (Oceanic) 7,969 (Total)
Pantropical spotted dolphin	*S. attenuata attenuata*	GOA	N	37,195 (0.24; 30,377; 2017-2018)	67,225
Spinner dolphin	*S. longirostris longirostris*	GOA	N	2,991 (0.54; 1,954; 2017-2018)	5,548
Striped dolphin	*S. coeruleoalba*	GOA	N	1,817 (0.56; 1,172; 2017-2018)	5,634
Fraser's dolphin	*Lagenodelphis hosei*	GOA	N	213 (1.03; 104; 2017-2018)	1,665
Risso's dolphin	*Grampus griseus*	GOA	N	1,974 (0.46; 1,368; 2017-2018)	1,501
Melon-headed whale	*Peponocephala electra*	GOA	N	1,749 (0.68; 1,039; 2017-2018)	6,113
Pygmy killer whale	*Feresa attenuata*	GOA	N	613 (1.15; 283; 2017-2018)	

Common Name	Scientific Name	Stock	ESA Status[1]	NMFS Stock Abundance (CV, Nmin, most recent abundance survey)	Predicted Mean Abundance
False killer whale	*Pseudorca crassidens*	GOA	N	494 (0.79; 276; 2017-2018)	
Killer whale	*Orcinus orca*	GOA	N	267 (0.75; 152; 2017-2018)	
Short-finned pilot whale	*Globicephala macrorhynchus*	GOA	N	1,321 (0.43; 934; 2017-2018)	2,741

[1]ESA status: (E) – Endangered, (D) – Depleted, (N) – Not listed or designated as depleted under the Marine Mammal Protection Act.
[2]These species are too difficult to differentiate at sea and are grouped together in their abundance estimate.
[3]These species are too difficult to differentiate at sea and are grouped together in their abundance estimate.
[4]Mean abundance of shelf populations of these species were used in exposure calculations, as shelf populations are defined as occurring in ITR Zones 2 and 3 (89 Federal Register 31488).

4.0 TYPE OF INCIDENTAL TAKE AUTHORIZATION REQUESTED

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The Applicant requests an LOA pursuant to Section 101 (a)(5)(D) of the Marine Mammal Protection Act (MMPA) for incidental take of small numbers of marine mammals by Level B harassment in the specific ITR Zone 2 (Figure 1 and 2). The sound source from the proposed investigation may exceed established acoustic thresholds for Level A or B marine mammal harassment (NMFS, 2018).

5.0 MARINE MAMMAL TAKE ETIMATES

The GOA exposure estimation tool that was provided by the National Marine Fisheries Service (NMFS) was used to estimate exposures of each marine mammal species in the investigation area (NMFS, 2021b). The tool applies modeling by Zeddies et al. (2015) to estimate exposure. The smallest sized investigation option of the exposure calculator was a single air gun of a 90 in^3 volume, and it was deemed unsuitable to divide those estimated exposure metrics to equal the size of the air gun array used in this investigation. With the air gun to be used only 20 in^3, it must be noted that this is a conservative estimate of the exposure to marine mammals for the proposed investigation.

Acoustic thresholds are outlined by the NMFS to identify the received level of underwater sound at which marine mammals would be expected to have disrupted behavioral patterns or injury. Level B harassment is considered a disruption in behavior, but it can be difficult to assess as individuals will react differently depending on their activity at the time of sound or previous exposure to sound. Different species will also react differently, but NMFS considers 160 dB as an acoustic threshold for impulsive sources (air guns) and 120 dB for continuous sources (NMFS, 2018). Level A harassment is defined as having the potential to injure a marine mammal or marine mammal stock in the wild.

Table 6: Representative species of marine mammal hearing groups from the NMFS exposure estimation tool (NMFS, 2020)

Marine Mammal Hearing Group	Species
Low-frequency cetaceans	Baleen whales
Mid-frequency cetaceans	Dolphins, toothed whales, beaked whales, bottlenose whales
High-frequency cetaceans	True porpoises, *Kogia,* river dolphins, cephalorhynchid
Phocid pinnipeds	True seals
Otariid pinnipeds	Sea lions and fur seals

5.1 LEVEL A HARASSMENT OF MARINE MAMMALS

According to the Gulf of Mexico Seismic Survey Exposure Calculator (NOAA, 2021b) Level A harassment from this seismic investigation is not expected, with no Zone 2 exposures to any of the GOA marine mammal populations (Table 7). There is no difference in Level A harassment between summer and winter month exposure estimates for one day of a single airgun (90 in^3) use within Zone 2.

Table 7: Maximum Level A exposures for the one day proposed single airgun seismic survey estimated using the NMFS exposure estimation tool within ITR Zone 2 (NMFS, 2021b)

Common Name	Hearing Group	Predicted Mean Abundance	Zone 2 Exposures	Maximum Population Affected
Rice's (Bryde's) whale	Low-frequency	37	< 0.01	0%
Kogia sp. (Dwarf, pygmy sperm whale)	High-frequency	980	< 0.01	0%
Sperm whale	Mid-frequency	3,007	0	0%
Beaked whales (Cuvier's/Blainville's/Gervais)	Mid-frequency	803	0	0%
Rough-toothed dolphin	Mid-frequency	4,853	0	0%
Common bottlenose dolphin	Mid-frequency	155,453	0	0%
Clymene dolphin	Mid-frequency	4,619	0	0%
Atlantic spotted dolphin	Mid-frequency	6,187	0	0%
Pantropical spotted dolphin	Mid-frequency	67,225	0	0%
Spinner dolphin	Mid-frequency	5,548	0	0%

Common Name	Hearing Group	Predicted Mean Abundance	Zone 2 Exposures	Maximum Population Affected
Striped dolphin	Mid-frequency	5,634	0	0%
Fraser's dolphin	Mid-frequency	1,665	0	0%
Risso's dolphin	Mid-frequency	1,501	0	0%
Melon-headed whale	Mid-frequency	6,113	0	0%
Pygmy killer whale	Mid-frequency		0	0%
False killer whale	Mid-frequency		0	0%
Killer whale	Mid-frequency		0	0%
Short-finned pilot whale	Mid-frequency	2,741	0	0%

5.2 LEVEL B HARASSMENT OF MARINE MAMMALS

Level B exposures were calculated using the NMFS exposure estimation tool (NMFS, 2021b) using the sound source information (Tables 8 and 9) of and the investigation occurring in the ITR Zone 2 of exposures. Exposure to level B harassment of marine mammals within the investigation area is expected to be low to non-existent, with Atlantic spotted dolphins potentially having the highest percentage of the shelf population exposed (0.11%), or 6 individuals in the summer or 7 individuals in the winter (Tables 8 and 9). The only other populations with any expected Level B harassment are the rough-toothed dolphin (0.01%), common bottlenose dolphin (0.02%), and the false killer whale (< 0.01%). All other populations of marine mammals are estimated to have no exposure to Level B harassment.

Table 8: Maximum Level B exposures for the one day proposed single airgun seismic survey estimated using the NMFS exposure estimation tool during winter months in ITR Zone 2 (NMFS, 2021b)

Common Name	Hearing Group	Predicted Mean Abundance	Zone 2 Exposures	Maximum Population Affected
Rice's (Bryde's) whale	Low-frequency	37	< 0.01	0%
Kogia sp. (Dwarf, pygmy sperm whale)	High-frequency	980	< 0.01	0%
Sperm whale	Mid-frequency	3,007	< 0.01	0%
Beaked whales (Cuvier's/Blainville's/Gervais)	Mid-frequency	803	< 0.01	0%
Rough-toothed dolphin	Mid-frequency	4,853	0.52	0.01%

Common Name	Hearing Group	Predicted Mean Abundance	Zone 2 Exposures	Maximum Population Affected
Common bottlenose dolphin	Mid-frequency	155,453	30.87	0.02%
Clymene dolphin	Mid-frequency	4,619	< 0.01	0%
Atlantic spotted dolphin	Mid-frequency	6,187	6.68	0.11%
Pantropical spotted dolphin	Mid-frequency	67,225	< 0.01	0%
Spinner dolphin	Mid-frequency	5,548	< 0.01	0%
Striped dolphin	Mid-frequency	5,634	< 0.01	0%
Fraser's dolphin	Mid-frequency	1,665	< 0.01	0%
Risso's dolphin	Mid-frequency	1,501	< 0.01	0%
Melon-headed whale	Mid-frequency	6,113	< 0.01	0%
Pygmy killer whale	Mid-frequency		< 0.01	0%
False killer whale	Mid-frequency		0.04	< 0.01%
Killer whale	Mid-frequency		< 0.01	0%
Short-finned pilot whale	Mid-frequency	2,741	< 0.01	0%

Table 9: Maximum Level B exposures for the one day proposed single airgun seismic survey estimated using the NMFS exposure estimation tool during summer months in ITR Zone 2 (NMFS, 2021b)

Common Name	Hearing Group	Predicted Mean Abundance	Zone 2 Exposures	Maximum Population Affected
Rice's (Bryde's) whale	Low-frequency	37	< 0.01	0%
Kogia sp. (Dwarf, pygmy sperm whale)	High-frequency	980	< 0.01	0%
Sperm whale	Mid-frequency	3,007	< 0.01	0%

Common Name	Hearing Group	Predicted Mean Abundance	Zone 2 Exposures	Maximum Population Affected
Beaked whales (Cuvier's/Blainville's/Gervais)	Mid-frequency	803	< 0.01	0%
Rough-toothed dolphin	Mid-frequency	4,853	0.46	0.01%
Common bottlenose dolphin	Mid-frequency	155,453	27.17	0.02%
Clymene dolphin	Mid-frequency	4,619	< 0.01	0%
Atlantic spotted dolphin	Mid-frequency	6,187	5.90	0.10%
Pantropical spotted dolphin	Mid-frequency	67,225	< 0.01	0%
Spinner dolphin	Mid-frequency	5,548	< 0.01	0%
Striped dolphin	Mid-frequency	5,634	< 0.01	0%
Fraser's dolphin	Mid-frequency	1,665	< 0.01	0%
Risso's dolphin	Mid-frequency	1,501	< 0.01	0%
Melon-headed whale	Mid-frequency	6,113	< 0.01	0%
Pygmy killer whale	Mid-frequency		< 0.01	0%
False killer whale	Mid-frequency		0.03	< 0.01%
Killer whale	Mid-frequency		< 0.01	0%
Short-finned pilot whale	Mid-frequency	2,741	< 0.01	0%

6.0 EFFECTS ON MARINE MAMMALS OR STOCKS

The results of an analysis of 10 years of geophysical activities in the GOA following an expert working group (Southall et al. 2014) show that the total take from all approved activities will have negligible impacts on all impacted marine mammal stocks within the GOA (86 Federal Register 5322, 89 Federal Register 31488). Level A harassment of marine mammal populations is expected to be non-existent during the proposed one-day investigation, with no individuals of any species estimated to be exposed. Only 0.10% of the Atlantic spotted dolphin shelf population and 0.02% of the common bottlenose dolphin shelf population are estimated to be exposed to Level B harassment during summer months, with all other GOA species experiencing ≤ 0.01% of their populations exposed. There is little to no difference in the percentage of population impacts from Level A or B harassment between summer and winter month exposure estimates for one day of a single airgun (90 in^3) use within Zone 2.

The take estimates of this investigation are conservatively estimated using a larger 90 in^3 single air gun as the closest available survey type in the GOA exposure estimator tool instead of the proposed 20 in^3 air gun. No negative impacts to marine mammal populations are expected to occur. Take estimates represent the entirety of the ITR Zone 2, but this investigation will only occur within a portion of one lease block or 22 nautical miles of 2D seismic operation. The NMFS exposure estimation tool also does not factor mitigation efforts, which would be expected to negate any potential for Level A exposures and greatly reduce the risk of Level B harassment. No negative effects to marine mammal stocks are anticipated from this proposed project by the Applicant.

7.0 MINIMIZATION OF ADVERSE EFFECTS TO SUBSISTENCE USES

NMFS requires any marine mammal stocks within the investigation area that are used for subsistence hunting to be identified and any adverse effects to be minimized. There are no subsistence hunting areas near the proposed investigation location, and no stocks of marine mammals that are used for subsistence uses will be impacted.

8.0 ANTICIPATED IMPACTS ON HABITAT

Disturbance of the benthic environment is expected to be non-existent, as no contact of any equipment with the seafloor is expected. No use of ROVs is required for this investigation, and no nodes or receivers are being placed on the seafloor.

9.0 ANTICIPATED EFFECTS OF HABITAT IMPACTS ON MARINE MAMMALS

The effects to marine mammals from loss or modification of habitat from the proposed investigation will be negligible and undetectable.

10.0 MITIGATION AND MONITORING EFFORTS

Following the ITR (86 Federal Register 5322, 89 Federal Register 31488), the investigation will aim to have the “least practicable adverse impact” on the affected species or stocks and their habitat.

Survey operations will be undertaken in accordance with the provisions of the Regulations Governing Taking Marine Mammals Incidental to Geophysical Survey Activities in the Gulf of Mexico (50 CFR Part 217, Subpart S), where those provisions include monitoring for marine protected species and implementation of mitigation actions.

Protected Species Observers (PSOs) will conduct monitoring for marine protected species including all marine mammals during all daytime operations of the acoustic source and during pre-clearance searches prior to initiation of the source. PSOs will implement monitoring watches consistent with the requirements outlined in Appendix A Seismic Survey Mitigation and Protected Species Observer Protocols of the Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America (National Marine Fisheries Service. May 15, 2025).

In addition, the sound sources will be turned on following ramp-up procedures described in Appendix A and delays to initiate the source and shut-downs of the active source will be implemented for marine protected species observed inside clearance and shut-down zones (respectively) established around the source.

11.0 ARCTIC PLAN OF COOPERATION

This plan is not applicable for this application as this is only for activities that occur in Alaskan waters north of 60°N latitude, and the proposed investigation is in the Gulf of America.

12.0 ANCILLARY ACTIVITIES CERTIFICATION

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ANCILLARY ACTIVITES CERTIFICATION

VERMILLION AREA – LEASE BLOCK 178

The proposed ancillary activities in this notification will be conducted in accordance with the performance standards in 30 CFR 550.202(a), (b), (d), and (e) and applicable protection measures listed in Appendix F of BOEM NTL No. 2009-G34 Reissued: June 19, 2020.

Juneau Oil & Gas LLC

Lessee or Operator

Certifying Official

August 07, 2025
Date

13.0 REFERENCES

50 Code of Federal Regulations (CFR) § 216.104. 2009. Submission of Requests.

86 Federal Register (FR) 5322. 2018. Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to Geophysical Surveys Related to Oil and Gas Activities in the Gulf of Mexico. 19 January 2021.

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Biological and Conference Opinion on Bureau of Ocean Energy Management and Bureau of Safety and Environmental Enforcement's Oil and Gas Program Activities in the Gulf of America. National Marine Fisheries Service (NMFS)May 15, 2025 (last updated May 20, 2025)

National Marine Fisheries Service (NMFS). 2018. 2018 Revisions to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts. U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA). NOAA Technical Memorandum NMFS-OPR-59. 167 pp.

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Southall BL, Ellison WT, Clark CW, Tollit D. 2014. Analytical Framework for Assessment Potential Effects of Seismic Airgun Surveys on Marine Mammals in the Gulf of Mexico (GOMEX). Expert Working Group (EWG) Final Report. 55 pp.

Zeddies DG, Zykov M, Yurk H, Deveau T, Bailey L, Gaboury I, Racca R, Hannay D, Carr S. 2015. Acoustic Propagation and Marine Mammal Exposure Modeling of Geological and Geophysical Sources in the Gulf of Mexico: 2016-2025 Annual Acoustic Exposure Estimates for Marine Mammals. Technical Report by JASCO Applied Sciences for the U.S. Department of the Interior, Bureau of Ocean Energy Management. JASCO Document 00976, Version 3.0. 385 pp.