

EXHIBIT F

PRESURVEY NOTIFICATION FORM

Applicant/Permittee's Mailing Address		Date:	<u>27-Oct-15</u>
<u>Gahagan & Bryant Associates (GBA)</u>	Jurisdiction:	Federal:	State <u>X</u> Both _____
<u>772 Tuna Street</u>		If State: Permit #PRC	<u>PRC 9165</u>
<u>San Pedro, CA 90731</u>		Region:	<u>Statewide</u>
		Area:	_____

GEOPHYSICAL SURVEY PERMIT

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

GBA (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 the 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 [NFS])

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 receipt of this notice.

STATE WATERS (inside 3 nautical miles)

- 1) Permittee's representative
- 2) CLSC 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 November 18 - November 27, 2015 (survey should take ~ 4 - 5 days, extra days for weather)
- 2. Hours of Operation 0700- 1700 hrs (daylight hours)
- 3. Vessel Name Survey Vessel JAB (side scan/sub bottom,) Survey Vessel "Tati B" (multi beam)
- 4. Vessel Official Number #####, DE 17561
- 5. Vessel Radio Call Sign N/A - no longer required by Feds
- 6. Vessel Captain's Name Brayton Pointer, David Morse
- 7. Vessel will Monitor Radio Channel(s) 16
- 8. Vessel Navigation System GPS
- 9. Equipment to be used R2 Sonic 2024 multi beam, Edgetech 4200 side scan, Edgetech SB 424 sub-bottom
 - a. Frequency (Hz, kHz) 200 kHz, 600 kHz, 4-24 kHz
 - b. Source level (db re 1uPa at 1 meter (m) [root mean square (rms)] 221, 220, 214
 - c. Number of beams, across track beam width, and along track beamwidth MB: 256 beams, 2 deg @ 200 kHz, 2 deg @ 200 kHz, Sscan: 1 beam, H=.26 deg, V=50 deg, Sub: 1 beamwidth up to 24 deg
 - d. Pulse rate and length 15usec- 1000usec, 4Hz 10ms, 10 Hz 5ms
 - e. Rise time 0.05 ms, 12.5-200 usec, 165 usec
 - f. Estimated distances to the 190 dB, 180 dB, and 160 dB re 1uPa (rms) isopleths see table below

Source	Dist to 160 dB m	Dist to 180 dB m	Dist to 190 dB m
Multi beam	90	50	30
Side Scan	30	8	3
Sub-bottom	220	25	8

- g. Deployment depth 3', 10'-130', 10'-20'
- h. Tow speed 5 knots, 3-4 knots, 3-4 knots
- i. Approximate length of cable tow n/a, 30'-390', 10'-20'

Applicant's Representative:

David J. Eller

Vice President, West Coast Survey Manager

772 Tuna Street

San Pedro, CA 90731

djeller@gba-inc.com

BOEM Representative:

Joan Barminski

Chief, Office of Reservoir & Production

770 Paseo Camarillo

Camarillo, CA 93010

(850) 389-7707

California State Lands Representative

Richard B. Greenwood

Statewide Geophysical Coordinator

200 Oceangate, 12th Floor

Long Beach, CA 90802-4331

(562) 590-5201

Other Federal Representative (if not BOEM):

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 the 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	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Geophysical Survey Permit F
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Permit(s) or Authorization from other Federal or State agencies (if applicable)
		Explanation: <u>not applicable</u>
<hr/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	21-Day Written Notice of Survey Operations to Statewide Geophysical Coordinator/
<input checked="" type="checkbox"/>	<input type="checkbox"/>	U.S. Coast Guard Local Notice to Mariners/
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Harbormaster and Dive Shop Notifications
		Explanation: <u>see attached</u>
<hr/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Marine Wildlife Contingency Plan
		Explanation: <u>provided</u>
<hr/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Oil Spill Contingency Plan
		Explanation: <u>provided</u>
<hr/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Verification of California Air Resource Board's Tier 2-Certified Engine Requirement\
		Explanation: <u>See Exhibit C for SV "Theory" and for SV "Tati B"</u>
<hr/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Notification of Geophysical Survey Equipment Used
		Explanation: <u>provided</u>
<hr/>		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Verification of Equipment Service and/or Maintenance (no older than 12 months; must verify sound output)
		Explanation: <u>All sonar equipment is low energy, description of characteristics and specs. provided.</u>
<hr/>		
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Permit(s) or Authorization from California Department of Fish and Wildlife for surveys in or affecting Marine Protected Area(s) (if applicable)
		Explanation: <u>See Exhibit E</u>

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

Gahagan & Bryant Associates, Inc.

772 Tuna Street
San Pedro, CA 90731
(310) 521-8127



Mr. Richard Greenwood
Statewide Geophysical Survey Coordinator
California State Lands Commission
Mineral Resources Management Division
200 Oceangate, 12th Floor
Long Beach, CA 90802-4331

October 29, 2015

RE: Revised Proposed Geophysical Survey for a Proposed Pipeline Route Offshore of Santa Monica, CA

Dear Statewide Geophysical Survey Coordinator:

The proposed survey is located offshore of Santa Monica. Survey limits will be from a safe distance nearshore to approximately 2 miles offshore with a width of 2,000' (see Figure 1.) The survey area does not impact any Marine Protected Areas (MPA) (see Exhibit E.) The objective of the survey is to locate an area for a proposed pipeline route. The sonar survey will image the bottom using side scan sonar (Edgetech 4200) and a sub-bottom profiling system (Edgetech 424) to determine the sub-surface geology of the bottom up to a depth less than 20'. The side scan sonar will be towed at varying lengths to keep the towfish within 20% of the seafloor bottom. The bathymetry of the area will be surveyed using a multi beam transducer (R2 Sonic 2024.) The side scan and sub-bottom surveys will be conducted as separate survey events from the survey vessel "Jab," a 2010 Armstrong marine aluminum catamaran. The multi beam survey will be conducted on the survey vessel "Tati B." The survey vessels will not be operating at the same time during the sub-bottom data collection due to marine mammal observer requirements. Once the sub-bottom survey is complete, we may elect to operate both surveys vessel "Jab" and "Tati B" simultaneously. Survey vessel information is contained in Exhibit A.

All of the sonar equipment which will be used during the survey is low energy. All the sonar equipment has been utilized on surveys within the last few months and has performed to the manufacturer's specifications. Once on site and prior to deployment in the water, all equipment undergoes a visual inspection to make sure all connections are secure and there is no damage to any cables/connections or equipment. After a physical check of the equipment, the sonar devices are powered on deck and checked to make sure that everything is in working order. The manufacturer's internal system software will confirm the system is operating properly and there are no grounding, voltage or fault issues. Once all system checks are verified, the equipment is set to the minimal power settings (if applicable) and deployed. Once deployed, the equipment will be powered up slowly to obtain an optimal data set. The manufacturer's specification sheets are contained in Exhibit B. A description of the characteristics of the sonar equipment is provided in Exhibit F.

PHILADELPHIA, PA
(215) 425-6283

BALTIMORE, MD
(410) 682-5595

HOUSTON, TX
(832) 518-2112

WILMINGTON, DE
(302) 652-4948

ROHNERT PARK, CA
(707) 595-3492

TAMPA, FL
(813) 831-4408

NORTH CAROLINA
(910) 313-3338

Survey operations will occur only during daylight hours to enable marine mammal observers aboard to identify any marine life that may enter the survey area so that we may cease acoustic firing until the specified safety zone is cleared. The source energy level for this type of equipment is low and the potential for impact to marine life is minimal. Two marine mammal observers will be onboard the survey vessel “Jab” during the sub-bottom data collection. A safety zone of 220 m will be observed during sub-bottom data collection. One marine mammal observer will be onboard each vessel during the side scan and multi beam data collection. Marine mammal observer qualifications will be submitted to Monica DeAngelis (monica.deangelis@noaa.gov.) The proposed marine mammal observers’ qualifications are contained in Exhibit C.

The proposed survey window is from November 18 – 27, 2015. The actual survey in its entirety should only take 4-5 days. The additional days are to account for a weather window to safely navigate in the open ocean. The length of time operating the acoustic profiling equipment should only be 6-8 hours per day. All required survey notifications are contained in Exhibit D.

The pre survey geophysical survey checklist is contained in Exhibit G. Please call if you have any questions regarding GBA’s proposed geophysical survey 310-521-8127 or 310-261-1612.

Sincerely,



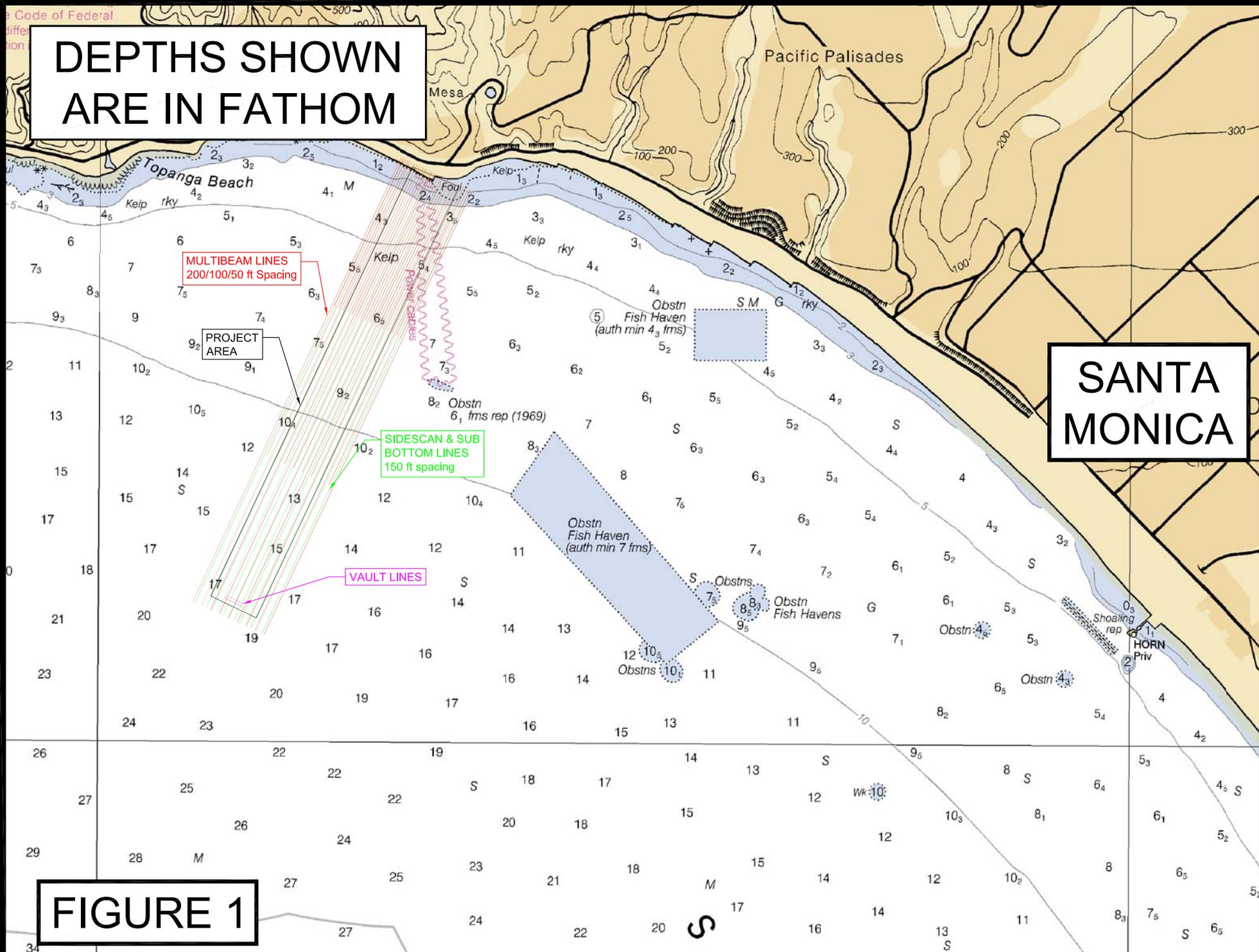
David J. Eller
Vice President, West Coast Survey Manager

Attachments:

- Exhibit A – Survey Vessel Information
- Exhibit B – Equipment Specifications
- Exhibit C – Marine Mammal Observer Qualifications
- Exhibit D – Survey Notifications
- Exhibit E – Marine Protected Areas Map
- Exhibit F – Pre-Survey Notification Form
- Exhibit G – CSLC Pre-Survey Notification
- Marine Wildlife Contingency Plan
- Oil Spill Contingency Plan

Code of Federal
Regulation
Title 33
Chapter 123
Subchapter B
Section 123.01

**DEPTHS SHOWN
ARE IN FATHOM**



**SANTA
MONICA**

FIGURE 1

GEOGRAPHIC NAD 83

MULTIBEAM LINES

	Latitude	Longitude	Latitude	Longitude	Distance
LINE 01	118.5698462	34.0071617	118.5532046	34.0370832	12000
LINE 02	118.5589328	34.0271789	118.5533843	34.0371525	4000
LINE 03	118.5646596	34.0172743	118.5535640	34.0372217	8000
LINE 04	118.5592922	34.0273174	118.5537437	34.0372910	4000
LINE 05	118.5705647	34.0074388	118.5539234	34.0373603	12000
LINE 06	118.5596515	34.0274560	118.5541031	34.0374296	4000
LINE 07	118.5653783	34.0175514	118.5542828	34.0374989	8000
LINE 08	118.5600109	34.0275946	118.5544625	34.0375682	4000
LINE 09	118.5712834	34.0077159	118.5546422	34.0376375	12000
LINE 10	118.5603703	34.0277332	118.5548219	34.0377068	4000
LINE 11	118.5660970	34.0178286	118.5550016	34.0377761	8000
LINE 12	118.5607297	34.0278717	118.5551813	34.0378454	4000
LINE 13	118.5720020	34.0079929	118.5553610	34.0379147	12000
LINE 14	118.5610890	34.0280103	118.5555407	34.0379840	4000
LINE 15	118.5668156	34.0181057	118.5557205	34.0380533	8000
LINE 16	118.5614484	34.0281489	118.5559001	34.0381226	4000
LINE 17	118.5727206	34.0082700	118.5560798	34.0381919	12000
LINE 18	118.5618078	34.0282874	118.5562596	34.0382611	4000
LINE 19	118.5675343	34.0183828	118.5564393	34.0383304	8000
LINE 20	118.5621672	34.0284260	118.5566190	34.0383997	4000
LINE 21	118.5734392	34.0085470	118.5567987	34.0384690	12000
LINE 22	118.5625265	34.0285646	118.5569784	34.0385383	4000
LINE 23	118.5682530	34.0186599	118.5571581	34.0386076	8000
LINE 24	118.5628859	34.0287031	118.5573378	34.0386769	4000
LINE 25	118.5741578	34.0088241	118.5575175	34.0387462	12000
LINE 26	118.5632453	34.0288417	118.5576972	34.0388155	4000
LINE 27	118.5689717	34.0189369	118.5578769	34.0388848	8000
LINE 28	118.5636046	34.0289803	118.5580566	34.0389541	4000
LINE 29	118.5748764	34.0091012	118.5582363	34.0390234	12000
LINE 30	118.5639640	34.0291188	118.5584160	34.0390926	4000
LINE 31	118.5696904	34.0192140	118.5585957	34.0391619	8000
LINE 32	118.5643234	34.0292574	118.5587755	34.0392312	4000
LINE 33	118.5755951	34.0093782	118.5589552	34.0393005	12000

VAULT LINES

	Latitude	Longitude	Latitude	Longitude	Distance
LINE 1	118.5730863	34.0096539	118.5715659	34.0090330	513
LINE 2	118.5729838	34.0098279	118.5714634	34.0092071	513

SIDESCAN / SUB BOTTOM LINES

	Latitude	Longitude	Latitude	Longitude	Distance
LINE 01	118.5700258	34.0072310	118.5533843	34.0371525	12000
LINE 02	118.5704749	34.0074041	118.5538336	34.0373257	12000

LINE 03	118.5709241	34.0075773	118.5542828	34.0374989	12000
LINE 04	118.5713732	34.0077505	118.5547321	34.0376722	12000
LINE 05	118.5718223	34.0079237	118.5551813	34.0378454	12000
LINE 06	118.5722714	34.0080968	118.5556306	34.0380186	12000
LINE 07	118.5727206	34.0082700	118.5560798	34.0381919	12000
LINE 08	118.5731697	34.0084432	118.5565291	34.0383651	12000
LINE 09	118.5736189	34.0086163	118.5569784	34.0385383	12000
LINE 10	118.5740680	34.0087895	118.5574276	34.0387115	12000
LINE 11	118.5745171	34.0089627	118.5578769	34.0388848	12000
LINE 12	118.5749663	34.0091358	118.5583262	34.0390580	12000
LINE 13	118.5754154	34.0093090	118.5587755	34.0392312	12000

Exhibit A:

Side scan and sub-bottom surveys will be conducted from the survey vessel “Jab” The vessel is a 43’ jet powered catamaran hull built in 2010 by Armstrong Marine. Main propulsion is from 2- Cummins QSC 8.3 liter 500 HP commercial diesel engine. Cruising speed of 27 knots while burning 40 gal/hour. The vessel has a 600 gallon capacity. Since cruising speed will only be while transiting from Marina Del Rey to the job site and back and the survey speed will be approximately 4 knots, the vessel will use substantially less than 585 gallons of fuel. Therefore daily NOx emissions should not exceed 100 pound per day.

The survey vessel “Tati B” is a 27’ mono hull vessel built by Thomas Marine in 2009. The vessel is powered by two outboard Honda 4 Stroke gasoline engines with a three star rating. The fuel capacity is 185 gallons. Only diesel engines are required to comply with the CARB Tier 2 Certification. We will not exceed the daily NOx emissions since our vessel only holds 185 gallons of fuel. Our anticipated maximum fuel consumption should be less than 30 gallons. The survey vessel “Tati B” will be conducting the multi beam survey. A picture of the survey vessel “Tati B” is in our Local Notice to Mariners.



Survey Vessel “Jab”

MANUFACTURED BY CUMMINS INC. FOR CUMMINS MERCURISER DIESEL, LLC Assembled in the U.S.A				Engine No. 46949786 EPA			
Date of Mfg. 09-29-08		Family 8CEXM0505AAB		NOx+ 7.2	THC	NOx+ 7.2	
CPL 0906		L / CYL 1.4	C.I.D./L 505 / 8.3	Catalyst No.		0.20 PM	PM
Fuel Rate at adv. HP			241 mm³ / Stroke	Inj. Set	Advertised HP 500 at 2600 rpm		
Ref. No. 4019221			Firing Order 1 5 3 6 2 4	Valve lash cold 0.012 Int. 0.022 Exh.		IMO Family M14QTA	
E.C.S.		Governed Speed (rpm) 2675		Inj. Timing Code ELECTRONIC			

MANUFACTURED BY CUMMINS INC. FOR CUMMINS MERCURISER DIESEL, LLC Assembled in the U.S.A				Engine No. 46949795 EPA		WARN warra altitu value	
Date of Mfg. 09-29-08		Family 8CEXM0505AAB		NOx+ 7.2	THC		NOx+ 7.2
CPL 0906		L / CYL 1.4	C.I.D./L 505 / 8.3	Catalyst No.		0.20 PM	PM
Fuel Rate at adv. HP			241 mm³ / Stroke	Inj. Set	Advertised HP 500 at 2600 rpm		
Ref. No. 4019221			Firing Order 1 5 3 6 2 4	Valve lash cold 0.012 Int. 0.022 Exh.		IMO Family M14QTA	
E.C.S.		Governed Speed (rpm) 2675		Inj. Timing Code ELECTRONIC			

Exhibit B:

2 SONIC SPECIFICATIONS

2.1 Sonic 2024 System Specification

System Feature	Specification
Frequency	400kHz / 200kHz
Beamwidth – Across Track (at nadir)	0.5° @ 400kHz / 1.0° @ 200kHz
Beamwidth – Along Track (at nadir)	1.0° @ 400kHz / 2.0° @ 200kHz
UHR Beamwidth (at nadir)	0.3° Across Track x 0.6° Along Track
Number of Beams	256
Swath Sector	10° to 160° (user selectable)
UHR Swath Sector	10° to 60° (user selectable)
Maximum Slant Range	1200 metres
Pulse Length	15µSec – 1000µSec
Pulse Type	Shaped Continuous Wave (CW)
Depth Rating	100 metres (3000 metres optional)
Operating Temperature	-10° C to 40° C
Storage Temperature	-30° C to 55° C

Table 2: System Specification

2.2 Sonic 2022 System Specification

System Feature	Specification
Frequency	400kHz / 200kHz
Beamwidth – Across Track (at nadir)	1.0° @ 400kHz / 2.0° @ 200kHz
Beamwidth – Along Track (at nadir)	1.0° @ 400kHz / 2.0° @ 200kHz
UHR Beamwidth (at nadir)	0.6° Across Track x 0.6° Along Track
Number of Beams	256
Swath Sector	10° to 160° (user selectable)
UHR Swath Sector	10° to 60° (user selectable)
Maximum Slant Range	1200 metres
Pulse Length	15µSec – 1000µSec
Pulse Type	Shaped Continuous Wave (CW)
Depth Rating	100 metres (3000 metres optional)
Operating Temperature	-10° C to 40° C
Storage Temperature	-30° C to 55° C

2.3 Sonic 2024 Dimensions and Weights

Component	Dimensions (L x W x D) / Dry Weight
Receiver Module	480mm x 109mm x 190mm / 12.9kg
Projector	273mm x 108mm x 86mm / 3.3kg
Sonar Interface Module (SIM)	280mm x 170mm x 60mm / 2.4kg
I2NS Sonar Interface Module (SIM)	280mm x 170mm x 126.4mm / 4.2kg
Receive module and Projector mass in water	5.9kg (Fresh)

Table 3: Component Dimensions and Mass

Version	5.0	Rev	r001
Date	15-05-2014		

2.4 Sonic 2022 Dimensions and Weights

Component	Dimensions (L x W x D) / Dry Weight
Receiver Module	276mm x 109mm x 190mm / 7.7kg
Projector	273mm x 108mm x 86mm / 3.3kg
Sonar Interface Module (SIM)	280mm x 170mm x 60mm / 2.4kg
I2NS Sonar Interface Module (SIM)	280mm x 170mm x 126.4mm / 4.2kg
Receive module and Projector mass in water	4.0kg (Fresh)

2.5 Sonic 2024/Sonic 2022 Electrical Interface

Item	Specification
Mains Power	90 – 260 VAC; 45 – 65 Hz
Power Consumption (SIM and Sonar Head)	75 Watt (Sonic 2022: 54 Watt)
Power Consumption (Sonar Head Only)	50W avg.; 90W Peak (Sonic 2022: 35W avg.; 70W Peak)
Integrated Inertial Navigation System (I2NS)	38.4W (SIM and IMU with Antennas)
Uplink/Downlink	10/100/1000Base-T Ethernet
Data Interface	10/100/1000Base-T Ethernet
Sync IN/OUT	TTL
GPS Timing	1PPS; RS232 NMEA
Auxiliary Sensors	RS232 / Ethernet
Deck Cable Length	15 metre (optional to 50 metres)

Table 4: Electrical Interface

2.6 Sonic 2024/2022 Ping Rates (SV = 1500.00m/sec)

RANGE	PING RATE
2 - 7	60.0
10	55.4
15	39.4
20	30.6
25	25.0
30	21.1
35	18.3
40	16.1
50	13.0
70	9.4
100	6.7
150	4.5
200	3.4
250	2.7
300	2.3
400	1.7
450	1.5
500	1.4
700	1.0
1000	0.7
1200	0.6

Table 5: Ping Rate table

WARNING

THE RECEIVE MODULE IS FILLED WITH OIL THAT WILL FREEZE TO A SOLID AT -10°C. STORAGE BELOW THIS TEMPERATURE (TO -30°C) IS POSSIBLE IF THE HEAD IS SLOWLY THAWED OUT PRIOR TO OPERATION.

Version	5.0	Rev	r001
Date	15-05-2014		



4200-SP/MP TOW VEHICLE

Size:	125.6 cm (49.5 in.) long 11.4 cm (4.5 in.) diameter
Weight in air:	48 kg (105 lb)
Weight in salt water:	36 kg (80 lb)
Construction:	Stainless steel
Maximum tow cable length:	6000 m (19,680 ft) Contact EdgeTech for cable type vs. length.
Depth rating:	2000 m (6560 ft)
Tow cable type:	Coaxial
Shear pin type:	8 mm (5/16 in.) Delrin rod
Shear force:	544 kg (1200 lb)
Frequencies:	100/400 kHz 300/600 kHz 300/900 kHz
Modulation:	Full spectrum chirp frequency-modulated pulse with amplitude and phase weighting
Expd Operating ranges (per side):	500 m (100 kHz) 230 m (300 kHz) 150 m (400 kHz) 120 m (600 kHz) 75 m (900 kHz)
Output pulse energy:	4 j (100 kHz) 3 j (300 kHz) 2 j (400 kHz) 1 j (600 kHz) 1 j (900 kHz)
Pulse length:	Up to 20 ms (100 kHz) Up to 12 ms (300 kHz) Up to 10 ms (400 kHz) Up to 5 ms (600 kHz) Up to 3 ms (900 kHz)
Digital link:	4 Mbits/sec (typical), 4 channels of side scan data plus sensor data



4200-SP/MP TOW VEHICLE

Across track resolution:	8 cm (100 kHz) 3 cm (300 kHz) 2 cm (400 kHz) 1.5 cm (600 kHz) 1 cm (900 kHz)	
Along track resolution:	5 m @ 200 m (100 kHz) 1.3 m @ 150 m (300 kHz) 0.6 m @ 100 m (400 kHz) 0.45 m @ 100 m (600 kHz) 0.18 m @ 50 m (900 kHz)	
Horizontal beam width (4200-SP):	1.50° (100 kHz) 0.50° (300 kHz) 0.40° (400 kHz) 0.26° (600 kHz) 0.20° (900 kHz)	
Horizontal beam width (4200-MP):	<u>HDM</u> 0.64° (100 kHz) 0.28° (300 kHz) 0.30° (400 kHz) 0.26° (600 kHz) 0.20° (900 kHz)	<u>HSM</u> 1.26° (100 kHz) 0.54° (300 kHz) 0.40° (400 kHz) 0.34° (600 kHz) 0.30° (900 kHz)
Transducer array depression angle (4200-SP):	26° downward	
Transducer array depression angle (4200-MP):	26° downward	
Dynamic range:	24 bits	
Vertical beam width:	50°	
Maximum towing speed while meeting NOAA and IHO-44S specifications of 3 pings on a 1-meter cubed target at 100 meters (4200-SP):	4.8 knots	
Maximum towing speed while meeting NOAA and IHO-44S specifications of 3 pings on a 1-meter cubed target at 100 meters (4200-MP):	<u>HDM</u> 4.8 knots	<u>HSM</u> 9.6 knots



4200-SP/MP TOW VEHICLE

Maximum safe towing speed:	12 knots
Operating temperature:	0–45°C (32–113°F)
Heading accuracy:	<1.5° RMS
Heading resolution:	0.1°
Pitch and roll accuracy:	±0.4°
Pitch and roll resolution:	0.1°
Pitch and roll repeatability:	0.2°
Optional sensor port:	RS-232
Options:	<ul style="list-style-type: none"> Depressor wing Magnetometer Acoustic tracking system Pressure sensor Temperature sensor Power loss pinger

Table 2-2: 4200 Series Tow Vehicle Specification

The electronics chassis (depicted in Figure 2-9) contains all of the tow vehicle circuit boards, along with the optional pressure sensor. Wiring diagrams and block electronics diagrams are provided for the 100/400 kHz, 300/600 kHz, and 300/900 kHz configurations of the 4200 Series Tow Vehicle in *Figure 2-10* and *Figure 2-11* respectively.

2.1.3 SB-424, SB-216S, and SB-512i Tow Vehicles

The general specifications for the SB-424, SB-216S, and SB512i Tow Vehicles are show in [Table 2-5](#).



SB-424



SB-216S

Frequency range:	4-24 kHz	2-16 kHz
Pulse type:	FM	FM
Pulse bandwidth/pulse length:	4-24 kHz/10 ms 4-20 kHz/10 ms 4-16 kHz/10 ms	2-15 kHz/20 ms 2-12 kHz/20 ms 2-10 kHz/20 ms
Calibration:	Gaussian-shaped pulse spectrum	Gaussian-shaped pulse spectrum
Vertical resolution^a:	4 cm (4–24 kHz) 6 cm (4–20 kHz) 8 cm (4–16 kHz)	6 cm (2–15 kHz) 8 cm (2–12 kHz) 10 cm (2–10 kHz)
Penetration in coarse and calcareous sand^b:	2 m (typ)	6 m (typ)
Penetration in soft clay^b:	40 m	80 m
Beam width:	16°, 4–24 kHz 19°, 4–20 kHz 23°, 4–16 kHz	17°, 2–15 kHz 20°, 2–12 kHz 24°, 2–10 kHz
Optimum tow vehicle pitch/roll^c:	<7°, 4–24 kHz <8°, 4–20 kHz <10°, 4–16 kHz	<7°, 2–15 kHz <8°, 2–12 kHz <10°, 2–10 kHz
Optimum tow height:	3-5m above sea floor	3-5 m above sea floor
Transmitters:	1	1



SB-424



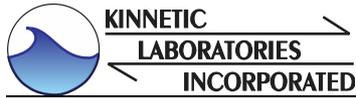
SB-216S

Receive arrays:	2	2
Input power:	97 Watts	112 Watts
Output power:	189db// μPa	189db// μPa
Tow vehicle size:	77 cm (30 in.) L 50 cm (20 in.) W 34 cm (13 in.) H	105 cm (41 in.) 67 cm (26 in.) W 46 cm (18 in.) H
Shipping container size:	91 cm (36 in.) L 66 cm (26 in.) W 64 cm (25 in.) H	117 cm (46 in.) L 79 cm (31 in.) W 61 cm (24 in.) H
Weight in air:	35 kg (78 lb)	72 kg (160 lb)
Shipping weight:	110 kg (243 lb)	162 kg (357 lb)
Tow cable requirements:	3 shield-twisted wire pairs	3 shield-twisted wire pairs
Depth rating:	300 m (984 ft) max	300 m (984 ft) max

Table 2-5: Tow Vehicle Specifications

- a. Vertical resolution is the smallest distinguishable distance between the peaks of two reflections that can be displayed on the screen as separate reflectors. Sound energy is reflected back to the sonar system when the transmitted pulse encounters a change in density. The resolution of a sonar system is measured by its ability to distinguish between two adjacent targets. The vertical resolution is dependent on the transmitted chirp pulse bandwidth. It is theoretically calculated by the product of the transmitted pulse length (inverse of the bandwidth) and half the speed of sound in water (approximately 750 m/s). For example, a full bandwidth pulse from an SB-424 Tow Vehicle has a vertical resolution of 3.75 cm ($1/20,000 \times 750$).
- b. The value for sub-bottom penetration is the maximum distance beneath the sea floor that a step change of 10% in density can be seen on the sub-bottom display. This assumes that the sediment is gas free (no organic materials), that the lowest frequency of the pulse spectrum is transmitted

Exhibit C:



760.438.8968 office

5225 Avenida Encinas, Suite H, Carlsbad, CA 92008

Environmental & Oceanographic Research

www.KinneticLabs.com

Greg Cotton, Senior Scientist, Kinnetic Laboratories, Inc.

B.S. Marine Biology, Texas A & M University, 1997.

Mr. Cotton has over 800 days ocean water experience. He was the field monitor for a project in the Monterey Bay National Marine Sanctuary Santa Cruz, CA project where the following equipment was used: 200 Khz multibeam echosounder, 3.5 kHz sub bottom profiler, 677 Hz Sonar pulse "Boomer". He was the assistant project manager for the mammal monitoring conducted during the recent replacement of coastal patrol boat and small boat electrical distribution at the U.S. Coast Guard Station Monterey, California. He had prime responsibility in determining the best methods for deterring California Sea Lions (*Zalophus californianus*) from the construction zone while causing the least amount of stress to the animals. Mr. Cotton had the primary reporting responsibilities for this marine mammal-monitoring program.

Mr. Cotton is well versed in the identification of all marine mammal in the local waters off California. In addition, Mr. Cotton has the ability to work with contractors to help them identify marine mammal in the field and direct field crew of appropriate action when confronting these animals during work condition.

Sylmar Cable Route Survey

Marine Mammal Monitoring

Qualifications

Kinnetic Laboratories Inc. (KLI) proposes to provide marine mammal biological monitoring services for the Sylmar Cable Route Survey. KLI is a well-established local Small Business with a long track record of excellence on thousands of environmental projects both large and small. KLI specializes in providing environmental and oceanographic science services carrying out field and laboratory studies associated with applied projects. Our core business is providing quantitative scientific data to support key issues in support-applied projects. We provide data for design, permitting, monitoring, and compliance purposes. KLI has invested heavily in equipment, instrumentation, laboratory facilities, and survey vessels and other logistics to be able to provide these field and laboratory science services. Offices are maintained in Santa Cruz, Carlsbad (CA), Long Beach (CA) Anchorage (AK), and Maui (HI).

Environmental and oceanographic science services include

- Physical & Chemical Sciences
- Biological & Ecological Services
- Toxicological Services
- Marine and Wetland Specialties
- Hazardous Materials
- Instrumentation Services
- Field and Logistic Services

KLI has experienced marine mammal monitors that conducted a survey for the replacement of coastal patrol boat and small boat electrical distribution at the U.S. Coast Guard Station Monterey, California. This monitoring survey included the production of a “Marine Mammal Deterrence Plan” along with a final “Marine Mammal Biological Monitoring Report” in response to a permit requirement for the U.S. Coast Guard from the National Marine Fisheries Service (NMFS). Both the Monterey Bay National Marine Sanctuary (MBNMS) and NMFS recommended KLI for this work.

KLI provided marine mammal monitoring services for the City of Santa Cruz Water Department Seawater Desalination Program offshore geophysical survey. KLI responsibilities were to train the geophysical survey field crews in their responsibilities and monitor activities to avoid significant impacts to marine wildlife that may occur during the geophysical survey. A field-training guide was developed to facilitate a better understanding of the species of concern and required mitigations if impacts to marine wildlife were to occur. All members of the crew were required to understand their

responsibilities and were also required to print and sign that they agree to abide by specific requirements.

KLI has performed other marine mammal biological monitoring in response to requirements of the California Coastal Commission and the MBNMS. For the last eleven years, KLI has provided marine mammal monitors for the annual Monte Fireworks show at Seacliff State Beach. Besides monitoring the effects of the fireworks show on the marine mammals and birds, we have also taken the time to document dead beached sea birds in the survey area prior to and after the fireworks show to help try and further determine if the fireworks show is having a deleterious effect on the birds. This proactive work was performed without any request from the client, California Coastal Commission, or the MBNMS. KLI has also performed biological monitoring on seven different occasions (2004 to 2013) to prevent impacts on birds and mammals during commercial filming and salvage operations using low altitude overflights along the Big Sur coast. KLI also assists in boat operations and observations for research and to ascertain industrial interference of oil development on Bowhead Whales during the summer season on the northslope of Alaska.

Resume Summaries

Jonathan Toal

Senior Scientist/Project Manager

B.A. Biology, California State University at Sacramento w/Marine Biology concentration Moss Landing Marine Laboratories, 1977

Mr. Jonathan Toal, a senior scientist for KLI, has served as Project Manager for numerous marine mammal biological monitoring programs within California. He is an approved marine mammal monitor for the NMFS and MBNMS. Mr. Toal was the lead scientist for the marine mammal monitoring for both the U.S. Coast Guard Station Monterey and City of Santa Cruz geophysical survey. He has extensive experience in the Moss Landing Harbor area from being a former student at Moss Landing Marine Laboratories to serving as the task leader for the determination of marine biological impacts for a proposed CalAm Moss Landing desalination project. Mr. Toal was also one of the authors for the Association of Monterey Bay Area Governments (AMBAG) report "Desalination Feasibility Study for the Monterey Bay Region" whose area of expertise were brine impacts to the marine environment

Mr. Toal has spend years on the water and has extensive experience in identification of marine mammals off the coast of California. Mr. Toal is KLI's lead scientist and trainer for all KLI employees when marine mammal monitoring is required for any project.

**Greg Cotton,
Senior Scientist**

B.S. Marine Biology, Texas A & M University, 1997.

Mr. Cotton has over 800 days ocean water experience. He was the field monitor for a project in the Monterey Bay National Marine Sanctuary Santa Cruz, CA project where the following equipment was used: 200 Khz multibeam echosounder, 3.5 kHz sub bottom profiler, 677 Hz Sonar pulse "Boomer". He was the assistant project manager for the mammal monitoring conducted during the recent replacement of coastal patrol boat and small boat electrical distribution at the U.S. Coast Guard Station Monterey, California. He had prime responsibility in determining the best methods for deterring California Sea Lions (*Zalophus californianus*) from the construction zone while causing the least amount of stress to the animals. Mr. Cotton had the primary reporting responsibilities for this marine mammal-monitoring program.

Mr. Cotton is well versed in the identification of all marine mammals in the local waters off the coast of California. In addition, Mr. Cotton has the ability to work with contractors to help them identify marine mammal in the field and direct field crew of appropriate action when confronting these animals during work condition.

**Timothy Fleming
Project Manager/Senior Scientist
B.A. Marine Biology, Sonoma State University 1998
US Coast Guard Master's License (USA000087142)**

Mr. Fleming has extensive experience with identification marine mammal for projects over the water. Over the past 15 years Mr. Fleming has run marine mammal cruises out of Dana Point and San Diego directing students and the general public the art of identifying marine mammals at sea. In addition, he has also performed as a marine mammal monitor for a number a project within and around San Francisco Bay for survey operations. Mr. Fleming also runs Grey Whale tours through Mexico each year educating the passengers about the wildlife they encounter on the water.

Mr. Fleming has been a USCG licensed vessel captain for the past 10 years and has more than 1500 days at sea over the course of his professional career. Mr. Fleming has the educational background and training to teach clients the rules and regulations that occur when construction or survey activities are taking place.

Exhibit D:

Gahagan & Bryant Associates, Inc.

772 Tuna Street
San Pedro, CA 90731
(310) 521-8127



Geophysical Survey Notification List:

Local Notice to Mariners was sent on October 27, 2015 to the following:

Commander
11th Coast Guard District
Building 50-2
Coast Guard Island
Alameda, CA 94501-5100
E-Mail: d11nm@uscg.mil

In addition the same notification was sent on October 27, 2015 to the following:

Scuba Haus Dive Shop, Santa Monica
Rocky@scubahaus.com

Ocean Adventures Dive Co., Santa Monica
dive@scubadivela.com

Eco Dive Center, Santa Monica
scuba@ecodivecenter.com

Notification was sent on October 29, 2015 to Deputy Godfrey (regodfre@lasd.org) of the Marina Del Rey Harbor Patrol. Deputy Godfrey said he would forward the “Local Notice to Mariners” to the Santa Monica Harbor Patrol and the Santa Monica Lifeguards.

Eller, David

From: Godfrey, Richard E <REGodfre@lasd.org>
Sent: Thursday, October 29, 2015 11:17 AM
To: Eller, David
Subject: RE: Proposed hydrographic survey off the coast of Santa Monica in mid November

I received your email and I will forward it to Santa Monica Harbor Patrol and the L.A. County Department of Beaches and Harbors.

Rich

Richard Godfrey
Deputy Sheriff
Harbor Operations
Marina del Rey
13851 Fiji Wy
MDR Ca. 90292
regodfre@lasd.org
310.482.6031

From: Eller, David [<mailto:djeller@gba-inc.com>]
Sent: Thursday, October 29, 2015 10:22 AM
To: Godfrey, Richard E <REGodfre@lasd.org>
Cc: kelly.keen@slc.ca.gov
Subject: Proposed hydrographic survey off the coast of Santa Monica in mid November

Deputy Godfre,

As we discussed on the phone, GBA will be conducting a geophysical survey from nearshore to 2 miles offshore with a width of 2,000' off the beach of Santa Monica. Find attached, the Local Notice to Mariners submitted to the USCG. Thank you for forwarding the information to the Santa Monica Lifeguards and Harbor Patrol. The survey operation should only take 3-4 days. As the date approaches, we will give you more definitive dates of operation since this will be weather dependent. Please call or e mail if you have any additional questions.

David J. Eller
Vice President
Gahagan & Bryant Associates
Los Angeles Division
310.521.8127 (W)
310.261.1612 (C)
Djeller@gba-inc.com



Eller, David

From: Eller, David
Sent: Tuesday, October 27, 2015 1:54 PM
To: 'D11LNM@uscg.mil'
Cc: 'Rocky@scubahaus.com'; 'dive@scubadivela.com'; 'scuba@ecodivecenter.com'
Subject: CSLC PRC9165 - Local Notice to Mariner
Attachments: CSLC NTM.pdf

All:

Per the requirements of our CSLC permit PRC 9165, GBA is required to give notification of our intended surveys offshore of Santa Monica occurring in mid-November. We will be conducting bathymetry surveys, Sonar imaging surveys (side scan) and sub-bottom surveys. Please call the numbers below if you have any questions

David J. Eller
Vice President
Gahagan & Bryant Associates
Los Angeles Division
310.521.8127 (W)
310.261.1612 (C)
Djeller@gba-inc.com



Gahagan & Bryant Associates, Inc.

772 Tuna Street
San Pedro, CA 90731
(310) 521-8127



Commander
11th Coast Guard District
Building 50-2
Coast Guard Island
Alameda, CA 94501-5100

October 28, 2015

Attention: Local Notice to Mariners
Phone No. 510.437-2970 Fax No. 510.437-5836
E-Mail: d11Inm@uscg.mil

Subject: Notice to Mariners for a Geophysical Survey off the Coast of Santa Monica, CA

1. **NAME OF FIRM:** Gahagan & Bryant Associates
772 Tuna Street
San Pedro , CA 90731
Phone No. (310) 261-1612
2. **TYPE OF OPERATION:** Multi beam, side scan and sub-bottom survey of proposed pipeline route from nearshore to approximately 2 miles offshore by 2,200' wide (see attached figure)
3. **LOCATION/POSITION INFORMATION:** See attached figure
4. **START AND END DATES:** Operational weather window will be from November 16-27, 2015. This survey will be weather dependent. The actual amount of time to collect the geophysical survey data will only take approximately 4-5 days. Survey operations will be during daylight hours only.
5. **VESSELS INVOLVED:**
Survey Vessel "JAB"
Survey Vessel "Tati B"
6. **RADIO: YES NO VHF-FM FREQ's MONITORED:** 16 and 71
7. **OTHER PERTINENT INFORMATION:**

Side scan and sub-bottom surveys will be conducted from the survey vessel "JAB." Survey equipment will submerged and towed behind the vessel at a distance of 10' -390'. Caution should be exercised and radio contact is requested when passing the Survey Vessel "JAB." The multi beam survey is hull mounted to the survey vessel "Tati B."

POC NAME AND TELEPHONE NUMBERS:

1. Brayton Pointer, Captain SV "Jab" 805-746-4242
2. David Morse, Captain SV "Tati B" 310-606-9614
3. Alan Del Pilar, Project Manager 562-858-4417
4. David Eller, West Coast Operations 310-261-1612

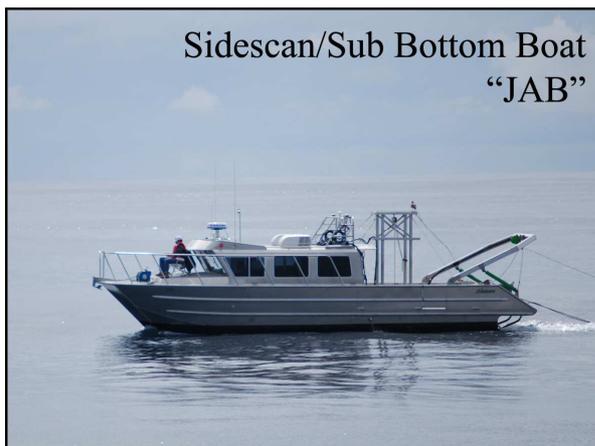
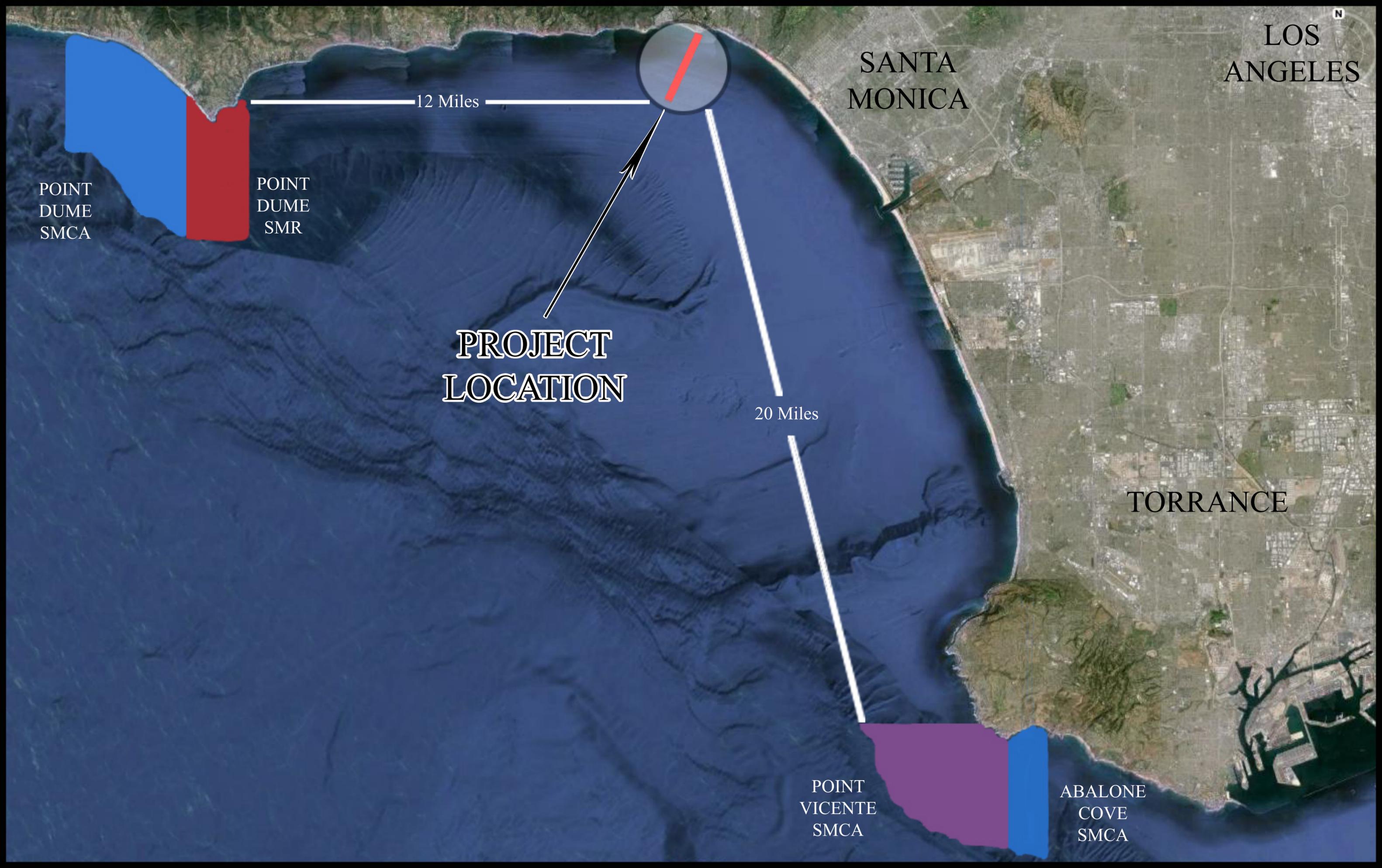


Exhibit E:



LOS ANGELES

SANTA MONICA

TORRANCE

POINT DUME SMCA

POINT DUME SMR

PROJECT LOCATION

20 Miles

12 Miles

POINT VICENTE SMCA

ABALONE COVE SMCA

GAHAGAN & BRYANT ASSOCIATES, INC.

MARINE WILDLIFE CONTINGENCY PLAN

1.0 INTRODUCTION

This plan is intended to serve as a guide to operations to avoid significant impacts to marine wildlife that may occur during a geophysical survey. This plan will be prefaced by a brief description of the project and the regulatory basis for marine wildlife protection followed by:

- The species likely to be present during the survey and the special status species of concern; November thru April, California gray whales make their annual migration from feeding grounds in Alaska south to mate and have babies in the warm coastal lagoons.
- A proposed operational plan for the company performing the survey, Gahagan & Bryant Associates (GBA), to exercise caution while marine wildlife is present; and
- The procedure to follow should a collision occur between the survey vessel and marine wildlife.

2.0 REGULATORY BASIS

Species that are either currently in danger or soon likely to be in danger of extinction throughout all or a portion of its range are protected by the Endangered Species Act of 1973. The United States Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration Fisheries (NOAA), National Marine Fisheries Service (NMFS) implement the Endangered Species Act. NMFS also implements the Marine Mammal Protection Act of 1972, which protects all marine mammals within U.S. waters from intentional killing or harassment. Any accidental contact with marine wildlife during the course of the survey will be promptly reported to the NMFS Stranding Coordinator, Southwest Region, Long Beach. The California State Lands Commission (CSLC) protects the natural environment for scenic and wildlife habitat values for the public trust. State agencies require marine mammal monitoring for any survey operations. The marine mammal population in general includes whale species, porpoises, dolphins, pinnipeds, and others. Some species are migrants that pass through central California waters on their way to calving or feeding grounds elsewhere, some are seasonal visitors that remain for weeks or months; others are resident for much or all of the year.

3.0 OPERATIONAL MEASURES FOR REDUCING IMPACTS TO MARINE MAMMALS AND TURTLES

GBA's project operations will utilize the following procedural techniques to limit the imposition of survey activities on any marine animals known to be within a sphere of influence. The survey vessel will have a designated marine wildlife monitor on board during operations. The monitor will have authority to influence the operation of the vessel in regard to marine wildlife interaction but will be contravened by the captain of the vessel in matters of vessel and crew safety.

3.1 Pre-Survey Activities

GBA 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 prior to commencing survey operations. This information will be conveyed to the vessel operator and crew, survey party chief, and onboard marine wildlife monitors (MWMs). An initial onboard review of environmental responsibility of project operations will be undertaken at the beginning of each survey event. 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 within the geophysical survey vessel's 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(s).

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, spume, the disturbance of the normal sea view that can be caused by animals floating, rolling, diving, or leaping.
- c. Smell - on occasion marine organisms can be associated with smell from breath or defecation.
- d. Electronic observation - often the presence of schools of "bait fish" can be seen on some of the geophysical survey equipment. That presence, along with an increasing number of schools, can suggest that this area could possibly be associated with increased feeding activity of marine mammals and thereby suggest that increased awareness efforts should be undertaken. Under these circumstances, GBA's personnel will be alerted to be more observant.

3.2 Marine Wildlife Monitors

Two Marine Wildlife Monitors (MWM) will be onboard the survey vessel “Jab” during the sub-bottom data collection. A safety zone of 220 m will be observed during sub-bottom data collection. One MWM will be onboard each survey vessel during the side scan and multi beam data collection. MWM qualifications will be submitted to Monica DeAngelis (monica.deangelis@noaa.gov.) The onboard MWM shall have the authority to stop operations if a mammal or turtle is observed within the specified 220 m safety zone. The MWM will be present at the highest practical vantage point on the vessel and will use binoculars to observe the surrounding area.

3.3 Operational Measures

Operational measures to reduce impacts to marine mammals or turtles will include: 1) soft start technique, 2) acoustic safety zone radii, 3) slow vessel speeds, 4) avoidance of pinniped haul out sites, and 4) limitations on equipment usage.

Soft Start Technique:

The soft-start technique will involve initiating each piece of equipment at the lowest practical sound level, increasing the output in such a manner as to increase in steps not exceeding approximately 6 decibels per 5-minute period. During this time, MWM will monitor the safety zone for marine mammal or turtle sightings.

Acoustic safety zone radius:

Initially, GBA will make a circuit of the survey area to ascertain if any marine wildlife is apparent in the intended survey area. This being done, there are three specific measures to be taken in the event that the vessel appears to be approaching marine mammals on one of the pre-established survey transects. *One:* Stop vessel operations and wait until the animals have passed (this is in case animals are transiting the area). The captain will not knowingly cause complications with their intended migratory path. *Two:* Shift to another pre-established survey transect thereby avoiding close encounters (this is for animals that are occupying a given area for a period of time). *Three:* Do not begin the survey until observed animals in the survey area have departed or are at such a distance (as noted above) that they will be out of the range of GBA’s influence. If the marine mammal monitor should sight marine wildlife within the path of the vessel, he/she will report the sighting to the vessel operator. The vessel will then slow down and continue a course that parallels that of the marine mammal. The marine mammal monitor shall have the authority to halt any operations or redirect the vessel that poses an immediate threat to marine wildlife. Onboard personnel will be watchful as the vessel crosses this path or anytime whales are observed in the area.

The vessel 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 vessel will operate at a constant speed that is not faster than that of the whales;
- 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 vessel will reduce speed or stop until the animal calms or moves out of the area.

Vessel speed

To obtain good, clean data, normal survey speeds are usually maintained between 3 and 5 knots. This speed is significantly slow in relation to transit speeds maintained by marine mammals and is only a little above the speed necessary to maintain steerage.

Limitations on equipment usage

Limitations on the frequency, pulse length, and pulse rate will be implemented to reduce potential harmful noises. For a sub-bottom profiler survey, the highest frequency band possible will be used and the shortest possible pulse length and lowest pulse rate (pings per second) will be used.

4.0 COLLISION REPORTING

In the event of a collision between the vessel and a marine mammal or reptile, the vessel operator will document the conditions under which the accident occurred. These conditions include:

- Vessel location (latitude, longitude) 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 the presence of rain, fog) at the time of collision;
- Species of marine wildlife contacted (if known)
- Whether an observer was monitoring wildlife at the time of collision, and;
- Name of the vessel, owner/operator, and captain officer in charge of the vessel at the time of collision.

After a collision, the vessel shall stop, but will continue with operations if it is deemed that no further damage will result to the animal by doing so. The vessel is not obliged to stand by and may proceed after confirming that it will not further damage the animal by doing so. The vessel shall then communicate by radio or telephone all details to the vessel's base of operations. From the vessel's base of operations, a telephone call shall be placed to the Stranding Coordinator, NMFS, Southwest Region, Long Beach. Alternatively, the vessel captain may contact the NMFS Stranding Coordinator directly using a cell phone.

It is unlikely that the vessel will be asked to stand by until NMFS or California Department of Fish & Game (CDFG) personnel arrive, but this shall be determined by the Stranding Coordinator. Under the Marine Mammal Protection Act, 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.

Collisions with marine wildlife will be reported promptly to the NOAA Fisheries Stranding

Coordinator. The Stranding Coordinator will then coordinate subsequent action, including enlisting the aid of marine mammal rescue organizations, if appropriate.

Although the NOAA Fisheries has primary responsibility for marine mammals in both state and federal waters, CDFG should also be advised that an incident has occurred in state waters affecting a protected species. Reports should be communicated to the federal and state agencies listed below:

FEDERAL

Joe Cordaro, Stranding Coordinator
NOAA Fisheries
Enforcement Dispatch Desk
Southwest Region
Long Beach, CA 90802
(562) 980-4017

STATE

California Department of Fish & Game
Long Beach, CA 90802
(562) 590-5132

California State Lands Commission
Division of Environmental Planning and
Management
Sacramento, CA
(946)574-0748
slc.ogpp@slc.ca.gov

5.0 MARINE PROTECTED AREAS

GBA does not anticipate conducting hydrographic surveys in designated marine protected areas.

GAHAGAN & BRYANT ASSOCIATES

MANAGEMENT OF ACCIDENTAL DISCHARGE AND VESSEL PROBLEMS DURING OFFSHORE/ONSHORE GEOPHYSICAL SURVEY

1.0 INTRODUCTION

At the initiation of each project or project phase, a spill management review will be conducted by the vessel captain who is in all cases the responsible authority. It should be pointed out that any oil spill in United States (U.S.) marine waters shall be reported immediately (on the same day). Reporting information is stated in Section 8.0.

2.0 OPERATIONAL SPILLS

Operational spills might involve one or more of the following substances carried on board the vessel: (i) fuel; (ii) lube oil; (iii) hydraulic oil; or (iv) waste oil. The vessel is equipped with an Oil Spill Response Kit, which includes socks for fast spill containment (three 4" socks), woven polypropylene sheets (15 sheets) for rapid absorption of surface oil and protective gear, protective gloves (**1** pair) and a disposal bag (**1**). This oil spill kit is located in the forward cabin of the vessel. This spill kit is rated to clean up 5 gallons of liquid. All of the liquids (listed below) that could cause a hazardous spill are either in the fuel tank or are part of the hydraulic steering and engine tilt rams. Thus, if a spill occurred, these would be contained on the aft deck, or if a grounding or instance occurred that punctured the gas tank, this would leak into the water, which is beyond the scope of our cleanup efforts. In the event a spill occurred in deck, 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. We do not anticipate a spill of greater than 5 gallons.

(i) Fuel:

A spill kit shall be available for use in the event of a spill. If the 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 foreman shall notify the Coast Guard and port facility.

(ii) Lube oil:

A spill kit shall be available for use in the event of a spill. If the oil is spilled on 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 foreman shall notify the Coast Guard and port facility.

(iii) Hydraulic oil:

A spill kit shall be available for use in the event of a spill. If the oil is spilled on 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 foreman shall notify the Coast Guard and port facility.

(iv) Fuel line leakage:

The vessel foreman shall check the fuel lines and rubber hoses daily for leakage. Where leakage is found, it shall be repaired immediately. In the event of leakage, the vessel captain shall secure valve(s) at the appropriate tank before repairing the leak. Spilled fuel on the vessel 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 foreman shall notify the Coast Guard and port facility.

3.0 EMPLOYEE TRAINING ON OIL SPILL CONTINGENCY PLAN

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.

4.0 SPILLS RESULTING FROM CASUALTIES AND VESSEL PROBLEMS

In the event of a casualty, the vessel foreman's first priority is to ensure the safety of the vessel's personnel and to initiate actions that may prevent escalation of the incident and marine pollution.

(i) Grounding:

The likelihood of grounding, although remote, could occur when the vessel is working near shore. Should an unforeseeable grounding event occur that causes a spill, the vessel foreman shall immediately report the accident to the Coast Guard and port facility. It is mandatory that the survey company immediately report the incident to the California Office of Emergency Services ("OES").

(ii) Fire or explosion:

If a fire or explosion occurs, the Coast Guard and port facility will be notified immediately by the vessel captain. While awaiting a response from the USCG or local fireboat agencies, all crewmen shall report to the vessel captain for a head count. In the event that one or more crewmen are missing, the vessel captain shall so notify the site safety officer and direct a search for the missing crew where practical. If one or more crewmen are injured, the vessel captain shall render first aid with the assistance of available crewmen. The vessel captain shall also notify the site safety officer of any injuries sustained as a result of the fire or explosion.

The crew will fight the fire with portable fire extinguishers if this can be done safely. The vessel captain shall determine if the fire or explosion warrants abandoning the vessel. If it is determined that the vessel is to be abandoned, the crew shall don life vests and safely enter the water or available life raft.

If there is a spill as a result of the fire or explosion, the vessel captain shall immediately report the incident to the Coast Guard and port facility. It is mandatory that the survey company immediately report the incident to the OES.

(iii) Collision:

A collision is unlikely to cause a spill unless the vessel sinks or the fuel tank is "holed." If it is determined that the vessel is to be abandoned, the crew shall don life vests and safely enter the water or available life raft.

If the collision causes a spill from the fuel tank, the vessel captain shall immediately report the incident to the site safety officer, Coast Guard, and port facility. It is mandatory that the survey company immediately report the incident to the OES.

(iv) Vessel submerged/foundered:

If the vessel is submerged or foundered to the extent that it, or parts of it, is submerged, all measures shall be taken to evacuate all persons on board. Avoid contact with any spilled oil. Alert other vessels/vessels and/or the nearest coastal state for assistance in rescuing lives and the vessel as far as possible.

5.0 SPILLS RESULTING FROM VESSEL FUELING

All vessel fueling will be conducted on land at a gas station or at an approved docking facility. No cross vessel fueling will be performed.

6.0 PRIORITY ACTIONS TO ENSURE PERSONNEL AND VESSEL SAFETY

Safety of vessel personnel and the vessel are paramount. In the event that a crewman's injuries require outside emergency assistance, the site safety officer shall be contacted immediately and emergency personnel contacted. While awaiting emergency assistance, the survey company's vessel personnel will render first aid and/or CPR.

7.0 MITIGATING ACTIVITIES

If safety of both the vessel and the personnel has been addressed, the vessel captain 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.

All personnel shall refer to the MSDS's on board for additional information.

8.0 MEASURES TO BE TAKE IN THE EVENT OF CASUALTY

(i) Response to collision

The vessel foreman and crew shall ensure that the following actions are taken.

- When there is no immediate danger to their own vessel and crew, rescue crew of the other vessel.
- Investigate the damaged area of the vessel and the ingress of water and take emergency measures to prevent the damage from becoming worse.
- When ingress of water is found as a result of damage investigation, take necessary measures to prevent water from coming in, or pump out the water already taken in, according to the position and amount of water taken in.
- When water penetration is severe even after counter measures are taken and there is a danger of the vessel sinking, consider intended grounding on an appropriate shore.

(ii) Response to grounding

If the vessel runs aground, the vessel captain and crew shall muster and the following steps should be taken immediately.

(I) Eliminate all avoidable sources of ignition and ban all smoking on board.

Further actions:

- (1) Carry out a visual inspection of the vessel to determine the severity of the situation.
- (2) Take soundings around the vessel to determine the nature and gradient of the seabed.
- (3) Check difference in the tidal ranges at the grounding site.
- (4) Evaluate tidal current in the grounding area.

Having assessed the damage that the vessel has sustained, and taking into account the effects of hull stress and stability, the vessel captain should decide whether any action can be taken to

avoid further spillage, such as:

- (1) Transfer of cargo and bunkers internally. If the damage is limited—for example, to one or two tanks—consideration should be given to transfer of liquid from damaged to intact tanks.
- (2) Review existing and forecasted weather conditions to see if they will adversely affect the vessel.
- (3) Evaluate the possibility of transferring cargo to barges or other vessels, and request such assistance accordingly.
- (4) Trim or lighten the vessel sufficiently to avoid damage to intact tanks, thereby avoiding additional pollution from spillage of oil or noxious liquid substance.

The vessel captain should obtain information about the situation, including the following.

- (1) Tides and currents
- (2) Weather, including wind, state of sea and swell.
- (3) Any weather forecast changes.
- (4) Nature of the bottom.
- (5) Depth of water around the vessel, the calculated buoyancy needed to refloat, draught, and trim after refloating.
- (6) Condition of the vessel, including stresses on the hull.

Strict safety precautions should be taken before entering any empty space, in order to avoid any risks from toxic fumes or oxygen deficiency.

Soundings should be taken around the vessel to determine the extent of the grounding/stranding as accurately as possible. If the sea is too rough for accurate sounding, it may be possible to measure the distance from the seabed to the main deck. By marking this on a longitudinal section from the general arrangement drawings, the extent of grounding can be determined.

If the vessel is structurally intact, an immediate attempt may be made to refloat her with or without assistance. In deciding whether to make an immediate attempt to refloat, the foreman should consider the use of the tugs and ground tackle as well as the possible damage that might be caused to the vessel.

Immediate refloating may be the best course to adopt even if the vessel has sustained bottom damage. However, if there are signs of excessive hogging, sagging or of undulations in the sides of the hull, more careful consideration is required before attempting to refloat the vessel. In these circumstances, lightening of the vessel may reduce the risk of further damage and pollution.

(iii) Response to submerged/foundered

The vessel captain and crew shall muster and ensure that the following actions are taken immediately.

- If the vessel is wrecked to the extent that it or parts of it are submerged, take all measures to evacuate all persons on board.
- Avoid contact with any spilled oil.
- Alert other vessels and/or the nearest coastal state for assistance in rescuing lives.
- All openings in hulls are to be checked for water tight integrity.
- Should the situation appear to be deteriorating, urgency or distress messages should be dispatched as appropriate.

The nearest hospital to our location is the San Pedro Urgent Care Facility, located at 1499 W. 1st. St. San Pedro, Ca 90732. 310-241-2590.

9.0 REPORTING AN OIL SPILL TO STATE AND FEDERAL AGENCIES

Any oil spill in US marine waters shall be reported immediately (on the same day) to the state and federal phone numbers listed below:

West Coast Oil Spill Hot Line	800-OILS-911, or
Department of Fish and Game CalTIP	888-CFG-CALTip
Californians Turn In Poachers and Polluters	888-334-2258, and
US Coast Guard National Response Center	800-424-8802
California Office of Emergency Services	800-OILS-911

During the phone call, the following information will be given:

- a. Name and telephone number of caller.
- b. Where did you see the spill?
- c. What do you think was spilled (oil, gas, diesel, etc.)?
- d. Can you estimate the size of the spill?
- e. The date and time you saw the spill.
- f. Did you see any oiled or threatened wildlife?
- g. Do you have any information or thoughts about who spilled the material?
- h. What, if any, activity did you observe 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 the proper forms.

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

California Wildlife Center	Animal Advocates
818-222-2658	323-651-1336
All Wildlife Rescue & Education	
562-434-0141	

South Bay Wildlife Rehab	Oiled Wildlife Care Network
310-378-9921	1-877-UCD-OWCN