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: attached as section 1.4 of MWCP
☐	☒	Permit(s) or Authorization from other Federal or State agencies (if applicable) Explanation: see below for CDFW details
☒	☐	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: delivered
☒	☐	Marine Wildlife Contingency Plan Explanation: attached
☒	☐	Oil Spill Contingency Plan Explanation: This is included in section 5.3 of attached MWCP
☒	☐	Verification of California Air Resources Board's Tier 2-Certified Engine Requirement Explanation: attached as appendix to MWCP
☐	☒	Verification of Equipment Service and/or Maintenance (must verify sound output) Explanation: Custom scientific equipment. see MWCP section 1.3.
☐	☒	Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable) Explanation: SCP-12139 Amendment under review and to be delivered to CSLC(successful review expected, comm. CDFW agent B. Owens)

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

Prof. David Valentine
Earth Science Dept., UCSB
552 University Rd, 1006 Webb Hall
Santa Barbara, CA 93106-9630

Date: 8/8/2016

Jurisdiction: Federal ____ State X Both ____

If State: Permit #PRC 9361

Region: II

Area: Santa Barbara/Goleta

GEOPHYSICAL SURVEY PERMIT

Check one: x New survey ____ Time extension of a previous survey

Prof. David Valentine (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 N/A (all work inside 3 n.m.)
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 Frank Kinnaman
2) CSLC representative Richard Greenwood

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 Weekdays from August 31- September 16, 2016
2. Hours of Operation 8AM to 6PM
3. Vessel Name R/V Connell
4. Vessel Official Number CF3530XS
5. Vessel Radio Call Sign WAM8729
6. Vessel Captain's Name Frank Kinnaman
7. Vessel will monitor Radio Channel(s) 16
8. Vessel Navigation System Differential GPS

9. Equipment to be used Single beam echosounders (deployed sequentially)

a. Frequency (Hz, kHz) 1kHz,10kHz,90kHz,150kHz,260kHz

b. Source level (dB re 1 μPa at 1 meter (m) [root mean square (rms)]) 195-216 dB rms

c. Number of beams, across track beamwidth, and along track beamwidth

beam widths, respective to above frequencies (deg)= 30,8,7,7,7.

d. Pulse rate and length all 1/s. Duration(msec):50,16,2,2,2.

e. Rise time 6 dB rise per 5 minute period

f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 μPa (rms) isopleths respective to a: 160dB(m)=100,384,163,134,134;180dB(m)=6,17,49,31,28;190(db)=2,6,18,11,11

g. Deployment depth 1-5m below sea surface

h. Tow speed 5.0 knots

i. Approximate length of cable tow 15m

Applicant's Representative:
Frank Kinnaman
Earth Science Dept., UCSB
552 University Rd, 1006 Webb Hall
Santa Barbara, CA 93106-9630
(805)893-8985

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

For the academic research project "The Effect of Hydrocarbon Production on Offshore Natural Seep Rates in the Coal Oil Point Area, Santa Barbara, CA"

Prof. David Valentine, UC Santa Barbara, and Prof. Tom Weber, University of New Hampshire

Mail address:

David Valentine
Department of Earth Science, UCSB
552 University Rd, 1006 Webb Hall
Santa Barbara, CA 93106

August 2016

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References

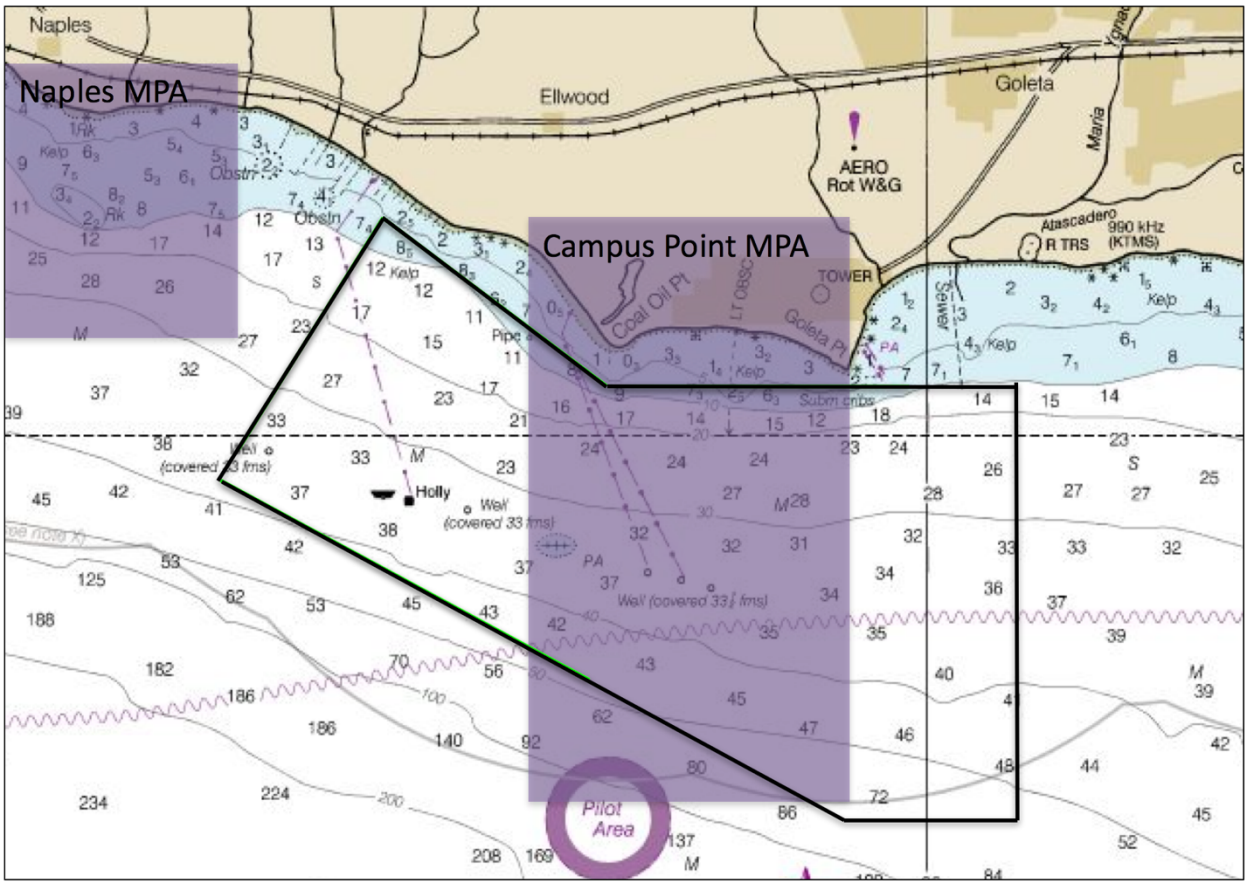
Appendix A: Marine Wildlife Monitor Resumes

Appendix B: Marine Wildlife Monitor Observation Sheet

Appendix C: CARB Tier 2-Certification Sheet for Vessel Motor

Appendix D: Local Notice to Mariners

Excerpt from NOAA nautical chart 18721 with proposed survey area
Offshore Goleta/Ellwood, California



1.0 Introduction

This Marine Wildlife Contingency Plan (MWCP) is developed by the University of California Santa Barbara (UCSB, Principal Investigator David Valentine) with contribution from the University of New Hampshire (UNH, Principal Investigator Tom Weber) in support of geophysical methods to survey and monitor the flux of oil and gas at hydrocarbon seeps located in proximity to Coal Oil Point, Platform Holly, and the Campus Point Marine Protected Area. These Coal Oil Point (COP) seeps have been described as the world's most spectacular, with as much as 4,200 gallons per day of oil input into the ocean (Hornafius, Quigley, and Luyendyk, 1999). Figure 1 is a map of the COP seep field from Hornafius et al. 1999, figure 2 is the survey area proposed by this project.

The results from this study should inform as to the role of gas-driven transport in the migration of heavy Monterey oil through overlying strata and waters, and may further help BSEE (the Federal Bureau of Safety and Environmental Enforcement – the project sponsor) and the U.S. Coast Guard anticipate/explain anomalous occurrences of oil in the water and on beaches. In May, 2015 the Refugio Pipeline Oil Spill forced a shut-in at Platform Holly, which remains in effect to the present day. Within the weeks following the shut-in exceptional quantities of oil were observed at the sea-surface and reported at the proximal beaches near Coal Oil Point. While largely anecdotal and subject to reporting bias, experienced observers noted increases in seep surface oil coverage, distance of slick travel, quantities of oil washing ashore, and instances of bird oiling. The highly publicized effects of these oiling anomalies again brought to the fore the hypothesis that production modulates seepage. The results from this study may also inform the public, the local County and State governments, the media, and academia about natural seepage by assessing the potential for oil and gas production to modulate environmental release of petroleum.

This MWCP has been prepared in accordance with the requirements of the California State Lands Commission (CSLC) and is designed to reduce or eliminate adverse impacts to marine wildlife resources within the survey area. This MWCP is specific to the equipment and activities that are proposed for the collaborative surveys conducted by UCSB with assistance from UNH investigators.

1.1 Purpose and objectives

This is an academic study in which customized, low-energy echosounders will be used to quantify the flux of oil and gas from natural seeps near Coal Oil Point. In this study gas bubbles and oil droplets will be observed using calibrated broadband acoustic echo sounders. Recorded echoes will be analyzed to discriminate between gas and oil, and to observe any changes in quantity or size over time. In the approximately two week long first phase of this work an initial site survey will be conducted with downward-facing echosounders on a surface tow-sled (Figure 3) with the goal of characterizing several major seep areas within the broader Coal Oil Point seep field. This survey will be conducted over a frequency range of 10-450 kHz using a UCSB vessel. Survey results will provide a "snapshot" of the oil flux and droplet size distribution and a qualitative

estimate of gas flux from seeps of interest. The seeps identified from the initial days of this survey will be revisited at lower frequencies with downward facing echosounders (1-10 kHz) near to the end of the first phase of the survey in order to provide a similar 'snapshot' of bubble size distributions and flux rate.

1.2 Survey Schedule and Layout

The survey will be completed by the collaborative UCSB-led group in accordance with requirements specified by CSLC. UCSB personnel will contact the NOAA Long Beach Office staff and local whale-watching operations to acquire information on the current composition and relative abundance of marine wildlife offshore as well as any pinniped haul out sites. Initial plans are to conduct surveys in lower seasons of whale activity, with specific initial plans for a September 2016 survey.

Additionally, three days prior to survey activities, the NOAA Long Beach regional office, local whale watching operations will be contacted to get an update on marine wildlife sightings in the area. This information will be conveyed to the captain and crew prior to the survey.

A review of environmental responsibility of project operations will be conducted by the chief scientist in charge of the survey operations prior to commencing the first day of operations. When new personnel will be in the crew, this training will be repeated at least for those new to the crew. They will be made aware of their individual responsibility and will be shown how to be aware of possible environmental impacts and how to mitigate them during the geophysical survey operations. Information relating to seasonality, as an indication of the types of animals that might be in our survey area, at the time of survey work will also be presented to the crew. A copy of this document will be provided to the crew of our survey vehicles.

All personnel will be expected to be consistently aware that they are to be alert to any presence of marine wildlife while they are performing their duties. There are a number of signs/indications of marine wildlife presence and each crew member will be responsible to maintain vigilance for those signs within the constraints of their project duties. Some of those indications are:

a. Sounds - such as splashing, vocalizations (by animals and birds), and blowing (breathing).

b. Visual indications - birds aggregating, changes in water character such as areas of rippled water, white water caused by splashing, changes in color or shape of the ocean surface. Because the survey will take place in a prolific oil seep area, each crew member will be trained to differentiate natural oil slicks (which often cover several square miles of ocean surface) from indications of biological activity.

Tow-mounted acoustic surveys are anticipated to take approximately two weeks and will utilize UCSB's 26 foot small vessel R/V Connell. The vessel will be launched from the Santa Barbara Harbor and transit to the survey area at safe speeds on the morning of

the survey. The survey will be completed during daylight hours (no nighttime operations are proposed). The vessel will return to the Santa Barbara Harbor at the completion of each day. Our working times during survey periods will be limited to 8am to 6pm.

1.3 Survey Equipment

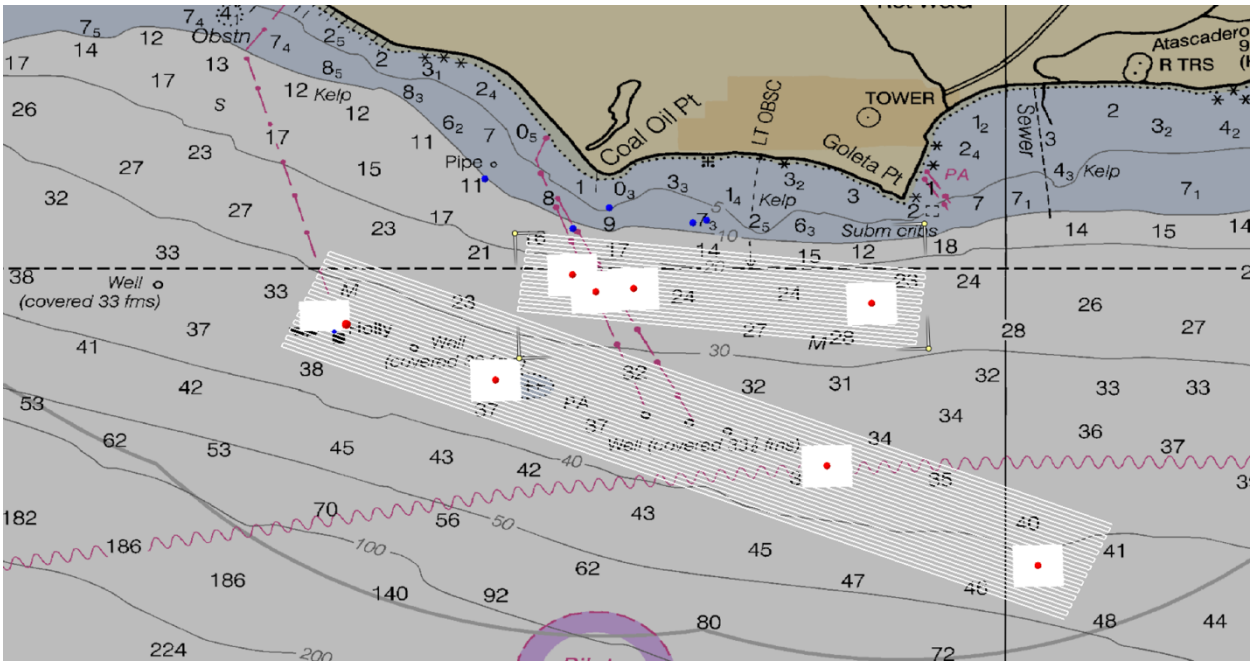
The proposed survey will require the use of a marine vehicle and in water equipment that generate noise during data acquisition. Nearshore mapping will utilize acoustic equipment consisting of downward-looking echosounders with short duration (<1% duty cycle above 10 kHz and <5% duty cycle at frequencies lower than 10 kHz). This equipment includes:

- Short-pulse (low duty cycle) split-beam echosounder system will be used as the primary tool for surveying. This system is comprised of a mixture of Kongsberg (Simrad) wideband transceivers, Kongsberg (Simrad) echo sounder transducers, and a custom transducer manufactured by Material Systems, Inc. (now part of Channel Technologies Group
- A short-pulse sub-bottom profiling transducer that has been adapted for echo-sounder surveyors of gas bubbles within the water column will be used. This system incorporates three Edgetech DW216 sub-bottom echosounder projectors.
- Hand-deployable scientific equipment including a small (<1 m x 1m) hand-deployable passive drop-camera system, a conductivity/temperature/depth (CTD) probe, and a sound-velocimeter will be used during survey operations.

The downward-looking echosounders utilize directional piston transducers that preferentially orient their sound toward the seabed rather than horizontally. As a conservative estimate, the range (regardless of direction, vertical or horizontal) to a distance at which a sound pressure level (SPL) of 160 dB re 1 µPa would be observed is used to define the radius of a safety zone around the vessel. During survey operations, any marine mammals observed within this safety zone prior to start-up will be noted, and the equipment will be shut-down until the animal(s) move out of the safety zone or have not been observed for 15 minutes. After this time or after the animals have moved outside of the safety zone, the acoustic equipment will be started up and stepped up to full power.

The output level of these echo sounders is verified in laboratory conditions at UNH, most recently May 31, 2016, and all levels reported in exhibit f are based on these measurements.

1.4 Survey Area



The survey will include a broad scale survey as illustrated in the white lines in the above figure. Each white box represents a 500m x 500m set of additional lines that are more detailed surveys of known natural hydrocarbon (natural gas and oil) seep sites. Each of these detailed surveys will take a half to full day of operation at each site.

2.0 Marine Wildlife

The following discusses the marine wildlife that have been recorded within the project region, those taxa that are most likely to be within the larger project region during survey operations, and methods that will be instituted by the vehicle operator to reduce or eliminate potential impacts to marine wildlife during transit and survey operations.

2.1 Marine Wildlife

Multiple species of marine turtles, cetaceans (whales, dolphins, and porpoises, pinnipeds (seals and sea lions), and fissipeds (sea otter) have been recorded along the Southern California coast (Table 1). Most of the recorded species can occur within the survey region, although seasonal abundances of these taxa vary; pinnipeds and some dolphins are year-round residents (Table 2). Other species are migratory, such as the gray whale (*Eschrichtius robustus*), or seasonal, such as the blue and humpback whales (*Balaenoptera musculus* and *Megaptera novaeangliae*, respectively) and therefore are more abundant during specific months. Within the project region, resident, seasonal, and migrant taxa could be expected to occur.

Table 1: Abundance estimates for marine mammals and reptiles of California unless otherwise indicated

Common Name *Scientific Name*	Population Estimate	Current population trend
Reptiles		
Cryptodira		
Olive Ridley turtle *Lepidochelys olivacea*	1.1 million (Eastern Tropical Pacific)	Stable
Green turtle *Chelonia mydas*	20,112 (Eastern Pacific Stock)	Stable
Loggerhead turtle *Caretta caretta*	7,138 (California)	Decreasing
Leatherback turtle	368 (California)**	Decreasing
Mammals		
Mysticeti		
California gray whale *Eschrichtius robustus*	18,017 (Eastern North Pacific Stock)	Fluctuating annually
Fin whale *Balaenoptera physalus*	2,589 (California/Oregon/Washington Stock)	Increasing off California
Humpback whale *Megaptera novaeangliae*	1,876 (California/Oregon/Washington Stock)	Increasing
Blue whale *Balaenoptera musculus*	1,551(Eastern North Pacific Stock)	Unable to determine
Minke Whale *Balaenoptera acutorostrata*	202 (California/Oregon/Washington Stock)	No long-term trends suggested
Northern Pacific right whale *Eubalaena japonica*	31 (based on photo-identification) (Eastern North Pacific Stock)	No long-term trends suggested
Sei whale *Balaenoptera borealis*	83 (Eastern North Pacific Stock)	No long-term trends suggested
Odontoceti		
Short-beaked common dolphin *Delphinus delphis*	343,900 (California/Oregon/Washington Stock)	Unable to determine
Long-beaked common dolphin *Delphinus capensis*	76,224 (California Stock)	Unable to determine
Dall's porpoise *Phocoenoides dalli*	32,106 (California/Oregon/Washington Stock)	Unable to determine
Pacific white-sided dolphin *Lagenorhynchus obliquidens*	21,406 (California/Oregon/Washington Northern and Southern Stock)	No long-term trends suggested
Risso's dolphin *Grampus griseus*	4,913 (California/Oregon/Washington Stock)	No long-term trends suggested
Short-finned pilot whale *Globicephala macrorhynchus*	465 (California/Oregon/Washington Stock)	No long-term trends suggested
Striped dolphin *Stenella coeruleoalba*	8,231	No long-term trends suggested

	(California, Oregon, Washington)	
Baird's beaked whale *Berardius bairdii*	466 (California, Oregon, Washington)	No long-term trends suggested
Cuvier's beaked whale *Ziphius cavirostris*	4,481 (California, Oregon, Washington Stock)	No long-term trends suggested
Mesoplodont beaked whales	389 (California, Oregon, Washington)	No long-term trends suggested
Bottlenose dolphin *Tursiops truncatus*	684 (California/Oregon/Washington Offshore Stock)	No long-term trends suggested
	290 (California Coastal Stock)	No long-term trends suggested
Northern right whale dolphin *Lissodelphis borealis*	6,019 (California/Oregon/Washington Stock)	No long-term trends suggested
Sperm whale *Physeter macrocephalus*	751 (California/Oregon/Washington Stock)	No long-term trends suggested
Dwarf sperm whale *Kogia sima*	Unknown (California, Oregon, Washington)	No long-term trends suggested
Pygmy sperm whale *Kogia breviceps*	271 (California/Oregon/Washington Stock)	No long-term trends suggested
Killer whale *Orcinus orca*	162 (Eastern North Pacific Offshore Stock) 354 (West Coast Transients)	No long-term trends suggested
Pinnipedia		
California sea lion *Zalophus californianus*	153,337 (U.S. Stock)	Unable to determine; increasing in most recent three year period
Northern fur seal *Callorhinus ursinus*	6,431 (California - San Miguel Island Stock)	Increasing
Guadalupe fur seal *Arctocephalus townsendi*	3,028 (Mexico Stock) Undetermined in California	Increasing
Northern elephant seal *Mirounga angustirostris*	74,913 (California Breeding Stock)	Increasing
Pacific harbor seal *Phoca vitulina richardsi*	26,667 (California Stock)	Stable
Fissipedia		
California sea otter *Enhydra lutris nereis*	2,990**	Unable to determine

Source: Allen, 2011; NMFS, 2015a,b; and USGS, 2016
** Estimate provided by USGS, 2016

During the transit periods, there is a potential for encountering marine wildlife. Table 2

lists those species that are likely to occur in the survey area.

Table 2. Marine Wildlife Species and Most Likely Periods of Occurrence within the Survey Area

Family Common Name	Month of Occurrence [1]											
	J	F	M	A	M	J	J	A	S	O	N	D
REPTILES												
Cyptodira												
Olive Ridley turtle *(T)* [2]												
Green turtle (T)[1],[2]												
Loggerhead turtle (T) [2]												
Leatherback turtle (E) [2]												
MAMMALS												
Mysticeti												
California gray whale												
Blue whale (E)												
Fin whale (E)												
Humpback whale (E)												
Minke whale												
Sei whale (E)												
Northern right whale (E)												
Odontoceti												
Short-beaked common dolphin												
Dall's porpoise												
Harbor porpoise												
Long-beaked common dolphin												
Pacific white-sided dolphin												
Risso's dolphin												
Sperm whale												
Short-finned pilot whale												
Bottlenose dolphin												
Northern right whale dolphin												
Killer whale												
Pinnipedia												
Northern fur seal [3]												
California sea lion												
Northern elephant seal [4]												
Pacific harbor seal												
Guadalupe fur seal (T)												
Steller sea lion												
Fissipedia												
Southern sea otter (T) [5]												
Relatively uniform distribution		Not expected to occur					Most likely to occur due to seasonal distribution					

Sources: Bonnell and Dailey,1993; NMFS, 2015a,b; and NCCOS, 2007; and Allen, 2011

2.2 Wildlife Monitoring

Crew will take the following precautionary measures in addition to the safety zone guidelines when using equipment operated below 200kHz established later in this document (section 4.3):

- Not approach within 91m of haul out sites

- Expedite survey activity in haul out sites to minimize the potential for disturbance of pinnipeds on land.
- Continuously monitor the survey area to ascertain the presence, species and location of any marine wildlife in the intended survey area. The vehicle master and onboard personnel will be watchful when whales or other marine mammals are observed in the area. The vehicle operator shall observe the following guidelines:

    - Make every effort to maintain distance from sighted marine mammals and other marine wildlife;
    - Do not cross directly in front of (perpendicular to) migrating whales or any other marine mammal or turtle;
    - When paralleling marine mammals or turtles, the vehicle will operate at a constant speed that is not faster than that of the animals;
    - Care will be taken to ensure female whales are not separated from their calves; and,
    - if a whale engages in evasive or defensive action, the vehicle will reduce speed or stop until the animal calms or moves out of the area.

2.3 Pinniped haul-outs and rookeries

The proposed Project activities will not occur near any known pinniped haul-out and/or rookeries. The closest haul out and/or rookery is located in Carpinteria approximately 20 miles East of the project area.

3.0 Marine Protected Areas

As figure 2 shows, this project extends existing approval in a Scientific Collection Permit issue by CDFW which includes the Campus Point MPA (Permit #SC-12139, valid Sept. 22, 2014 to Sept. 22, 2017). This permit allows for the collection of seep gas, seep oil, and water/sediment samples within the MPA. The purpose of the proposed work here matches the purpose stated on the issued SCP, to track the environmental release and weathering of hydrocarbons. Our sampling efforts are unchanged and will be intended to collect unicellular organisms; coincidental bycatch from sampling water or marine sediment is negligible. As stated in the SCP, all organisms visible to the naked eye in water samples are released back to the site of study capture, and this remains unchanged. The study area proposed here follows the list of collection locations submitted in the SCP (known active seep locations within the Campus Point MPA).

Our proposed survey area highlighted in Fig. 2 includes shallow sections of the MPA but our main focus is on deeper (>20m depth) seeps. The deeper South Ellwood Anticline Seeps seen in the map of seep intensity in Fig. 1 are the most intense and valuable to this study (and certainly free of kelp forests). The seeps along the Coal Oil Point

Anticline we expect to be mostly free of kelp (20-30m depth, also see Fig. 1). Regardless of seep depth and our interest in surveying, our tow package will not be towed through kelp for operational/ equipment maintenance reasons. Specific track lines provided in the mandated 21-day pre-survey notice will be changed as needed to avoid kelp forests.

The long term monitoring component of this project, which we propose to mount on Platform Holly, is situated outside of the MPA. The distance to the MPA exceeds the CSLC mandated 600m safety zone operating distance for side scan sonar (safety zones are specified in Table 2 later in this document). The low source strength and high frequency range of the custom developed equipment we propose to use does not warrant changes to existing regulations.

4.0 Onboard Monitoring and Other Mitigations

At least twenty-one (21) calendar days in advance of any proposed operations, written notice of the proposed operations (see subsection B below) will be sent to the following parties:

Statewide Geophysical Coordinator
California State Lands Commission
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331
Fax: (562) 590-5295
Emal: slc.ogpp@slc.ca.gov

USCG Local Notice to Mariners

Commander, CG Eleventh District Bldg.
50-2, CG Island Alameda, CA 94501-5100
Fax: (510) 437-5836
Email: D11LNM@uscg.mil

At least twenty-one (21) calendar days in advance of any proposed operations, we will post a notice with contents as described below in: (1) the harbormasters' offices of regional harbors; and (2) dive shops in coastal locations adjacent to the proposed offshore survey operations (by fax, e-mail, or in person to operator of the shop).

The written notification required shall include information in the format requested in Exhibit F and outlined below:
1. The name of the vessel, the name of the ship's captain/designee, the ship's call signs, and the specific radio channel which will be monitored by the vessel at all times during operations authorized by this permit;
2. The exact dates through which the survey will be conducted within any given specific area of the general permit area and the daily hours of operation during such period;
3. A full-sized navigation chart showing the area to be affected by the survey,

including turning areas;
4. GPS coordinates of each proposed track line and turning point;
5. A listing of equipment to be used in the survey and length(s) of the tow(s). Listing of equipment shall include all information requested on Exhibit F; and
6. Contact name and telephone number.

One working day in advance of the actual operations, the Permittee shall inform the State's Geophysical Coordinator, (562) 590-5201, by telephone, to confirm the receipt of required notices by the parties listed in above. The Permittee shall also send to the State's Geophysical Coordinator, a copy of any final pre-plot of the survey, including corresponding Global Positioning System (GPS) coordinates, which shall reflect any changes made in the planned survey.

4.1 Vessel Transit

Following mobilization, the survey vessel will transit approximately ten nautical miles from Santa Barbara Harbor to the survey area. During vessel transit to and from the survey area, there is a potential for encountering marine wildlife and therefore onboard monitoring will occur. A qualified marine wildlife monitor (MWM) will be onboard the vessel throughout the period of the vessel transit and data collection activities. The MWM will be approved by National Oceanic and Atmospheric Administration (NOAA) Fisheries and/or experienced in marine wildlife observations, refer to Appendix A for MWM qualifications.

During transit periods, a MWM will be positioned on the vessel so that they will have a clear view of the area of ocean that is in the direction of the course of travel. The MWM will monitor for marine wildlife and will initiate measures to avoid potential collisions if animals are encountered in the vessels path. To minimize the chance of collision with or disturbance of marine wildlife, the vessel will maintain a minimum distance of 91 m (300 ft) from observed marine wildlife in accordance with CSLC-issued geophysical and geologic sampling permit requirements. If the MWM should observe a marine mammal or reptile within the path of the transiting vessel, the MWM will immediately report that observation to the vessel operator who will, unless those actions will jeopardize the safety of the vessel or crew, slow the vessel and/or change course in order to avoid contact.

When whales are in the survey area and/or are observed proximal to the vessel during transit periods, the vessel operator will comply with the following guidelines:

· Maintain a minimum distance of 91 m (300 ft) from sighted whales;

· Refrain from crossing directly in front of or across the path of sighted whales;

· Transit parallel to whales and maintain a constant speed that is not faster than the whale's speed;

· Avoid positioning the vessel in such a manner to separate a female whale from

her calf;

· Do not use the vessel to herd or drive whales; and

· If a whale engages in evasive or defensive action, slow the vessel and move away from the animal until the animal calms or moves out of the area.

4.2 Fishing Gear Clearance

In addition to submitting the required Notice to Mariners that will alert commercial fishers of pending on-water activities prior to the start of each survey day, the vessel will traverse the proposed survey corridor to note and record the presence of deployed fishing gear. The type and location of fishing gear (buoys) will be noted, and the California Department of Fish and Wildlife (CDFW) office will be contacted. No survey lines will be completed within 30 m (100 ft) of any observed fishing gear. The survey crew will not remove or relocate any fishing gear; removal or relocation will only be accomplished by the owner or by an authorized CDFW agent (see table 3).

Table 3: Fishing gear contact information

Enforcement Dispatch Desk California Department of Fish and Wildlife, Southern District	California Department of Fish & Wildlife, Marine Division
(562) 598-1032	(831) 649-2870

4.3 Survey monitoring

Three days prior to the initiation of the survey, UCSB scientists will contact NOAA Fisheries Long Beach office staff and local private whale-watching operations to acquire information on the recently-observed composition and relative abundance of marine mammals offshore Santa Barbara/Goleta and the surrounding area. That information will be conveyed to the vessel pilot and other scientists prior to departure for the survey area.

The onboard MWM responsible for observations during vessel transit will also be responsible for monitoring during the data collection efforts. When possible, monitoring will be completed by MWM using binoculars while located at a high vantage point onboard the survey vessel. During survey activities, the MWM will observe the immediate area around the vessel, centered on the sound source, when survey equipment is operating. As specified in the CSLC-issued geophysical and geologic sampling permit a safety zone is not required for any equipment operating at 200 kilohertz or greater. At times, the proposed survey equipment will operate below 200 Khz, therefore a safety zone will be required as specified in the CSLC-issued Geophysical and Geologic Sampling Permit. Exhibit F (a presurvey notification form at the beginning of this document) specifies the safety zones around each type of equipment. We will respect the distances to the 160dB isopleths given in 9f of Exhibit F.

These minimum safety zones will be monitored and equipment will be stopped if mammals enter these zones around the vessel/equipment.

During survey activities, the onboard monitor will observe for marine mammals when survey equipment is operating. At the time of equipment start-up, marine mammals/reptiles within the project area will be noted. If any animals show behavioral changes during equipment start-up, either the equipment will be shut down until the animal(s) move out of the area, or after 15 minutes of the animal(s) remaining in the project area, the equipment will be "ramped up" to full power. With the incorporation of this measure and the other mitigation measures discussed below, the proposed offshore survey activities are unlikely to have a high potential to injure and/or disturb marine wildlife.

The MWM will have the authority to halt data collecting operations if a mammal or turtle is observed within the survey area and is reacting to the survey-generated activities. The MWM will also have the authority to cease operations during periods of limited visibility based on the observed abundance of mammals and/or reptiles. Periodic reevaluation of weather conditions and reassessment of the continuation/cessation recommendation will be completed by the MWM.

We have reserved UCSB's "R/V Connell" for this project, the Connell is a 26ft vessel and is the largest option available to us. One benefit of the hull design of the Connell is great visibility/sightlines and ability to obtain good vantage points along the side rails and the front of the boat. However, we expect space aboard the Connell to be extremely limited. A primary concern is that the equipment and scientific personnel needed for this survey work is substantial relative to the vessel size. In order to efficiently operate and gather the necessary data in as short a time frame as possible we will use one highly qualified primary MWM (see appendix A for resumes) and when any equipment is used below 200 kHz, a crew member will serve as a second MWM (also see S. Loranger resume in appendix A). Our primary MWM's have vast boating and diving experience along with extensive observations of pinniped and cetacean wildlife. They maintain extensive records including a current species list and real time logging of collection efforts and are aware of normal and irregular behaviour by marine mammals and are equally competent in marine mammal identification. Our second MWM is also an experienced ecologist.

4.4 Mitigation Measures

The following operation-related actions will be implemented in accordance with CSLC permit requirements:

1. Survey operator shall use a "soft start" technique at the beginning of survey activities each day (or following a shutdown) to allow any marine mammal that may be in the project area to leave before the sound sources reach full energy. The survey operator will initiate each piece of equipment at the lowest practical sound level, increasing the output no greater than six (6) decibels (dB) per 5-

minute period;

2. During operations, if an animal's actions are observed to be "irregular" the monitor will have the authority to recommend the cessation of data collection until the animal moves out of the project area. If the behavior is observed, the equipment will be shut-off and will be restarted and ramped-up to full power or will not be started until the animal(s) is/are outside of the project area;

3. The monitor will have the authority to recommend halting data collecting operations if a large concentration of diving birds/sea birds is observed in the immediate vicinity; and

4. Unless the safety of the vessel or crew would be in jeopardy, avoidance measures instituted during vessel transit will be implemented during geophysical data collection as well.

With the incorporation of the mitigation measures presented in this document, the proposed offshore survey activities are unlikely to cause injury and/or disturb marine wildlife.

5.0 Recording and Reporting Procedures

The onboard monitor will record observations on pre-printed forms and will photodocument observations whenever possible. The completed forms will be used as the primary data sources for the post-survey report (see Section 5.3 below) which will be provided to the CSLC and/or other agencies if requested. (appendix b).

5.2 Collision Response

If a collision with marine mammal or reptile occurs, the vessel operator must document the conditions under which the accident occurred, including the following:

- Location (latitude and longitude) of the vessel when the collision occurred;
- Date and time of collision;
- Speed and heading of the vessel at the time of collision;
- Observation conditions (e.g., wind speed and direction, swell height, visibility in miles or kilometers, and presence of rain or fog) at the time of collision;
- Species of marine wildlife contacted (if known);
- Whether an observer was observing for marine wildlife at the time of collision; and

· Name of vessel, vessel owner/operator (the company), and captain or officer in charge of the vessel at time of collision. If a collision occurs, the vessel should stop, if safe to do so. However, the vessel is not obligated to stand by and may proceed after confirming that it will not further damage the animal by doing so. The vessel will then communicate by radio or telephone all details to the vessel's base of operations (Table 4).

Table 4. Collision Contact Information

Federal	State	State
Justin Viezbicke Stranding Coordinator National Marine Fisheries Service Long Beach, California (562) 980-3230	Enforcement Dispatch Desk California Department of Fish and Wildlife Los Alamitos, California (562) 598-1032	California State Lands Commission Division of Environmental Planning and Management Sacramento, California (916) 574-1938

The Marine Mammal Protection Act (MMPA) requires that collisions with or other Project-related impacts to marine wildlife will be reported promptly to the National Marine Fisheries Service (NMFS) Stranding Coordinator. From the report, the NMFS Stranding Coordinator will coordinate subsequent action, including enlisting the aid of marine mammal rescue organizations, if appropriate.

From the vessel's base of operations, a telephone call will be placed to the National Marine Fisheries Service West Coast (California) Stranding Coordinator in Long Beach, to obtain instructions. Alternatively, the vessel captain may contact the NMFS Stranding Coordinator directly using the marine operator to place the call or directly from an onboard telephone, if available to the federal contact in table 4.

It is unlikely that the vessel will be asked to stand by until NMFS or CDFW personnel arrive; however, this will be determined by the NMFS Stranding Coordinator. According to the MMPA, the vessel operator is not allowed to aid injured marine wildlife or recover the carcass unless requested to do so by the NMFS Stranding Coordinator. Although NMFS has primary responsibility for marine mammals in both state and federal waters, the CDFW will also be advised that an incident has occurred in state waters affecting a protected species.

5.3 Monitoring Report

A technical report will be prepared documenting the project activities, observations of marine wildlife, and a summary of encounters with any marine mammals and/or turtles, and subsequent actions taken during the survey. The report will be submitted to the appropriate agencies (CSLA and CDFW) within two weeks of completion of field data collection.

5.4 Operational spills

Operational spills might involve the fuel carried on board the Connell. Spill occurrence is unlikely and all fueling occurs onshore. No cross vessel fueling will be performed.

The Connell is equipped with woven polypropylene sheets (5 sheets) for rapid absorption of surface oil and protective gloves (1 pair), and a disposal bag (1) This oil spill materials are located in the forward cabinet of the vehicle. This spill kit is rated to clean up x gallons of liquid. If a spill occurred in the engine compartment, the oil spill kit would be used to contain the hazardous liquids and the bilge would not be emptied until it could be pumped out at a hazardous waste facility. If fuel is spilled on the deck, it shall be immediately removed, bagged and disposed of at an appropriate hazardous waste reception facility. In the event of spillage in the water, the vessel master shall notify the Coast Guard and port facility.

Prior to the launching of the vessel for any activities, all captain and crew members on the vessel will have read the Oil Spill Contingency Plan, understand procedures to be implemented in the event of an oil spill, and know where the oil spill kit is located on the vessel.

Any oil spill in U.S. marine waters shall be reported immediately to the following state and agencies:

West Coast Oil Spill hot-line: 800-OELS-911

Department of Fish and Game CalTIP: 888-CFG-CALTip

U.S. Coast Guard National Response Center: 800-424-8802

California Office of Emergency Services (OES): 800-OILS-911 or 800-852-7550.

During the phone call, the following information will be given over the phone.

a. Name and telephone number of caller.

b. Spill location

c. What was spilled (oil, gas, diesel, etc.)

d. Estimated size of spill

e. The date & time spill was identified (same day).

f. Any oiled or threatened wildlife

g. Source of spill, if known

h. Activity observed at the spill site

After taking the necessary actions, the spill will be reported in writing to the Governor's Office of Emergency Services on their forms.

Additionally, California Department of Fish and Game certified wildlife rescue/response organizations will be contacted about the spill. In the Southern California area, these include the following contacts:

Oiled Wildlife Care Network: 1-877-UCD-OWCN

Animal Advocates: 323-651-1336

California Wildlife Center: 310-458-9453

5.5 Priority actions to ensure personnel and vessel safety

Safety of vehicle operators and the vehicles are paramount. In the event that any injuries require outside emergency assistance, the emergency personnel shall be contacted immediately. While awaiting emergency assistance, the on board vessel pilot or qualified vessel crew personnel will render first aid and/or CPR. The nearest emergency medical facilities for this area is:

Santa Barbara Cottage Hospital

400 W Pueblo St, Santa Barbara, CA 93105

(805) 682-7111

Emergency numbers for U.S.C.G. for the Santa Barbara Area are:

Pacific SAR Coordinator, Alameda: 510-437-3700

Rescue Coordination Center, Alameda: 510-437-3700

If safety of both the vessel and the personnel has been addressed, the vessel master shall care for the following issues:

• Assessment of the situation and monitoring of all activities as documented evidence.

• Care for further protection of the personnel, use of protective gear, assessment of further risk to health and safety.

• Containment of the spilled material by absorption and safe disposal within leak proof containers of all used material onboard until proper delivery ashore, with due consideration to possible fire risk.

• Decontamination of personnel after finishing the cleanup process.

References

Allen, S., Mortenson, J., and Webb, S.. 2011. Field Guide to Marine Mammals of the Pacific Coast: Baja, California, Oregon, Washington, British Columbia. University of California Press. Berkeley and Los Angeles, California.

Bonnell, M.L., and Dailey, M.D.. 1993. Ecology of the Southern California Bight: A Synthesis and Interpretation. Berkeley, CA: University of California Press.

Hornafius, J., D. Quigley, and B. Luyendyk. 1999. "The World's Most Spectacular Hydrocarbon Seeps (Coal Oil Point, Santa Barbara Channel, California): Quantification of Emissions." *Journal of Geophysical Research*. http://www.geol.ucsb.edu/faculty/luyendyk/Luyendyk_pdf/Hornafius et al. JGR.pdf.

National Marine Fisheries Service. 2015a. Marine Mammal Stock Assessment Reports by Species. Website: http://www.nmfs.noaa.gov/pr/sars/species.htm. Updated February 25, 2015 accessed on April 24, 2016.

National Marine Fisheries Service 2015b. Status of Marine Turtles Website: http://www.fisheries.noaa.gov/pr/species/turtles/ Updated March 30, 2015 accessed on April 2, 2016.

NOAA National Centers for Coastal Ocean Science (NCCOS). 2007. A Biogeographic Assessment off North/Central California: In Support of the National Marine Sanctuaries of Cordell Bank, Gulf of the Farallones and Monterey Bay. Phase II – Environmental Setting and Update to Marine Birds and Mammals. Prepared by NCCOS's Biogeography Branch, R.G. Ford Consulting Co. and Oikonos Ecosystem Knowledge, in cooperation with the National Marine Sanctuary Program. Silver Spring, MD. NOAA Technical Memorandum NOS NCCOS 40. 240 pp.

U.S. Geological Survey, 2014. Spring 2014 Mainland California Sea Otter Survey Results. Website accessed online at: https://www.sciencebase.gov/catalog/item/55f98087e4b05d6c4e5013ea on May 13, 2016

Appendix A – Marine Wildlife Monitor Resumes

Christoph Pierre

Collector/Naturalist
University of California, Santa Barbara

EDUCATION:

B.S. Aquatic Biology, University of California, Santa Barbara, 2006
M.S. Environmental Management, Arizona State University, 2012

QUALIFICATIONS:

- Biological Surveying and Monitoring
- Biological Resource Surveys/Reports
- Marine Collections
- Offshore Marine Wildlife Observer

Mr. Pierre is the Director of Marine Operations and Collector/Naturalist for the University of California, Santa Barbara. He is responsible for the identification, collection, transportation, maintenance and husbandry of vertebrate and invertebrate marine flora and fauna for UCSB. He is also responsible for all CDFW scientific collecting permits for the marine operations and oversees the small boating and diving operations for the university. Prior to joining UCSB, his experience consisted of both research-based and hands-on experience with marine wildlife.

OFFSHORE EXPERIENCE:

Mr. Pierre's offshore experience includes over 12 years and 5,000 hours onboard UCSB research vessels in the Santa Barbara Channel. He has extensive experience conducting biological and ocenaographic field studies both above and below water including monitoring for marine mammal activity during sonar studies. His boating experience includes navigation, GPS, fathometer, radar, emergency reponse, field safety first aid and oxygen administration. He is responsible for record keeping, care of working animals, and captain/crew duties while on the water.

MARINE WILDLIFE HANDLING:

Mr. Pierre routinely (weekly) identifies, handles, and transports marine fish and invertebrate species for use in UCSB reserach laboratories and classroom studies. He has experience on NOAA federal permits (NMFS Permit 14097) with the identification, approach and collection of cetacean tissue biopsies. He has also served as a marine wildlife observer on numerous occassions for multibeam sonar analysis of methane seep fields.

CERTIFICATIONS:

Certified SCUBA Instructor, NAUI 2014

Certified Research SCUBA Diver, AAUS 2005

CPR/AED/O2 and First Aid Certified, Current

Christian Orsini

Assistant Collector/Naturalist
University of California, Santa Barbara

EDUCATION:

B.S. Biology, University of California, Santa Cruz, 2008

QUALIFICATIONS:

- Biological Surveying and Monitoring
- Marine Mammal Research and Tagging
- Marine Collections
- Offshore Marine Wildlife Observer

Mr. Orsini is the Assistant Collector/Naturalist for the University of California, Santa Barbara. He is responsible for the identification, collection, transportation, maintenance and husbandry of vertebrate and invertebrate marine flora and fauna for UCSB. He is also responsible for CDFW scientific collecting permit review and amendments for the marine operations and assists in overseeing the small boating and diving operations for the university. Prior to joining UCSB, his experience consisted of both research-based and hands-on experience with marine wildlife along the entirety of the California coast.

OFFSHORE EXPERIENCE:

Mr. Orsini's offshore experience includes over 10 years and 6,000 hours onboard UCSB and UCSC research vessels in the Santa Barbara Channel and northern California coast. He has extensive experience conducting biological and ocenaographic field studies both above and below water including monitoring for marine mammal activity during sonar studies. His boating experience includes navigation, GPS, fathometer, radar, emergency reponse, field safety first aid and oxygen administration. He is responsible for record keeping, care of working animals, and captain/crew duties while on the water.

MARINE WILDLIFE HANDLING:

Mr. Orsini routinely (weekly) identifies, handles, and transports marine fish and invertebrate species for use in UCSB reserach laboratories and classroom studies. He has experience working under NOAA federal permits (NMFS Permit 14097) with the identification, approach and collection of cetacean tissue biopsies. He has served as a marine wildlife observer on numerous occassions for multibeam sonar analysis of methane seep fields and worked intimately with elephant seal tagging, measurments, and relocations on the northern California coast.

CERTIFICATIONS:

Certified SCUBA Divemaster, NAUI 2009

Certified Research SCUBA Diver, AAUS 2007

CPR/AED/O2 and First Aid Certified, Current

AVREY PARSONS-FIELD

Staff Research Associate
Partnership for Interdisciplinary Studies of Coastal Oceans
University of California, Santa Barbara

EDUCATION

B.S. Aquatic Biology, University of California, Santa Barbara, 2005

M.A. Ecology, Evolution and Marine Biology, University of California, Santa Barbara, 2008

QUALIFICATIONS

- Biological Surveying and Monitoring
- Marine Collections / Sampling
- Extensive Experience Navigating the Santa Barbara Channel

Mr. Parsons-Field is the lead staff scientist for the PISCO (Partnership for Interdisciplinary Studies of Coastal Oceans) research program at UC Santa Barbara. He is responsible for conducting ecological surveys on rocky reefs and in the rocky intertidal zone at sites throughout the Santa Barbara Channel including the Northern Channel Islands. He manages and trains a team of staff and student biologists who identify and quantify fish, invertebrate and algal species both in the intertidal and using SCUBA. He is also responsible for CDFW scientific collecting permit review and amendments for these research projects.

OFFSHORE EXPERIENCE

Mr. Parsons-Field offshore experience includes over 14 years and 8,000 hours onboard a variety of research vessels in the Santa Barbara Channel including UCSB, NOAA and CDFW research vessels. He has experience operating vessels up to 47’ in length, navigating the waters that include the Northern Channel Islands He has extensive experience conducting ecological, biological and oceanographic research both above and below water. His boating experience includes navigation, GPS, fathometer, radar, emergency response, field and dive safety first aide and oxygen administration.

Mr. Parsons-Field routinely (weekly) identifies and quantifies marine fish, invertebrate and algae species as part of on-going ecological monitoring work at sites throughout the Santa Barbara Channel. He has experience identifying and recording observations of marine mammals as part of field operations on a variety of research projects.

CERTIFICATIONS

- Certified SCUBA Instructor, NAUI, 2008
- Certified Research SCUBA Diver, AAUS, 2002
- CPR/AED/O2 and First Aid Certified, Current

Scott Loranger
Department of Earth Sciences
Center for Coastal and Ocean Mapping
University of New Hampshire
Durham, NH 03824
Telephone: (603)862-0564 Email: sloranger@ccom.unh.edu

Mr. Loranger is an experienced marine scientist and Ph.D. candidate at the University of New Hampshire. In addition to conducting his research in oil detection in the marine environment his training includes ecological monitoring projects at his current institution, University of New Hampshire, along with past experience at the Smithsonian Tropical Research Institute and the SEA Education Institute, among others (see below for details). Mr. Lorangers proficiency as a naturalist includes marine mammal observation and identification, an extension of his interest and expertise in marine ecology in addition to physical oceanography and the associated expertise in measurement, record keeping and substantial research cruise time.

Education

2018 Ph.D.	Oceanography
(Expected)	University of New Hampshire
2009 B.S.	Biological Sciences – *focus: Marine Ecology*
	Cornell University

Work Experience

2013-present	Graduate Research Assistant, Univ. of New Hampshire
	- Research: Detection and quantification of oil in the marine environment
2013	Research Assistant, Univ. of New Hampshire
	- Research: Mapping and quantifying macroalgae communities
2012	Research Technician, Smithsonian Tropical Research Institute
	- Research: Observations of coral reef community health, recovery and resilience
2010-2012	Technical Coordinator, Alliance for Coastal Technologies, Solomons, MD
	- Research: Evaluating optical methods for detection and quantification of oil
2010-2012	Research Assistant, Maritime Environmental Resource Center, Solomons, MD
	- Research: Evaluating ballast water treatment systems for the preventing the spread of marine invasive species
2009	Deckhand/Educator – Sultana Projects, Inc, Chestertown, MD
	- Taught biology and history to 3rd to 5th grade students onboard sailing vessel
2008-2009	Research Assistant, Cornell University
	- Research: Genetic causes of hemophilia in canines
2007	Student – SEA Education Association, Woods Hole, MA
	- Research: The Biogeodistribution of a Pelagic Insect: Halobates spp. in the Central Pacific.

Cruises/DSV Dives

Alvin Dive 4797 – DSV Alvin. Scientific observer. Gulf of Mexico, 2015.

AT29-02 – R/V Atlantis. Scientist. Gulf of Mexico, 2015.

MGL 1512 – R/V Langseth. Laboratory technician. Atlantic Ocean off North America, 2015.

DY 1608 – R/V Oscar Dyson. Scientist. Berring Sea, 2016.

Appendix B – Marine Wildlife Monitor Observation Sheet

Example Marine Mammal Observation Sheet:

Marine Mammal Observations
Project Name:_____

Date: _____ Sheet _____ of _____ for this day
Monitor: _____ Monitoring Location: _____

Sighting #	Time of Day	Weather	Species	# of Individuals	Location*	Behavior/Construction Activity

*E.g., Direction, Distance Estimate or Mark on Figure with Sighting Number

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FOURSTROKE

150 hp

Stronger. Lighter. More Durable.

Massive displacement and the lightest 150 hp four-stroke in its class

Engine type 8-valve single overhead cam (SOHC), Inline 4

Displacement (L) 3.0

Full throttle RPM 5000-5800

Steering Big Tiller Compatible, Dual cable mechanical, Electro-Hydraulic Power Steering Optional on Duals, Hydraulic power steering

Dry weight *Lightest model available 455 lbs / 206 kg

The specifications displayed here may not be indicative of the entire engine family; click on the "See All Models and Specs" link to view the specs in detail.

See All Models and Specs

Find a dealer

Compare

Performance, Durability, Efficiency.

Making 150 horsepower is easy for this **3.0-liter, four-cylinder, single-overhead-cam engine**. Its generous displacement lets it churn out power without breaking a sweat. You get exceptional durability and

HP / kW	150 / 110
Engine type	8-valve single overhead cam (SOHC) Inline 4
Displacement (L)	3.0
Full throttle RPM	5000-5800
Air induction	Performance-Tuned Scroll Intake Manifold
Fuel induction system	Computer Controlled Multi-Port Electronic Fuel Injection (EFI)
Alternator amp / Watt	60 amp / 756 watt (Belt-Driven)
Recommended fuel	Unleaded Regular 87 Octane Minimum (R+M/2) or 90 RON 10% Ethanol Maximum
Recommended oil	Mercury FourStroke Oil 10W-30
Engine protection operator warning system	SmartCraft Engine Guardian
Compatible with SmartCraft digital technology	Yes
Starting	Electric (turn-key) Smart Start Electric
Controls	Mechanical throttle & shift
Steering	Big Tiller Compatible Dual cable mechanical Electro-Hydraulic Power Steering Optional on Duals Hydraulic power steering
Shaft length	20" / 508 mm 25" / 635 mm
Gearcase ratio	1.92:1

Dry weight *Lightest model available	455 lbs / 206 kg
CARB star rating	3
Bore and stroke	4.0 x 3.6" / 102 x 92 mm
Ignition	SmartCraft ECM 70 Digital Inductive
Fuel system	Electronic Fuel Injection (EFI)
Cooling system	Water-cooled with thermostat
Gear shift	F-N-R
Gearcase options	Standard
Trim system	Power Tilt Power Trim
Exhaust system	Through prop
Counter Rotation	Available
Color	Phantom Black
Lubrication system	Wet sump
Oil Capacity	6.3 qts / 6.0l
Maximum Trim Range	22° (-6° to 16°)
Maximum Tilt Range	73° (-6° to 67°)

Print

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APPENDIX D

LOCAL NOTICE TO MARINERS

NOTICE OF SURVEY OPERATIONS

1. NAME OF CONTRACTOR: UCSB Dept. of Earth Science, David Valentine Research Group
2. TYPE OF OPERATION: Single Beam Sonar and Natural Gas and Oil Seep Field Survey
3. LOCATION / POSITION INFORMATION: Offshore Goleta/Isla Vista/Ellwood, California (see attached map)
4. START AND END DATES: Start: August 31, 2016, End September 16, 2016 (all non-holiday weekdays)
5. VESSEL INVOLVED AND CALL SIGN: R/V Connell, WAM8729
6. RADIO YES/NO, VHF FREQ'S MONITORED: Yes, VHF 16
7. OTHER PERTINENT INFO: The Connell will be towing up to 50ft of cable astern of the vessel. Operations will be conducted only during daylight hours.
8. POC NAME AND TELEPHONE NUMBER: Frank Kinnaman (UCSB) (805) 893-8985
9. CHART NUMBER:
   CALIFORNIA SURVEY OPERATIONS – OFFSHORE GOLETA/ELLWOOD
   UCSB will be conducting a single beam sonar survey to investigate the natural hydrocarbon seeps in the Coal Oil Point area from the R/V Connell in the area outlined on the attached portion of Chart 18721. Operations will last approximately 2 weeks and be carried out between August 31 and September 16, 2016 during daylight hours only. The R/V Connell will be towing up to 50ft of cable during mapping operations. The survey area is outlined by the following coordinates (also see map on following page).

LATITUDE	LONGITUDE
34° 25.221' N	**119° 54.658' W**
34° 23.122' N	**119° 55.688' W**
34° 21.493' N	**119° 50.844' W**
34° 21.239' N	**119° 48.500' W**
34° 24.100 N	**119° 48.500' W**
34° 24.100' N	**119° 52.696' W**

The vessel will have limited maneuverability during operations and mariners are advised to use caution when transiting in the area. For more details or comments contact Frank Kinnaman at 805-893-8985.

Excerpt from NOAA nautical chart 18721 with proposed survey area
Offshore Goleta/Ellwood, California

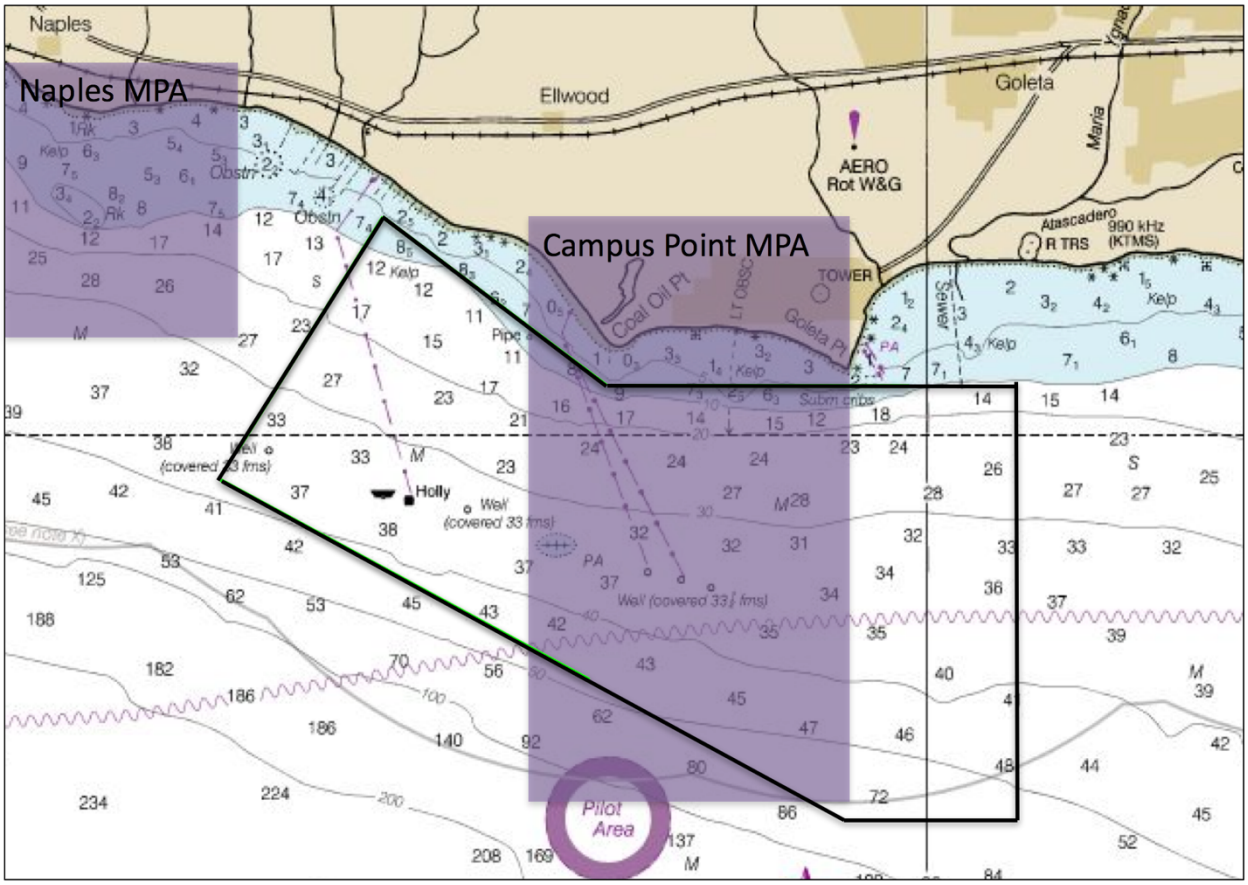


EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address

Prof. David Valentine
Earth Science Dept., UCSB
552 University Rd, 1006 Webb Hall
Santa Barbara, CA 93106-9630

Date: 8/8/2016

Jurisdiction: Federal ____ State X Both ____

If State: Permit #PRC ____

Region: II

Area: Santa Barbara/Goleta

GEOPHYSICAL SURVEY PERMIT

Check one: x New survey ____ Time extension of a previous survey

Prof. David Valentine (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) N/A (all work inside 3 n.m.)

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 Frank Kinnaman
2) CSLC representative Richard Greenwood

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 Weekday non-holidays from August 31- September 16, 2016
2. Hours of Operation 8AM to 6PM
3. Vessel Name R/V Connell
4. Vessel Official Number CF3530XS
5. Vessel Radio Call Sign WAM8729
6. Vessel Captain's Name Christoph Pierre or Christian Orsini
7. Vessel will monitor Radio Channel(s) 16
8. Vessel Navigation System Differential GPS

9. Equipment to be used Single beam echosounders (at times deployed simultaneously)

   a. Frequency (Hz, kHz) 1kHz,10kHz,90kHz,150kHz,260kHz

   b. Source level (dB re 1 μPa at 1 meter (m) [root mean square (rms)]) 195-216 dB rms

   c. Number of beams, across track beamwidth, and along track beamwidth

   beam widths, respective to above frequencies (deg)= 30,8,7,7,7.

   d. Pulse rate and length all 1/s. Duration(msec):50,16,2,2,2.

   e. Rise time 6 dB rise per 5 minute period

   f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1 μPa (rms) isopleths respective to a: 160dB(m)=100,384,248,163,134;180dB(m)=6,17,49,31,28;190(db)=2,6,18,11,11

   g. Deployment depth 1-5m below sea surface

   h. Tow speed 5.0 knots

   i. Approximate length of cable tow 15m

Applicant's Representative:
Frank Kinnaman
Earth Science Dept., UCSB
552 University Rd, 1006 Webb Hall
Santa Barbara, CA 93106-9630
(805)893-8985

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):

CSLC Geophysical Permit - PRC 9361 - 21 day notice. (Goleta/Santa Barbara area)

Frank Kinnaman <frank_kinnaman@ucsb.edu> 4:35 PM (5 minutes ago)
to D11LNM

Good afternoon,

Per our geophysical notification requirements by California State Lands Commission (CSLC), I am submitting to you the attached notice.

Please contact me if you have any questions or require further information. It would be very helpful to learn that you have received this by replying here. Thank you.

PDF PRC_9361_21_da...

Click here to Reply or Forward

geophysical survey notice (sonar), Coal Oil Point area, August 31 - sept 16

Frank Kinnaman <frank_kinnaman@ucsb.edu> 4:38 PM (6 minutes ago)
to shop

Good afternoon,

Per our geophysical notification requirements by California State Lands Commission (CSLC), I am submitting to you the attached notice for posting.

Please contact me if you have any questions or require further information. Thank you.

PDF Local Notice UCS...

geophysical survey notice (sonar), Coal Oil Point area, August 31 - sept 16

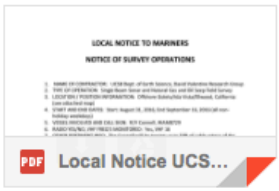
Frank Kinnaman <kinnaman@mrl.ucsb.edu> 4:38 PM (6 minutes ago)

to sriedman

Good afternoon,

Per our geophysical notification requirements by California State Lands Commission (CSLC), I am submitting to you the attached notice for posting.

Please contact me if you have any questions or require further information. Thank you.



geophysical survey notice (sonar), Coal Oil Point area, August 31 - sept 16

Frank Kinnaman <frank_kinnaman@ucsb.edu> 4:39 PM (6 minutes ago)

to Info

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