Mr. Richard Greenwood and Ms. Kelly Keen
Statewide Geophysical Survey Coordinator
California State Lands Commission
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331 USA

19 August 2015

Ref. Low Energy Geophysical Trans Pacific Cable Route Survey – Hermosa Beach Landing

Dear Richard and Kelly,

Please find included herein the Pre-Survey Notification information for one trans-Pacific subsea telecommunication cable route survey proposed to make landing in Hermosa Beach, California. The purpose of the survey is to locate a safe location to position and bury the subsea cable within the survey corridor. The survey operations within the 3nm State and Hermosa Beach City marine boundary will consist of local small boat operations deploying multibeam, stern towed sidescan sonar, and towed sub-bottom sonar. A stern towed magnetometer will also be deployed. The notification is not related to the actual cable installation operations.

Survey operations will commence on or about September 15, 2015 depending on weather and sea state. Survey will be performed safely during daylight hours only. We anticipate completing operations by September 30th.

Figure 1. below charts the survey area. The survey area is a 500 meter corridor centered on the proposed cable centerline. Data from all sensors will be acquired simultaneously within the corridor by running survey lines parallel to the to the route centerline. Approximate water depths range from 4 meters to 90 meters and the survey line spacing will increase as water depth increases. Line spacing will range from 11 lines to 5 lines from shallow to deep water.

A local survey vessel and competent vessel crew will be utilized to support the survey crew and equipment. A local fisherman will be on hire during the survey operations to help with pre-survey corridor reconnaissance and to communicate with local fishermen in an effort to minimize contact with fishing gear and snags. The vessel will traverse the proposed survey corridor prior to commencing survey operations to note and record the presence, type, and location of deployed

fishing gear. No survey lines shall be conducted within 30m of observed fishing gear. The survey crew shall not remove any fishing gear. The removal or relocation shall only be accomplished by the owner of the gear upon notification by the survey operator.

Local Marine Wildlife Monitors will be utilized.

Vessel and equipment will be described below. Please find the following:

Exhibit G – Pre-survey Notification Checklist
Exhibit F – Pre-survey notification form
Survey Location Chart and Coordinates
Exhibit D – Wildlife Contingency Plan
Oil Spill Response Plan
Exhibit C – Vessel environmental compliance
Notification to Dive Shops, Harbormaster, USCG…
Sonar equipment compliance.

Sincerely,

Eric Roach
President
EGS Americas Inc.

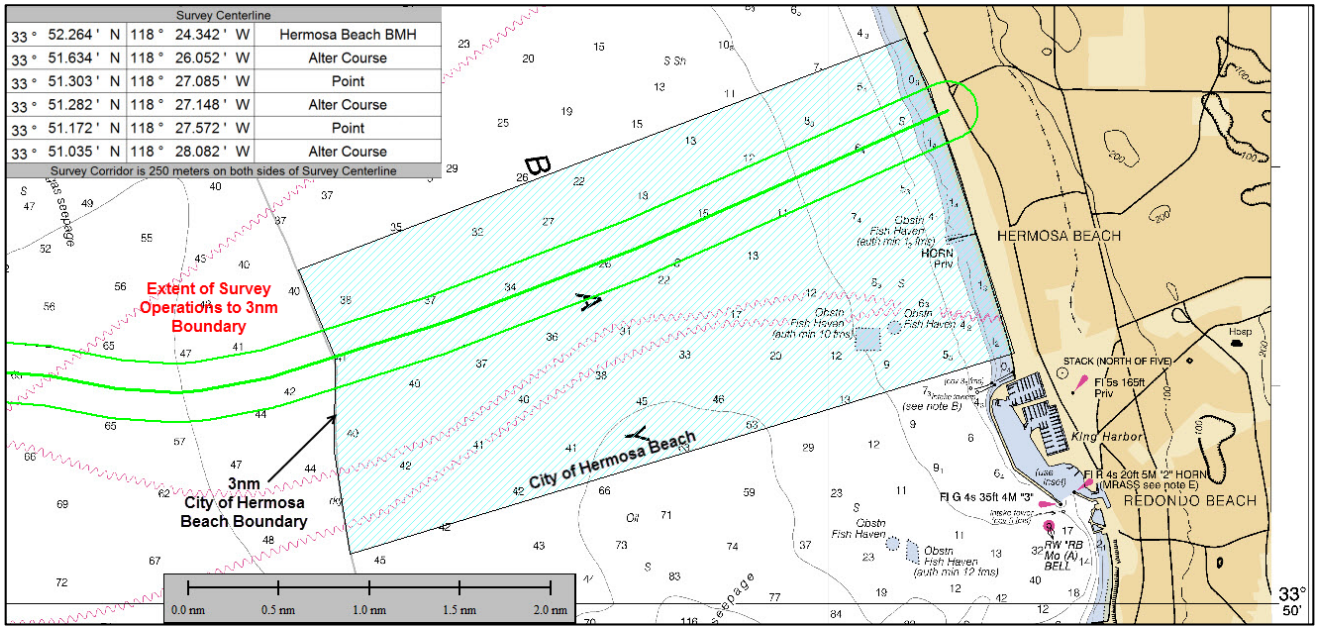

Figure 1. Overview of cable route survey centerline and 500 meter corridor within 3nm of the City of Hermosa Beach shoreline. The average survey line spacing is 50 meters along the corridor.

EXHIBIT G

California State Lands Commission Presurvey Notice Requirements for Permittees to Conduct Geophysical Survey Activities

All parts of the Presurvey Notice must be adequately filled out and submitted to the CSLC staff a minimum of twenty-one (21) calendar days prior to the proposed survey date to ensure adequate review and approval time for CSLC staff. Note that one or more of the items may require the Permittee to plan well in advance in order to obtain the necessary documentation prior to the Notice due date (e.g., permits from other State or Federal entities).

Please use the boxes below to verify that all the required documents are included in the Presurvey Notice. If "No" is checked for any item, please provide an explanation in the space provided. If additional space is needed, please attach separate pages.

Yes	No	
☒	☐	Geophysical Survey Permit Exhibit F
☒	☐	Survey Location (including a full-sized navigation chart and GPS coordinates for each proposed track line and turning point) Explanation: Linear corridor to 3nm marine boundary
☐	☒	Permit(s) or Authorization from other Federal or State agencies (if applicable) Explanation:
☒	☐	21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/
☒	☐	U.S. Coast Guard Local Notice to Mariners/
☒	☐	Harbormaster and Dive Shop Notifications Explanation: Email
☒	☐	Marine Wildlife Contingency Plan Explanation: Attached
☒	☐	Oil Spill Contingency Plan Explanation: Attached
☒	☐	Verification of California Air Resources Board's Tier 2-Certified Engine Requirement Explanation: Attached
☒	☐	Verification of Equipment Service and/or Maintenance (must verify sound output) Explanation: Attached
☐	☒	Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable) Explanation: No survey in MPAs

NOTE: CSLC staff will also require verification that current biological information was obtained and transmitted as outlined in Section 5 of this permit.

EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address
EGS Americas Inc
10901 Roosevelt Blvd N Ste 500D
St Petersburg, FL 33716

Date: 8/19/15

Jurisdiction: Federal _____ State _____ Both X

If State: Permit #PRC _____

Region: _____

Area: Hermosa Beach

GEOPHYSICAL SURVEY PERMIT

Check one: X New survey _____ Time extension of a previous survey

EGS Americas Inc (Applicant/Permittee) will conduct a geophysical survey offshore California in the survey area outlined on the accompanying navigation chart segment. If you foresee potential interference with commercial fishing or other activities, please contact the person(s) listed below:

FEDERAL WATERS (outside 3 nautical miles)

1) Applicant's representative
2) Federal representative (e.g., Bureau of Ocean Energy Management [BOEM] or National Science Foundation [NSF])

NOTE: Any comments regarding potential conflicts in Federal waters must be received by the Applicant's Representative and lead Federal agency within ten (10) days of the receipt of this notice.

STATE WATERS (Inside 3 nautical miles)

1) Permittee's representative
2) CSLC representative

NOTE: Any comments regarding potential conflicts in State waters should be received as soon as possible by the Permittee's representative, no more than fifteen (15) days after the receipt of this notice.

1. Expected Date of Operation September 15-30, 2015 inclusive of weather
2. Hours of Operation Daylight Hours (7am to 5pm) 12 maximum
3. Vessel Name SV JAB
4. Vessel Official Number 1217549
5. Vessel Radio Call Sign NA
6. Vessel Captain's Name Brayton Pointner
7. Vessel will monitor Radio Channel(s) 16
8. Vessel Navigation System DGPS

9. Equipment to be used Sidescan Sonar, Multibeam Echosounder, Sub-bottom Profiler, Mag

a. Frequency (Hz, kHz) 100 kHz, 400kHz, 200kHz, 2-16 kHz

b. Source level (dB re 1 μPa at 1 meter (m) [root mean square (rms)]) 202 to 227 dB

c. Number of beams, across track beamwidth, and along track beamwidth
SSS - 0.5 deg along x 50 deg across, MBE - 256 beams 150 deg across, SBP 3 deg

d. Pulse rate and length pulse 0.2 (ms) len 2.1 (ms)

e. Rise time Not applicable

f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 μPa (rms) isopleths
See table Below -

g. Deployment depth 2 to 90 meters below sea surface

h. Tow speed 3-4 knots

i. Approximate length of cable tow 4 to 500 meters

Applicant's Representative:
Eric Roach
EGS Americas Inc
10901 Roosevelt Blvd N Ste 500D
St Petersburg, FL 33716
772-341-9286

California State Lands Representative
Richard B. Greenwood
Statewide Geophysical Coordinator
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331
(562) 590-5201

BOEM Representative
Joan Barminski
Regional Supervisor
Office of Strategic Resources
770 Paseo Camarillo
Camarillo, CA 93010
(805) 389-7585

Other Federal Representative (if not BOEM):

MARINE WILDLIFE CONTINGENCY PLAN

Fiber-optic Cable Survey
off Hermosa Beach, California

prepared for:

California State Lands Commission
Division of Environmental Planning and Management
Sacramento, CA

and

ICF International
630 K Street, Suite 400
Sacramento, CA 95691

prepared by:

MARINE MAMMAL CONSULTING GROUP, INC.

Peter Howorth
Marine Mammal Consulting Group
1600 Clearview Road
Santa Barbara, California 93101
U.S.A.

September 2015

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1.0 Introduction

This plan was prepared in accordance with the California State Lands Commission (CSLC) document, Guidance for Preparing a Marine Wildlife Contingency Plan (CSLC 2015). It also follows protocols and mitigation measures included in the CSLC Offshore Geophysical Permit Program (OGPP), General Permit, Exhibit H, Mitigation Monitoring Program (CSLC 2014). The procedures herein are designed to minimize the potential of adverse interactions with marine wildlife.

Marine wildlife contingency plans prepared for CSLC are usually generic in nature and designed to cover more than one project. In this plan, much of the information indeed is generic and can be applied to other projects, but because of time constraints, specific details about the first such project in the permit application are included in this plan. As other projects may be added over time, details specific to such projects will be appended to this plan. Updates and revisions will also be provided if needed.

The first project under this plan involves the survey of a submarine cable route off Hermosa Beach, California. This cable will ultimately stretch from Hermosa Beach to Southeast Asia, hence its designation as SEA-U.S (Figure 2). The proposed cable route crosses submerged coastal lands from mean high water to 3 nautical miles (nm) offshore, then stretches into federal waters and beyond. The purpose of the survey is to determine the maximum burial route option for the cable. The survey will identify the makeup of the ocean floor, including hard bottom areas, so they can be avoided when the cable is laid. In general, the survey will serve to route the cable to soft bottom areas where maximum burial can be achieved. Low-energy sonar will be used for the survey.

MC Global BP4 is a telecommunications firm based in Napa, California that represents a consortium of large fiber-optic cable companies that will install and operate the cable. EGS, an international group of survey firms, was selected to perform the survey. This project will start in mid to late September 2015 and will require four or five days to complete. The Marine Mammal Consulting Group, Inc. (MMCG), of Santa Barbara, California, was selected by ICF International, environmental consultants for this project, to prepare and implement this Marine Wildlife Contingency Plan.

2.0 Survey Equipment and Route

2.1 Survey Vessel

The 44 ft. (13.4 m) catamaran *JAB* (Figure 1), or a similar small craft, will be used for this survey. *JAB* is powered by twin Cummins diesels. It has a draft of 2.5 ft. (0.75 m). It is propelled by twin jet drives and has no propellers or other exposed moving parts beneath the waterline.

2.2 Sonar

Multiple low- and mid-frequency sonar arrays used by the Navy, as well as high-energy seismic surveys involving the use of airguns, have raised significant concerns about anthropogenic

sounds and their impacts on marine wildlife. The sonar that will be used for this survey is low energy, however, and generally much higher in frequency (see Table 1, below).

Source: EGS

Figure 1: Survey Vessel *JAB* (above)

Table 1: Survey Equipment Specifications

Hull-mounted System	Rms Source Level (dB re. 1μPa – m)	Frequency (kHz)	Max. Ping Rate (Hz)	Pulse Length	Distances to Isopleths in Meters (dB re. 1μPa – rms)
R2Sonics 2024 (160°swath)	221	200-400	40	0.1 to 0.35	190 dB: 26 and 19 180 dB: 57 and 35 160 dB: 164 and 80
Odom EchoTrak MKIII 3200 (8°cone)	191	200	20	40 ms	190 dB: 7 180 dB: 22 160 dB: 95
Sub-bottom Profiler Towed System					
Edgetech DSS2000 Chirp (24°cone)	201	2-16	15	20ms	190 dB: 6 180 dB: 10 160 dB: 130
Sidescan Sonar Towed System					
Edgetech DSS2000 LF (100°swath)	210	100	15	20 ms	190 dB: 13 180 dB: 39 160 dB: 210
Edgetech DSS2000HF	183	400	45	20 ms	190 dB: 9 180 dB: 51 160 dB: 160

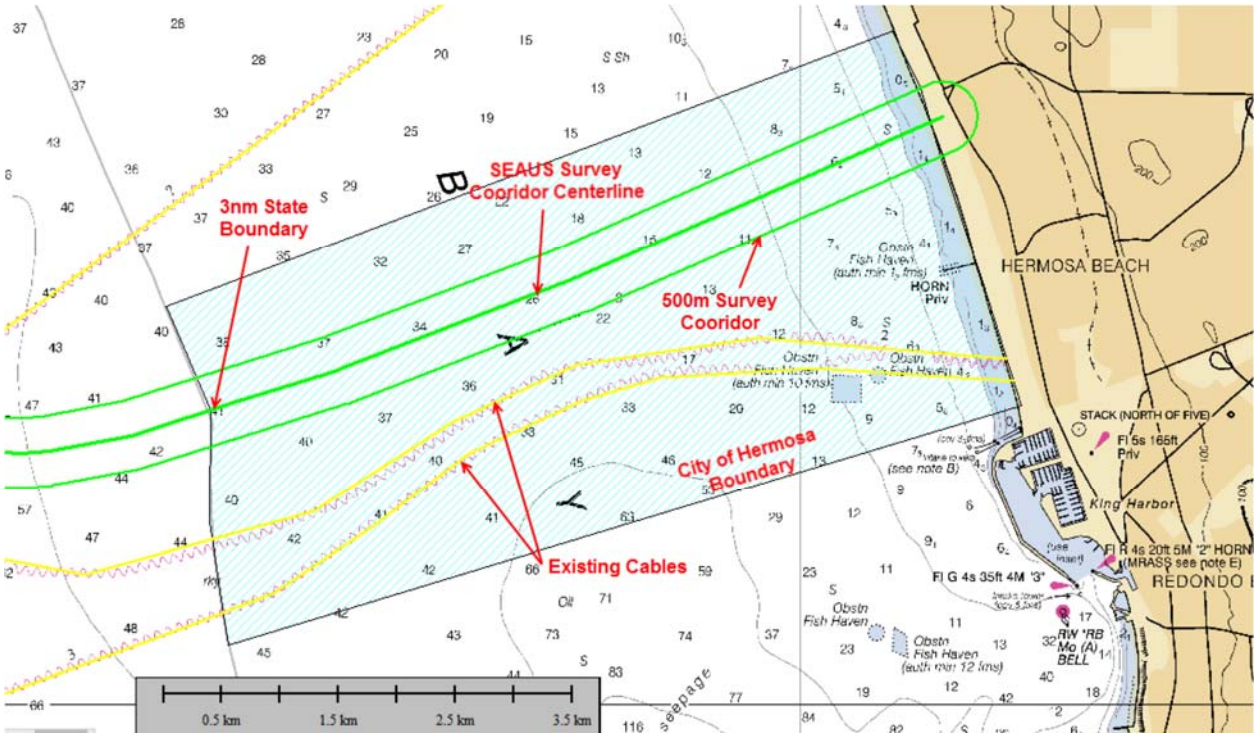
Source: EGS

A maximum sound pressure level of 160 dB re. 1μPa – rms (decibels referenced to one micropascal root mean square) is accepted by NOAA Fisheries as a threshold level above which some adverse impacts may occur to low-frequency cetaceans (baleen whales and the sperm whale). For high-frequency cetaceans, a level of 180 dB re. 1μPa – rms is accepted, while 190 dB re. 1μPa – rms is applied to pinnipeds.

2.3 Survey Route

Unlike many geophysical surveys, which canvas the sea floor over broad geographic areas, this survey will head from shore west-southwest approximately 2.6 nm, then veer slightly more to the west as it enters federal waters. The start of the survey will be at 33 52.187 North, 118 24.542 West. The end of the survey will be at 33 51.134 North, 118 27.712 West.

Rather than a box, the survey area is more like a very long corridor about 500 m wide. If obstructions such as areas of high relief are encountered, the survey may be widened slightly to get around such spots. Based on the results, the in-field routing engineer will decide during the survey if the Route Position List (RPL), which represents the center of the cable route, needs to be adjusted within the survey corridor. Once the engineer is satisfied no cable hazards exist, a new RPL called the In-Field Engineered Route will be created.



Source: EGS

Figure 2: Cable Survey Route

3.0 Marine Wildlife

3.1 Regulatory Background

All marine mammals are protected under the Marine Mammal Protection Act of 1972 (MMPA) and its amendments. Under the MMPA, the "taking" of any marine mammal is prohibited. "Take" is defined as "to harass, hunt, capture, or kill any marine mammal." In the 1994 amendments, "harassment" was divided into two levels: Level A harassment meant "any act of pursuit, torment or annoyance which has the potential to injure a marine mammal or a marine mammal stock in the wild." Level B meant any act that "has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering" (MMPA 1972, amended 1994, 16 U.S.C., § 1431 *et seq.*). Takes are allowed under special conditions, such as an Incidental Harassment Authorization (IHA). No IHA will be required for this project because the mitigation measures sufficiently reduce the chances of takes.

All marine turtles in this region are listed as threatened or endangered under state and federal endangered species acts (ESAs). Some populations or stocks of marine mammals are listed as threatened or endangered under the ESAs. Further, some populations or stocks of vertebrates, or parts of populations or stocks of vertebrates, may be considered Distinct Population Segments (DSPs). Such segments represent discrete populations or stocks of a species or subspecies that are significant to other populations or stocks of the species or subspecies. As one example, the California-Oregon-Washington stock of humpback whales is just one of fourteen worldwide DPSs recognized by NOAA Fisheries.

Several stocks of listed marine mammals are classified as strategic under the MMPA. The definition of strategic is complex, but in this plan it refers to a stock that is being adversely impacted by human activities and may not be sustainable. Such stocks are considered to be of strategic importance at a regional or population level. Some stocks are also considered depleted under the MMPA. This means that the population has fallen below optimum sustainable levels. All species listed under the ESA are also classified under the MMPA as strategic and depleted. Listed stocks considered strategic and depleted are summarized in Table 2, which follows in Section 3.2.1, below. Finally, some stocks may be considered vulnerable to decline because their numbers are low.

3.2 Species of concern

All marine mammals and turtles are considered species of concern. Any adverse impact to such creatures would be considered significant. The following two tables list all ESA-listed species reported in the region and the likelihood of their appearance during the survey. Species covered under the MMPA that may or will occur in the shallow, nearshore waters of the survey area are listed in the second table, along with the likelihood of their occurrence. Offshore and deep water species that have not been reported near shore in this area were not included.

Table 2: Occurrence of ESA-listed Marine Mammals and Turtles in Region

Common Name/ Stock	Scientific Name	Seasonal Distribution/ Likelihood of Occurrence	Habitat	Stock Size	Status
North Pacific right whale/ Eastern North Pacific	*Eubalaena japonica*	No seasonality here/ virtually zero	Mainly Bering Sea and Gulf of Alaska; coastal to pelagic	26	Endangered ESA; strategic, depleted MMPA
Humpback whale/ California-Oregon-Washington	*Megaptera novaeangliae*	Year-round but mostly summer-fall/ very unlikely near shore	Central America to British Columbia; nearshore to pelagic	1918	Endangered ESA;* strategic, depleted MMPA
Blue whale/ Eastern North Pacific	*B. musculus m.*	Summer-fall/ very unlikely near shore	Gulf of Alaska to eastern tropical Pacific; coastal to pelagic	1647	Endangered ESA; strategic, depleted MMPA
Fin whale/ California-Oregon-Washington	*B, physalus p.*	Mostly summer-fall/ virtually nil	California to Washington; coastal to pelagic	3051	Endangered ESA; strategic, depleted MMPA
Sei whale/ California-Oregon-Washington	*B. borealis b.*	Year round well offshore/ virtually zero	California to British Columbia; mostly pelagic	126	Endangered ESA; strategic, depleted MMPA
Sperm whale/ California-Oregon-Washington	*Physeter macrocephalus*	Year round well offshore/ virtually nil	California to Washington; offshore often near trenches	2106	Endangered ESA; strategic, depleted MMPA
Guadalupe fur seal/ Guadalupe Island	*Arctocephalus townsendi*	Occasional strandings/ extremely unlikely	Mexico to California; pelagic	7408	Threatened ESA; strategic, depleted MMPA
Southern sea otter/ California	*Enhydra lutris nereis*	Spring/ extremely unlikely	California; nearshore	2944	Threatened ESA; strategic, depleted MMPA
Green turtle/ U.S. Pacific	*Chelonia mydas*	Late summer & fall; mainly El Niños/ unlikely but possible near power plant intakes	San Diego, California to Baja California; onshore to pelagic	Unknown	Threatened ESA
Loggerhead turtle/ U.S. Pacific	*Caretta caretta*	Late summer & fall; mainly El Niños/ extremely unlikely	North Pacific; pelagic but juveniles off Southern California	Unknown	Threatened ESA
Olive ridley turtle/ U.S. Pacific	*Lepidochelys olivacea*	Late summer & fall; mainly El Niños/ unlikely but possible near power plant intakes	Central America to Southern California; nearshore to pelagic	Unknown	Threatened ESA
Leatherback turtle/ Eastern Pacific	*Dermochelys coriacea*	Summer & early fall/ virtually zero	Peru to Alaska; continental shelf and slope	Unknown	Endangered ESA

Sources: Carretta et al. 2015; Allen and Angliss 2015; Hatfield and Tinker 2014

*The California-Oregon-Washington stock and DPS of humpback whales was proposed for delisting in 2015.

Table 3: Occurrence of MMPA-listed Marine Mammals in Region

Mysticetes				
Common Name/ Stock	**Scientific Name**	**Seasonal Distribution/ Likelihood of Occurrence**	**Habitat**	**Stock Size**
Gray whale/ Eastern North Pacific	*Eschrichtius robustus*	January through May/ extremely unlikely in September	Alaska to Baja California; nearshore coastal waters	20,990
Minke whale/ California-Oregon-Washington	*Balaenoptera acutorostrata scammoni*	Year-round/ possible	California to Washington; nearshore and continental shelf	478
Oceanic Dolphins				
Short-beaked common dolphin/ California-Oregon-Washington	*Delphinus delphis d.*	Year-round/ possible	Mainly California to Mexico; coastal to at least 300 nm offshore	411,211
Long-beaked common dolphin/ California	*Delphinus capensis c.*	Year-round/ likely	Central California to Baja California; usually within 50 nm of coast	107,016
Pacific white-sided dolphin/ California-Oregon-Washington northern and southern stocks	*Lagenorhynchus obliquidens*	Winter and early spring/ very unlikely	California to Washington; coastal to pelagic	26,930
Risso's dolphin/ California-Oregon-Washington	*Grampus griseus*	Year-round, more fall and winter/ unlikely	Washington to northern Baja California; coastal to offshore	6,272
Common bottlenose dolphin/ California coastal stock	*Tursiops truncatus t.*	Year-round/ likely	Central California to Baja California; within 500 m of shore	323
Killer whale/ Eastern North Pacific offshore and transient	*Orcinus orca*	Most often with spring gray whale migration/ extremely unlikely	Alaska to California; coastal to 500 nm offshore	240
Porpoises				
Dall's porpoise/ California-Oregon-Washington	*Phocoenoides dalli d.*	Mostly winter with colder water/ very unlikely	Washington to California; coastal to offshore	42,000
Pinnipeds				
California sea lion/ U.S. stock	*Zalophus californianus*	Year-round/ very likely	Southeast Alaska to Baja California; onshore to continental slope	296,750
Northern fur seal/ California stock	*Callorhinus ursinus*	Year-round/ very unlikely	San Miguel and Farallon islands; onshore to pelagic	12,844
Northern elephant seal/ California breeding stock	*Mirounga angustirostris*	Year-round/ unlikely	Aleutians (males) and Washington (females) to Baja California; onshore to pelagic	179,000
Pacific harbor seal/ California stock	*Phoca vitulina richardii*	Year-round/ likely	California; coastal	30,196

Sources: Carretta et al. 2015; Allen and Angliss 2015; USGS 2014

3.3 Pinniped Haul-outs and Rookeries

CSLC requires various mitigation measures to ensure that pinniped haul-out and rookery sites within or immediately adjacent to survey operations are protected from project activities. No such sites exist anywhere near the area of operation for this project. CSLC Mitigation Measure BIO-7, Avoidance of Pinniped Haul-out Sites, does not apply to this project (CSLC 2014).

3.4 Marine Protected Areas

No Marine Protected Areas (MPAs) exist at or near the survey area or transit routes. CSLC Mitigation Measure BIO-9, Limitations on Survey Operations in Select Marine Protected Areas, does not apply to this project (CSLC 2014).

4.0 Marine Wildlife Monitoring Procedures and Mitigation Measures

Marine wildlife procedures and mitigation measures discussed in CSLC General Permit, Exhibit H (CSLC 2014), are summarized in the following sections. Monitoring and operational guidelines provided by NOAA Fisheries are included as well so this can serve as a stand-alone reference for the monitor and crew. These guidelines must be followed whether the survey takes place in State or in federal waters. Finally, applicant-proposed measures designed to provide an extra margin of protection for marine wildlife are included.

Since this plan must be followed by the monitor and survey vessel crew, the monitoring procedures and mitigation measures below are presented in the order in which they must be followed. A complete analysis of potential impacts to marine wildlife is provided in the Marine Wildlife Protection Plan for both state and federal waters of this project (MMCG 2015).

4.1 Marine Wildlife Monitor

4.1.1 Number and Qualifications of Monitors

In the General Permit to Conduct Geophysical Surveys, it states that at least one NOAA-approved marine wildlife monitor must be aboard (CSLC 2008). In Exhibit H of the permit, Mitigation Measure BIO-3 states that one monitor may be used in nearshore waters if the survey vessel lacks the personnel capacity for two monitors (CSLC 2014). In Guidance for Developing a Marine Wildlife Contingency Plan, it states that one monitor may be used near shore if the hazard zone can be adequately monitored by one person (CSLC 2015).

Space constraints allow only one NOAA-approved monitor aboard the survey vessel. Since the vessel is so small, the monitor could easily observe in all directions without having to go from one side (or end) of the vessel to the other. Two monitors on such a small boat would end up shoulder to shoulder with other personnel needed to operate the boat and the sonar, plus another monitor would exceed the allowable limit of persons on board. Finally, a fisheries observer will assist in monitoring along with available crew members, especially if a marine mammal or turtle is about to enter or has entered the hazard zone.

The monitor duties described herein will be carried out by one monitor. An alternate has been identified that would take over the monitoring duties should the first monitor be unable to complete the project for any reason. Both monitors have completed required training and already are NOAA Fisheries-approved marine mammal and turtle observers. They have had direct experience in projects involving maintaining hazard zones for marine mammals and turtles. They also have logged considerable sea time. Both monitors shall also be approved by CSLC. Their certifications are included as Appendix 1, along with other monitors in case the project is delayed.

4.1.2 Equipment

The monitor will have a Coast Guard-approved life vest and steel-toed boots as required by the survey vessel captain. The monitor will be equipped with 7X50 waterproof, low light binoculars. These binoculars will have a built-in compass and range-finding reticule for establishing relative bearings and distances of animals from the survey boat. Other equipment will include a hand-held GPS unit and a weather station. These allow the monitor to record the position of the ship relative to any animals sighted as well as to note onsite weather. This also allows uninterrupted observations, since going back and forth into the wheelhouse is both distracting and time-consuming. The monitor will also have a cellular telephone and a handheld marine VHF radio.

4.2 Current Information on Presence of Marine Mammals and Turtles in Area

In accordance with CSLC General Permit Mitigation Measure BIO-1, prior to the start of survey operations, NOAA Fisheries in Long Beach and local whale watch operators will be contacted for information about species diversity and relative abundance of marine wildlife in the project area. This information will be relayed to the monitor and to the survey vessel crew so they know what to expect in the area.

4.3 Briefing

Before the project starts or when any new crew members arrive, the monitor shall meet with the crew members. The meeting shall include the following topics:

- Legal aspects pertaining to marine wildlife protection;
- Responsibilities of crew and monitor to protect wildlife;
- Procedures for crew to follow to avoid potential impacts;
- Copies of this plan shall be provided to all crew members.

4.4 Collision Avoidance

Collision, or ship strike, is a major concern to regulatory agencies because of recent events off California involving endangered whales. For this survey, the main collision hazard exists during transits to and from the survey sites, but voluntary speed reductions will greatly reduce such hazards. Moreover, the survey vessel has no exposed, moving parts (i.e., propellers) beneath the waterline, so the only collision hazard during transit involves the boat sliding over the back of marine wildlife at or immediately beneath the surface. During the survey, the vessel will be traveling so slowly (less than 1 knot) that virtually no collision hazard exists.

4.4.1 Mitigation Measures and Procedures Employed by Crew to Avoid Collisions

- Maintain a watch for marine mammals at all times while vessel is underway;
- Do not approach any whales closer than 100 m;
- Do not cut in front of a whale;
- Do not separate a whale mother and calf pair;

- If a whale is observed on an intersect course, reduce speed or alter course until the whale has safely passed;
- If a whale is moving on a parallel course, maintain a steady speed and course but do not go faster than the whale;
- If a whale becomes evasive or defensive, stop the vessel until the whale has left the area;
- Maintain a cruising speed of not more than 10 knots when whales are within 1 nm ahead;
- If concentrations of whales are seen less than 1 nm ahead, reduce transit speed further or alter course while maintaining watch on the whales;
- While under way at cruising speed, provide a wide berth from any pinnipeds or sea otters;
- If dolphins begin riding the bow wave of the boat less than 1 nm from the project site, slow down or stop until the animals have left. It is understood that dolphins often ride bow and stern wakes, so no action is necessary while transiting from port up to within 1 nm from the project site.

4.4.2 Mitigation Measures and Procedures Employed by Monitor to Avoid Collisions

The monitor's job is to make every reasonable effort to help ensure that no takes of marine mammals or turtles occur. Since the operation of the boat and the actions of wild animals cannot be directly controlled by the monitor, no guarantees are possible. The following mitigation measures shall be applied by the monitor as appropriate:

- The monitor shall be on watch during all transit and survey operations;
- The monitor shall observe from the highest possible vantage point, ideally with a panoramic view of the water during operations;
- If environmental conditions (e.g., high sea state) preclude the monitor from seeing out at least 1 nm, the monitor shall require available crew to maintain heightened vigilance for any approaching marine mammals or turtles;
- If environmental conditions preclude the monitor from seeing at least 100 m from the vessel during transits from port to the survey site and back, the monitor shall have the authority to stop all project operations until conditions improve;
- Weather conditions shall be periodically evaluated to ensure adequate viewing conditions;
- The monitor shall have the authority to stop any project activity if, in his or her sole opinion, such an operation has the potential to threaten or "take" a marine mammal or turtle;
- The monitor has sole responsibility for determining whether a collision appears imminent, to request that steps be taken to prevent any collision, to determine when any chance of an collision has passed, and to allow the boat to return to normal operations following a potential collision;
- If a marine mammal or turtle appears to be approaching, the monitor shall make the crew aware that actions to reduce the possibility of collision may be necessary;
- If a marine mammal or turtle is observed within the 100 m (333 ft.) hazard zone for transits, the monitor shall advise the crew to prepare to take action to reduce the possibility of a collision;
- It is understood that smaller marine mammals, such as dolphins, routinely approach vessels closely and may even ride the wake. The approach of such animals will not

require taking action to avoid them unless, in the opinion of the monitor, action is necessary to prevent adverse impacts;

- If a collision appears imminent, the monitor shall request that the speed of the vessel, if it is underway, be reduced as quickly and as much as possible;
- Alternatively, if a collision appears imminent, the monitor may request that if possible, the course of the vessel be altered to avoid collision;
- If a collision is likely, the monitor shall also request that available crew members take up observation positions and report sightings so that appropriate actions may be taken to avoid any impact;
- In the unlikely event that a collision does occur, the monitor or captain shall immediately notify appropriate regulatory agencies listed below. Immediately means right away, 24 hours a day, weekends and holidays included, and in minutes, not hours or days.

  Justin Viezbicke
  California Stranding Network Coordinator
  NOAA Fisheries
  Long Beach, CA 90802
  (562) 980-3230 office
  (562) 506-4317 cell
  (808) 313-2803 alternate cell
  justin.viezbicke@noaa.gov

  Justin Greenman (alternate)
  Assistant Stranding Network Coordinator
  NOAA Fisheries
  Long Beach, CA 90802
  (562) 980-3264 office
  (562) 506-4315 cell
  justin.greenman@noaa.gov

  Enforcement Dispatch Desk
  California Department of Fish and Wildlife
  Long Beach, CA
  (562) 598-1032

  California State Lands Commission
  Division of Environmental Planning and Management
  Sacramento, CA
  (916) 574-0748
  slc.ogpp@slc.ca.gov

- The conditions under which the collision occurred shall be documented by the vessel operator and the monitor and conveyed immediately to the agencies listed above:

  - Date and time of incident;
  - Location, including latitude and longitude of incident;
  - Name of vessel and vessel operator;
  - Name of monitor if monitor present;
  - Means of immediately contacting vessel and monitor;

  - Onsite environmental conditions;
  - Speed and heading of vessel when incident occurred;
  - Species of animal if known;
  - Speed and direction of animal if animal still moving;
  - Digital photographs of animal if available.

- The survey vessel shall stop following any collision;
- Upon notification, the stranding coordinator may issue further instructions to the vessel;
- Unless otherwise instructed by the stranding coordinator, the vessel may leave the scene if it is safe for both the animal and the vessel.

4.5 Exclusion or Hazard Zone during Survey

Mitigation Measure BIO-3 mentions both “safety zone” and “exclusion zone” (CSLC 2014). MMCG has found in numerous past projects that “safety zone” is often misinterpreted to mean that anything within the safety zone is not in danger (e.g., “The whale is in the safety zone, so it must be safe.”). Exclusion zone can be used to describe a zone in which vessels and personnel not involved with a project are excluded. It can also mean that all vessels and personnel are excluded. Finally, exclusion zone can mean that vessels and personnel are excluded to protect marine wildlife, such as near pinniped haul-out and rookery areas (Section 3.3). Also, different regulatory agencies use different terms to describe the same zones. To avoid confusion and misunderstandings, we prefer using “hazard zone,” meaning simply that anything within the hazard zone is in danger. In establishing a hazard zone for this survey, we followed CSLC’s recommendations and adopted a 600 m hazard zone.

In addition, we propose a 1000 m buffer or warning zone. This allows the monitor to warn survey personnel that marine wildlife are near or approaching the hazard zone and places the crew on alert that measures may need to be implemented to protect wildlife (see below).

4.5.1 Wildlife Protection Measures Employed by Surveyor to Reduce Possible Impacts from Sonar Equipment

- Inspect and maintain equipment to ensure proper working order and adherence to manufacturer’s specifications;
- When using the sub-bottom profiler, use the highest frequency band possible;
- When using either the sidescan sonar or the sub-bottom profiler, use the shortest possible pulse length and the lowest possible pulse rate;
- Apply these measures to other equipment (e.g., boomers) when feasible;
- Each piece of equipment shall be started at the lowest possible sound level, increasing power in increments of no greater than 6 dB every five minutes so that any undetected marine mammals in the area can leave before full power is attained.

4.5.2 Wildlife Protection Measures Employed by Monitor to Reduce Possible Impacts from Sonar Equipment

- Monitoring shall be conducted during the surveys from the highest possible vantage point, using range-finding binoculars to ensure that the hazard zone is maintained;

- The monitor shall observe the warning and hazard zones for at least 15 minutes prior to ramping up power to the equipment;
- The monitor shall request that operations be stopped if marine mammals or turtles are about to enter or have entered the 600 m hazard zone and may be negatively affected by survey operations;
- If an animal's behavior is irregular, the monitor shall request that operations be stopped until the animal has left the area or has not been seen for 15 minutes;
- Whenever the equipment is restarted, the ramp-up period described above (Section 4.5.1) must again be initiated;
- Operations shall be stopped if weather conditions, such as thick fog or heavy rain, preclude monitoring the warning and hazard zones until such conditions improve;
- Survey operations shall only take place in daytime hours in California State waters;
- Records shall be kept on when ramp-ups begin, when a survey begins, whenever a survey is stopped, whenever ramp-up is resumed, and when the survey is complete for each day.

4.6 Data Recording Procedures

Data recording procedures employed by the monitor during vessel transits and surveys will fulfill reporting requirements of both CSLC (2015) and NOAA Fisheries. The NOAA Fisheries data reporting requirements are discussed in detail in the Marine Wildlife Protection Plan for this project (MMCG 2015).

4.6.1 Marine Wildlife Sightings

Records will be kept of all marine mammal and turtle sightings, from the time the vessel leaves port to the time it returns. Data sheets will include the date, time, and location in latitude and longitude of each sighting, the species observed, the sex and age of them if determinable, and the number of animals. Their bearing and range from the monitor will be noted, along with their heading if they are moving. Their behavior will be noted, along with any associated bird activity. Resightings will be noted when possible.

4.6.2 Weather Observations

Weather observations will be recorded every two hours or when a drastic change occurs, such as the sudden advent of wind or thick fog. Data will include percentage and type of cloud cover, visibility, percentage and direction of glare, wind direction and velocity, and swell direction and height

4.6.3 Incident Reports

Each time action has to be taken to prevent a potentially adverse impact, a detailed report will be filled out. This both ensures that the effectiveness of such actions can be analyzed later and also serves as a record of essential information that will be needed in case an impact actually does occur. In addition to the reporting requirements spelled out near the end of Section 4.4.2, the incident reports will include:

- Time animal sighted;

- Number of animals;
- Animal's behavior;
- Closest distance of animal to vessel;
- Type of hazard (e.g., collision, sonar noise disturbance, etc.);
- When crew notified;
- Time all-stop implemented;
- Time animal definitely clear of hazard;
- Time all-stop lifted;
- Effectiveness of all-stop;
- Time vessel captain and NOAA Fisheries notified (if impact occurred);
- Description of action taken:
- Names and titles of responding parties;
- Descriptive narrative of action taken (as many pages as needed).

4.7 Oil Spill Contingency

The EGS survey vessel *JAB* is equipped with oil spill containment equipment and has an established, approved oil spill contingency plan in place for dealing with any releases of fuel, lubricants, or chemicals.

4.7.1 Marine Wildlife Protection Measures for Oil or Fuel Releases:

In order to respond in the unlikely event of an oil or fuel release, the following measures shall be taken:

- In the event a marine mammal or turtle becomes oiled, the monitor shall immediately notify NOAA Fisheries, listed above, the U.S. Coast Guard, the Office of Spill Prevention and Response (OSPR), and the Oiled Wildlife Care Network (OWCN), listed below;
- In the event a sea bird becomes oiled, the monitor will immediately contact the U.S. Coast Guard, OSPR, and OWCN so that a rescue procedure can be worked out. If requested and if feasible, crew members may be allowed to rescue oiled sea birds and arrange for swift transport to the nearest authorized care center;
- The regulatory agencies shall be kept apprised of any such rescue efforts and provided with verbal and written reports once such efforts are complete.

  U.S. Coast Guard
  Eleventh Coast Guard District
  (562) 499-5330

  California Department of Fish and Wildlife
  Office of Spill Prevention and Response (OSPR)
  800-852-7550

  University of California, Davis
  School of Veterinary Medicine
  Oiled Wildlife Care Network (OWCN)
  877-823-6926

5.0 Reporting

A Post Survey Field Operations and Compliance Report shall be submitted to CSLC as soon as possible, but no later than 30 days after the survey has been completed. Among other subjects, this report shall include:

- A summary of marine mammal and turtle species seen during the project;
- A summary of environmental conditions;
- Descriptions of any incidents during which action had to be taken to avoid adverse impacts and the effectiveness of such actions.

6.0 Literature Cited

Allen, B.M. and R.P. Angliss. 2015. Alaska Marine Mammal Stock Assessments, 2014. NOAA, NMFS. NOAA Technical Memorandum NMFS-AFSC-301. June 2015.

Carretta, J., E. Oleson, D.W. Weller, A.R. Lang, K.A. Forney, J. Baker, M.M. Muto, B. Hanson, A.J. Orr, H. Huber, M.S. Lowry, J. Barlow, J. Moore, D. Lynch, L. Carswell, and R.L. Brownell, Jr. 2015. U.S. Pacific Marine Mammal Stock Assessments, 2014. NOAA, NMFS. NOAA Technical Memorandum NMFS-SWFSC-549. August 2015.

CSLC. 2008. General Permit to Conduct Geophysical Surveys. Blank form showing permit conditions, 18 July 2008.

CSLC. 2014. Exhibit H, Mitigation Monitoring Program, updated 23 April 2014.

CSLC. 2015. Guidance for Developing a Marine Wildlife Contingency Plan.

Hatfield, B. and T. Tinker. 2104. Spring 2014 California Sea Otter Census Results. USGS Western Ecological Research Center, Santa Cruz Field Station. 22 September 2014.

MMCG. 2015. Marine Wildlife Protection Plan, MC Global BP4 Fiber-optic Cable Installations off Hermosa Beach, California.

EGS AMERICAS INC

2015 Inshore Vessel Spill Contingency and Response Plan
SV JAB
PROVIDE COPY TO VESSEL

This Plan contains information for the prevention of accidental onboard oil spill/discharge and the response measures in the unlikely event of a spill or contamination.

Onboard Oil Spill Prevention

- Perform vessel induction with all new crew members.
- Captain explains oil or fuel containment locations.
- Perform pre-sail visual inspection of holding tanks and valves.
- Locate spill containment equipment and devices.
- Locate posted project Emergency Response instructions.
- Captain checks and inventories response equipment supplies.
- Fuel, lube, and hydraulic oil transfer operating procedures will be used and followed.

Potential Spill Sources

- Daylight only dockside fuel transfers from fuel depot. No vessel to vessel transfers will be done.
- Hydraulic fluid from winch, steering, A-Frame lines or tanks. Failed tank valves, broken hoses, or failed connectors.
- Engine crankcase oil. Damage to engine or seals. Bilge contamination.
- Stored lubes – engine or hydraulic oil. Puncture or lid removal.
- Temporarily stored waster oil. Puncture or lid removal.
- Catastrophic event. Grounding hull/tank breach, submersion.

Onboard Oil Spill Response

Personal Safety is the Highest Priority

- Prior to operations, Captain and all crew members will review the Oil Spill Contingency Plan, discuss procedures, and identify oil spill kit location.
- All on-board are responsible to alert the onboard Supervisor and Captain of any type of leak or spill. Vocalize a spill to the crew.
- Situational Awareness. Determine if the fluid is hot and near an ignition point.
- Situational Awareness. Evacuate if required. Tend to medical emergencies.
- **CALL 911** for fire or injury, begin first aid.
- Attempt to stop spill at the source by closing valves or cocks if possible

Do Not Enter Closed Spaces

- Disengage pumps associated with sources.
- Attempt to stop spill at the source by plugging holes or bending hoses.
- Situational Awareness. Check for ignition potential.
- Time Log all activates

SPILL ON DECK

- Contain spill to the deck or compartments of the vessel.
- Create a “dam” around spill with boom, absorbent pads, rags.
- Apply absorbent or “kitty litter” wipe up drops and puddles.
- Situational Awareness. Prepare for slip hazards.

SMALL SPILL IN WATER AROUND VESSEL

All Oil Spills Will Be Reported Immediately

- Deploy on-board oil absorbing boom to contain against vessel.
- Apply absorbent pads to the area.
- Recover oil saturated absorbent and place certified containment device.

LARGE, UNCONTROLLABLE SPILL IN WATER AROUND VESSEL

- Refer to posted Emergency Response Contact List
- Call appropriate EGS Managers.
- Time log the events in logbook.
- Call for the immediate response of professional Oil Spill Response companies.

  Clean Seas, LLC (805) 684-3838
  Marine Spill Response Corporation (MSRC) Tel: (510) 478-0702
  National Response Corporation (NRC) Tel: (562) 506-2060
  Patriot Environmental Services (562) 244-2204

Emergency Notification

- EGS Americas Inc President – 772-341-9286
- Fire and Medical Assistance – 911
- US Coast Guard National Response Center – 800-424-8802
- California Office of Emergency Services – 1-800-852-7550
- California State Lands Commission – 24hr Emergency - 562-590-5201
- West Coast Oil Spill hot line – 800-OELS-011

Onboard Oil Spill Emergency Response Equipment

- Oil Spill Response and Fire Suppression equipment location and operations will be discussed during the crew vessel induction and pre-work vessel safety meeting.
- Onboard Spill Containment and Cleanup Materials and Supplies include:

  Gloves
  Goggles
  Rags
  Garbage bags
  Absorbent pads
  Small Oil Boom
  Granular absorbent (“kitty litter”)
  Shovel

Crew Instructions and Reporting

- In case of a spill or release notify an EGS 24 hour representative.
- Party Chief log and provide the following information.

  Your name
  Location
  Date of spill
  Time of spill
  Substance spilled
  Quantity spilled
  Potential for continued spill
  Possible health hazard
  Source of Spill
  Actions taken
  Threatened resources/utilities

EGS Management Instructions and Reporting

- Mangers will notify the applicable local, state and federal authorities.
- Coordinate and disseminate information to the media.
- Handle the legal obligations and responsibilities of the company.
- Contact the following organizations:

  NATIONAL RESPONSE CENTER 1-800-424-8802
  U.S. COAST GUARD MARINE SAFETY OFFICE 1-510-437-3073

- Contact the following organizations if requested:

  U.S. EPA Hazardous Waste 1-415-744-2000
  California Office of Emergency Services 1-800-852-7550
  State of California Water Quality 1-510-286-1255
  State of California Fish & Game 1-707-944-5512 and 1-916-445-0045
  Vessel Traffic 1-415-556-2760

- Contact the following animal rescue organizations if requested:

  Oiled Wildlife Care Network 1-877-823-6926
  California Wildlife Center 1-310-458-9453
  Animal Advocates 323-651-1336

Stored Material Onboard – SV Jab

MSDS sheets are available on the vessel

Diesel fuel < 360 gallons of #2 red diesel
Oil < 15 gallons
Grease < 2ea 12 ounce tubes
Hydraulic fluid < 35 gallons

Procedure Reference

Procedure for Dockside Fuel Transfer:

- All fuel transfers will be made at an approved docking and transfer facility. No fuel or lubes will be transferred from vessel to vessel.
- On-board fuel transfers will be performed by the vessel Captain or first mate.
- There will be two personnel on duty during transfer operations, one of them will be the Captain.
- Personnel will be trained in the procedures of vessel fuel transfer.
- Personnel will be wearing appropriate PPE.
- On-board Emergency Spill Kit will be readily accessible on deck.
- Fuel Hose Nozzle is equipped with automatic shut-off.
- Containment will be provided at the point-of-fueling to contain any dripping.
- Fuel tank, pump, hose and nozzle will be inspected for integrity before fueling operations commence.
- Verify that the fuel tank and the equipment being fueled are secure and cannot move.
- Verify that the transfer hose is long enough and that the hose is supported adequately to prevent inducing strain on the hose or its couplings.
- Do not “top-off” fuel tanks.
- All drips, etc. are to be picked up with absorbent pads.
- All absorbent materials are to be properly disposed of.
- Used cleaning materials are to be put into proper storage containers and removed from vessel.

Work Vessel Compliance – Exhibit C

The Survey Vessel JAB will be utilized for survey operations between shoreline and 185 meter water depth.

Name	SV JAB
Year	2010
Hull	Aluminum
Overall Length	44 feet
Beam	15.5 feet
Draft	2.5 feet
Propulsion	2x Cummins QSC 8.3 liter diesel, CARB Tier 2 certified see tags below
Drives	Jet
Fuel Capacity	600 gallons
Fuel Consumption (survey)	200 gallons / day
Sanitation	Head with holding tank

MANUFACTURED BY CUMMINS INC. FOR
CUMMINS MERCRUISER DIESEL, LLC
Assembled in the U.S.A

Engine No. 46949786 | EPA
Family 8CEXM0505AAB | NOx+ THC 7.2 | NOx+ THC
Catalyst No. | 0.20 PM | PM
Date of Mfg. 09–29–08 | Model QSC8.3500IDI
CPL 0906 | L / CYL 1.4 | C.I.D./L 505 / 8.3
Inj. Set | Advertised HP 500 at 2600 rpm
Fuel Rate at adv. HP 241 mm³ / Stroke | Valve lash cold 0.012 Int. 0.022 Exh.
Firing Order 1 5 3 6 2 4 | IMO Family M14QTA
Ref. No. 4019221
E.C.S. | Governed Speed (rpm) 2675 | Inj. Timing Code ELECTRONIC

Port Engine

MANUFACTURED BY CUMMINS INC. FOR
CUMMINS MERCRUISER DIESEL, LLC
Assembled in the U.S.A

Engine No. 46949795 | EPA
Family 8CEXM0505AAB | NOx+ THC 7.2 | NOx+ THC
Catalyst No. | 0.20 PM | PM
Date of Mfg. 09–29–08 | Model QSC8.3500IDI
CPL 0906 | L / CYL 1.4 | C.I.D./L 505 / 8.3
Inj. Set | Advertised HP 500 at 2600 rpm
Fuel Rate at adv. HP 241 mm³ / Stroke | Valve lash cold 0.012 Int. 0.022 Exh.
Firing Order 1 5 3 6 2 4 | IMO Family M14QTA
Ref. No. 4019221
E.C.S. | Governed Speed (rpm) 2675 | Inj. Timing Code ELECTRONIC

Starboard Engine

Notice 8/24/15

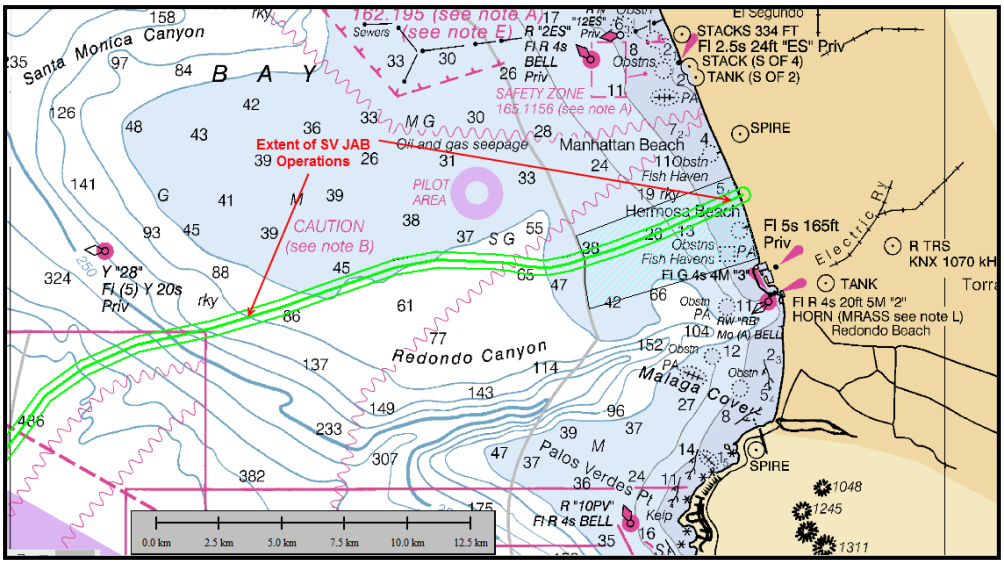
Notice to Marines for California Offshore Geophysical Survey Permit Requirements	EGS Americas Inc

Notice to Mariners:
Route Survey for Subsea Communications Cable in Southern California

A submarine communications cable route survey is being planned for a landing at Hermosa Beach, southern California The planned cable route is shown in the sketch below. The 44'-foot survey vessel **JAB** will be operating from Hermosa Beach generally southwestward to the 100 fathom contour from approximately September 15, through October 5, 2015. Below is contact information and a photo of the vessel.

Survey vessel JAB – 44'
Radio Call Sign NA - hail on CH16
Tel. 805-746-4242

The vessel will be stern towing a subsea sonar device approx. 500 meters behind the vessel in a corridor between 33d 52.330'N/ 118d 24.321W and 33d 50.409'N/ 118d 33.612'. Mariners are asked to keep clear at least 1 mile away from the vessel while it is working.



Contact	Telephone	Email
Eric Roach – EGS Americas Inc	(772) 341-9286	eroach@egsamericas.com

Notice to Mariners Request and notice of coastal marine activities - Internet Explorer

https://owa2010.exchangecentral.net/OWA/?ae=Item&a=New&t=IPM.Note&cc=MTQuMy4yMjQuMixIbi1VUyw0Mjk0OTY3Mjk1LEhUTUwsMCww&pspid=_14404237

Send Options... HTML

Draft saved at: 2:33 PM

To... D11waterways@uscg.mil

Cc... D11nm@uscg.mil

Subject: Notice to Mariners Request and notice of coastal marine activities

Attached: JAB Survey Notice to Marin~1.pdf (316 KB) [Open as Web Page]

Tahoma 10

Dear Sir or Mam,

Please find attached notification for an upcoming offshore survey near Hermosa Beach. You are receiving this notification as part of the CA State Lands Commission low energy geophysical survey permitting requirement to provide various entities information regarding the nature of our operations.

Sincerely,

Eric Roach
President
EGS Americas Inc.
C. 772.341.9286
eroach@egsamericas.com

100%

Notice to Mariners Request and notice of coastal marine activities - Redondo Harbor Division - Internet Expl...

https://owa2010.exchangecentral.net/OWA/?ae=Item&a=Open&t=IPM.Note&id=RgAAAADZsg5sDOy%2bRluAL3Ij1nf5BwDQ1P4IBZc6T5XiecJudraMAA

Send Options... HTML

To... waterfront@redondo.org

Cc...

Subject: Notice to Mariners Request and notice of coastal marine activities - Redondo Harbor Division

Attached: JAB Survey Notice to Marin~1.pdf (316 KB) [Open as Web Page]

Tahoma 10

Dear Sir or Mam,

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Sincerely,

Eric Roach
President
EGS Americas Inc.
C. 772.341.9286
eroach@egsamericas.com

100%

FW: Notice to Mariners Request and notice of coastal marine activities - Redondo Harbor Divisio - In...

https://owa2010.exchangecentral.net/OWA/?ae=PreFormAction&a=Forward&t=IPM.Note&id=RgAAAADZsg5sDOy%2bRluAL3Ij1nf5BwDQ1P4

Send Options... HTML

To... customerservice@divensurf.com

Cc...

Subject: Notice to Mariners Request and notice of coastal marine activities - Area dive shops

Attached: JAB Survey Notice to Marin~1.pdf (316 KB) [Open as Web Page]

Tahoma 10

Dear Sir or Mam,

Please find attached notification for an upcoming offshore survey near Hermosa Beach. You are receiving this notification as part of the CA State Lands Commission low energy geophysical survey permitting requirement to provide various entities information regarding the nature of our operations.

Sincerely,

Eric Roach
President
EGS Americas Inc.
C. 772.341.9286
eroach@egsamericas.com

100%

FW: Notice to Mariners Request and notice of coastal marine activities - Area dive sho...

https://owa2010.exchangecentral.net/OWA/?ae=PreFormAction&a=Forward&t=IPM.Note&id=RgAAAADZsg5sDOy%2bRluA

Send Options... HTML

To... scuba@ecodivecenter.com

Cc...

Subject: Notice to Mariners Request and notice of coastal marine activities - Area dive shops

Attached: JAB Survey Notice to Marin~1.pdf (316 KB) [Open as Web Page]

Tahoma 10

Dear Sir or Mam,

Please find attached notification for an upcoming offshore survey near Hermosa Beach. You are receiving this notification as part of the CA State Lands Commission low energy geophysical survey permitting requirement to provide various entities information regarding the nature of our operations.

Sincerely,

Eric Roach
President
EGS Americas Inc.
C. 772.341.9286
eroach@egsamericas.com

100%

Notice to Mariners Request and notice of coastal marine activities - Marine Exchange ...

https://owa2010.exchangecentral.net/OWA/?ae=Item&a=Open&t=IPM.Note&id=RgAAAADZsg5sDOy%2bRIuAL3lj1nf5BwD

Reply Reply All Forward

Notice to Mariners Request and notice of coastal marine activities - Marine Exchange of SoCal

Eric Roach

To: speterson@mxsocal.org

Attachments: JAB Survey Notice to Marin~1.pdf (316 KB) [Open as Web Page]

Monday, August 24, 2015 3:05 PM

Dear Sir,

Please find attached notification for an upcoming offshore survey near Hermosa Beach. You are receiving this notification as part of the CA State Lands Commission low energy geophysical survey permitting requirement to provide various entities information regarding the nature of our operations.

Sincerely,

Eric Roach
President
EGS Americas Inc.
C. 772.341.9286
eroach@egsamericas.com

100%

EARTH SCIENCES & SURVEYING

EGS Equipment List and Specifications

EGS Sound Source Levels and Safety Distance - SEA US							
EGS Shallow Water Equipment - 5 to 200m Water Depth September							
Hull Mount Bathymetric System Description	RMS Source level (dB re 1µPa-m)	Frequency (kHz)	Max Ping Rate (Hz)	Pulse Length	Distance to 190 dB SPL Isopleth (m)	Distance to 180 dB SPL Isopleth (m)	Distance to 160 dB SPL Isopleth (m)
R2Sonics 2024 (160°swath)	221	200 to 400	60	15-1000us	26 and 19	57 and 35	164 and 80
~~Odom EchoTrak MKIII 3200 (8°cone)~~	~~191~~	~~200~~	~~20~~	~~10us~~	~~7~~	~~22~~	~~95~~
SBP Towed System Description							
Edgetech DSS2000 Chirp (24°cone) 20m alt	202	2 to 16	10	20ms	6	10	130
SSS Towed System Description							
Edgetech DSS2000 LF (100°swath) 20m alt	213	120	25	n/a	13	51	210
Edgetech DSS2000 HF (100°swath) 20m alt	219	410	50	n/a	9	39	160
Sonardyne 8071 USBL (Cone)	188	19-36	14	n/a	14	24	115

EGS Survey Maintenance Program and Equipment Testing

EGS Survey manufactures, owns, and operates a broad range of geophysical mapping sonar devices. EGS Survey maintains and tests all owned equipment with a very experienced survey engineering department staffed by design engineers, sonar electronics engineers, and marine technicians who are responsible for the scheduled maintenance, repair, and testing of the survey equipment before field deployment. The staff bench tests all equipment to be in compliance with manufacture's specifications before the start of each project.

The equipment is also field wet tested alongside the vessel during mobilization before the start of survey operations.

EGS ISO 9001 Compliant System Checkout Procedures:

1. Objective

The objective of this procedure is to describe the steps to be taken by members of the Electronics Engineering Department to care for land and marine seismic systems. This includes inspection, maintenance and returning to store after use

2. Scope of Application

This technique applies to seismic systems used by EGS

3. Personnel

Inspections and maintenance shall be carried out by qualified EGS electronics engineers.

4. Description and Inspection of Seismic Systems

4.1 General

An EGS Electronics Engineer shall inspect all sidescan sonar and seismic equipment to ensure it works satisfactorily. The inspection shall conform to Electronic Department procedure En01P_Control of Survey Equipment.doc

The assigned engineer shall retrieve the equipment from storage, workshop, or from another part of the EGS group of companies and carry out the following checks based on the tagging system described below:

- If the equipment is green tagged "Inspected and Approved for Use", the equipment may be mobilized without further checks.
- If the equipment green tag is out of date (one year), the equipment shall be switched on and fully tested to check all functions are working, inspection, and calibration as required. The inspection and calibration shall be performed as per manufacturer's procedures.
- If not green tagged, or if incoming from a recent project, check to see if the system is clean and complete, with all manuals and interconnecting cables (such as power cable, serial cable, fixing cable and extension cables) are in good condition. Then switch on the equipment and test to check all functions are working properly. Inspect and calibrate as required. The inspection and calibration shall be performed as per manufacturer's procedures.
- if the equipment is red tagged "faulty do not use" it must be repaired, tested and calibrated before mobilizing. The inspection and calibration shall be performed as per manufacturer's conformance procedures.

4.2 Marine Seismic Systems

4.2.1 Marine Seismic Sound Sources

Numerous types of marine seismic sound sources are available. The most common are sub-bottom profilers and boomers. A power pack consisting of a bank of high voltage capacitors is triggered by the recording system. The capacitors discharge energy to the transducer which reacts mechanically to produce an acoustic pulse into the water. Great care shall be taken to ensure the power supply to the power pack is disconnected and the capacitors are all completely discharged before carrying out maintenance or inspection of the power pack. All high voltage components and connectors shall be checked for good working condition and that they are installed safely, particularly earthing of any high voltage equipment. The electronics engineer shall ensure the equipment is safe, in good working order, free of external damage, and in compliance with manufacturer's specifications. The EGS equipment check-out and testing list will be used in the EGS workshop to prepare all geophysics equipment for field duty. The in-field geophysicist shall be responsible to ensure the sound sources are discharged safely and within the project acquisition parameters outlined in the EGS Project Execution Plan and the Marine Wildlife Protection Plan.

EARTH SCIENCES & SURVEYING

4.2.2 Marine Seismic Receivers

Marine seismic transceivers/receivers (hydrophones) consist of one or more piezo electric elements. Hydrophones may be towed by a survey boat or laid on the sea bed. The pressure of the acoustic waves that have returned from the seafloor or have passed through the rock are converted by the piezo electric elements of the hydrophone into an electric signal.

The piezo electric elements are usually contained in a housing or flexible tube filled with inert oil. The housings or tubes shall be checked for leaks and also to confirm no air bubbles are inside. The hydrophone cables shall be checked for pin to pin continuity.

The hydrophone system output can be checked by tapping the tube and monitoring the output waveform on an oscilloscope.

4.2.3 Marine Seismic Processing Systems

The processing requirements vary from one survey to the next. A typical marine seismic processing system will have one or more of:

- A band pass filter, possibly time varying
- A swell filter to reduce the effect of sea waves on the records
- An amplifier (TVG) to correct for loss of signal amplitude with distance and time

The processing system shall be tested before a project begins. The swell filter shall be tested with a delayed pulse sea bed simulator and the compensated output monitored on a line scan recorder. The band pass filter will be tested with an input signal from a signal generator and the output monitored on an oscilloscope. The TVG triggers, ramps, delays and amplifiers shall be tested and the results monitored on an oscilloscope.

The R2 Sonic 2024 multibeam system was tested and approved by the R2 Sonic manufacturer in March 2015 for conformance to specifications.

The EGS owned Edgetech DSS2000 towbody system comprised of a 100kHz and 400kHz sidescan sonar combined with a 2-16 kHz sub-bottom profiler has been thoroughly checked and calibrated according to Edgetech's conformance specifications. This includes the inspection and electronic testing of all cables, connectors, transducers, and electronics for excessive wear, corrosion, damage, and arcing. Insulation and capacitance testing was performed on all subsea cables and transducers to investigate any underwater signal degradation.

EGS (ASIA) LIMITED

Date 19 Aug 2015

Sunny Hu, Senior Manager – Electronics Division

MANUFACTURER'S CERTIFICATION

BROADBAND MULTIBEAM ECHOSOUNDER

SONIC Series System Serial Number: 100305

SYSTEM TYPE: 2024	DEPTH RATING: 100m	
RECEIVER S/N: 100305 PROJECTOR S/N: 800201	SIM Box S/N: 103347	
PASSED FINAL SYSTEM TEST	20150312 DATE	SIGNATURE

This certifies that the SONIC System (S/N above) has passed final system test and conforms to the requirements of the specification.

R2Sonic, LLC - 5307 Industrial Oaks Blvd., Suite 120 - Austin, TX, 78735 USA
Phone: +1.512.891.0000 - FAX: +1.512.891.0022

EGS EARTH SCIENCES & SURVEYING	Group	RG
	Form No	En06R
	Revision	4
	Approved by	R E Hale

Serial Number and Device Desc EGS1121 DSS 2000 Towfish

Engineer - Date 9/July/15

Good / Bad	Action Checklist and Comments
✓	Check overall condition of housing, transducers, and sound sources. Note structural damage and cleanliness. Small crack on housing shroud
✓	Remove all cables from connectors and check for corrosion, looseness, and electrical arcing at the pins. Replace as needed. clean
✓	Check all cables for cracks and wear spots. Replace as needed.
✓	Megger all insulated connection cables. 50 Ω
✓	Check all power supply output voltages.
✓	Check all transducers for cracks, bulges, leaking oil.
✓	Check electronics pressure vessel for loose bulkhead connectors, damage, and electrolysis.
✓	Check PC boards power supply voltage, check transducer output PC Card with oscilloscope.
✓	Perform transducer capacitance and resistance tests.
✓	Open electronics pressure vessel check for moisture, loose connections or screws, overheating of PC boards. DID NOT OPEN - LESS THAN 1 YR
✓	Confirm any valid firmware and PC board ID numbers. current
✓	Reconnect water proof connectors with appropriate lubrication - confirm good seal integrity and seating.

✓	Bench rub/tap test entire system with top side and deck cable.
X	Meg slip ring and winch COAX sea cable for insulating integrity. IN FIELD
X	Check system with slip ring and winch COAX sea cable. IN FIELD
X	Workshop and wet-check all mechanical and electrical tow terminations for fit and weight distribution. field
✓	Pack for delivery and Green Tag Ready to Ship