May 4, 2017

California State Lands Commission
Mineral Resources Management Division
200 Oceangate, 12th Floor
Long Beach, CA 90802

Attention: Mr. Richard Greenwood, Geophysical Coordinator

Subject: Field Operations Report for the Hyperion 1-Mile Outfall Repair Project Sidescan and Multibeam Surveys Conducted in March 2017

Reference: Geophysical Survey Permit PRC-9306

Gentlemen:

This Field Operations Report is prepared in compliance with the requirements of Geophysical Survey Permit PRC-9306 issued to MBC *Applied Environmental Sciences* (MBC) by the California State Lands Commission on March 2, 2016.

MBC conducted sidescan and multibeam sonar surveys of an area 1,200 feet by 2,400 feet (~ 67 acres) offshore of Playa Del Rey, California using a towed EdgeTech Model 4125 high-resolution side-scan sonar and a hull-mounted R2Sonic Model 2024 multibeam sonar systems. All sonar equipment was low energy. The survey was conducted during daylight hours (7am-7pm). Side scan surveys occurred on March 20, 2017 between 1013-1315 hrs and March 29th between 0820 and 1330 hrs; the multibeam survey occurred on March 24th between 0805 and 1145 hrs. The survey area is located in front of the Hyperion Treatment Plant east of Marina del Rey and extended from the 15-foot depth contour to approximately the 60-foot depth contour. Track lines for the sidescan surveys are shown in Figure 1 and for the multibeam in Figures 2 and 3. Logs of weather and sea state conditions are provided in Attachment A. All Mitigation Measures were addressed in the Survey Plan submitted prior to work; biological surveys are reported below.

On each survey date the survey vessel was used to scout the survey area to identify any marine mammals/reptiles, commercial fishing activities/equipment, or environmental hazards that may be encountered during the survey. On each date, prior to the survey, California sea lions (*Zalophus californianus*) were observed resting on the mid-outfall sea buoy. One gray whale (*Eschrichtius robustus*) was seen on March 24th prior to survey start; the survey was delayed until it departed the protection zone (500 meters [m]). No other marine mammals or reptiles were observed prior to the start of the survey, and no environmental hazards were identified except avoidance of the outfall in shallow water where it reached the surface. The location of several outfall warning buoys marking the shallow area of the outfall were plotted and were avoided during the survey. The survey caused no accidents, injuries or damage to or loss of property.

As required by Permit PRC-9306, a marine wildlife monitor was present on the survey vessel to document any encounters with marine mammals and/or reptiles and describe the outcome of those encounters. Mr. Wayne Dossett was present during the sidescan surveys and Ms. Jennifer Smith was present during the multibeam survey – both are qualified marine wildlife observers.

During the three survey days, California sea lions were recorded each time (15 times) the vessel passed the sea buoy where they were resting; they were observed swimming during five transects, within 25 to 85 m of the vessel(s). There was no disturbance or modified activity by the sea lions during survey activities. Gray whales were seen three times; the survey start was delayed once (noted above), one survey transect was stopped until the animal exited the protection zone, and on the third the vessel was in transit with sonar off – no disturbance or change in behavior was noted on any occasion. Common dolphins (*Delphinus delphis*) were recorded on three occasions; twice outside the protection zone (of 152 m), and once the survey was halted for 10 minutes while they exited – no disturbance or modified activity was noted as a result of vessel operations on any of the observed individuals. One harbor seal (*Phoca vitulina*) was observed near the vessel; no disturbance of modified activity was noted. Marine mammal sightings are summarized in Table 1, and observation notes are included in Attachment A.

Figure 1. Sidescan sonar survey tracklines

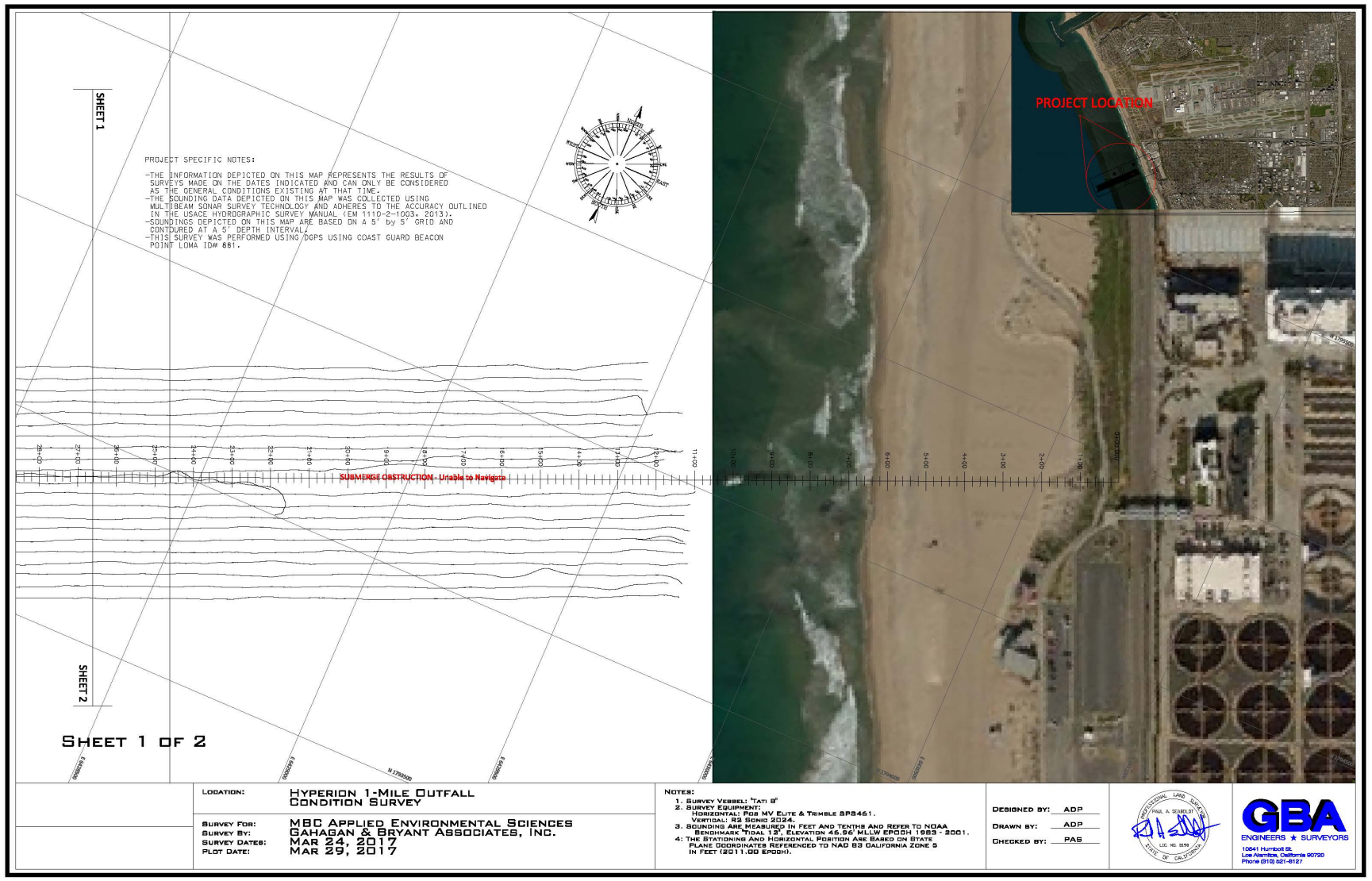

Figure 2. **Multibeam sonar nearshore survey tracklines**

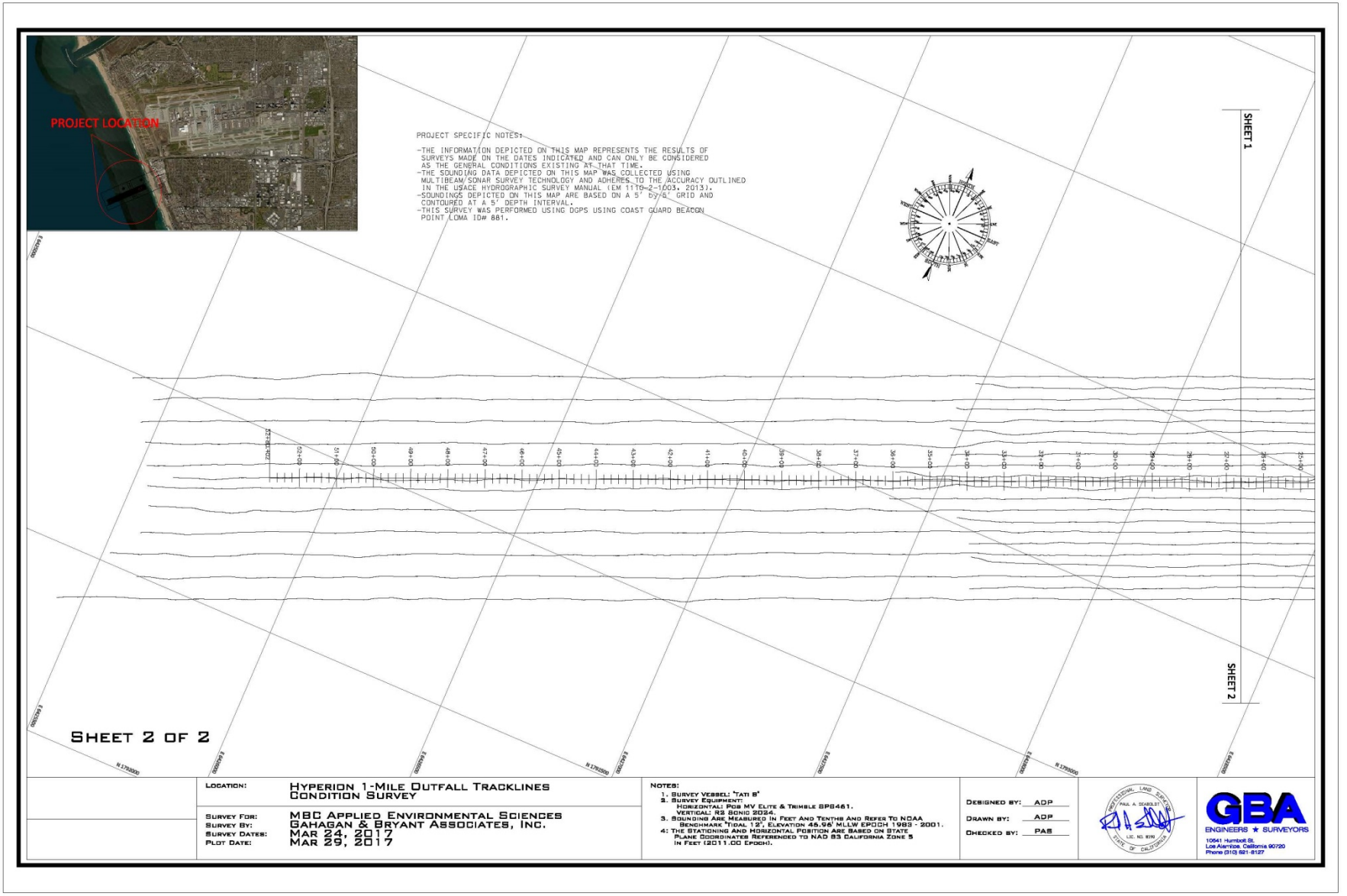

Figure 3. Multibeam sonar offshore survey tracklines

Table 1. Summary of marine mammal observations during the Hyperion sidescan and multibeam sonar surveys.

Date Time	Vessel	Species	Estimated Number	Activity	Disturbance Observed	Action Required	Action
3/20/17 0918	Scorpaena	California sea lion	1	150 m from vessel, swimming away	no	No	
3/20/17 1013	Scorpaena	California sea lion	9	resting on or swimming around buoy	no	No	
3/20/17 1143	Scorpaena	California sea lion	1	Surfaced 25 m from vessel	no	No	
3/24/17 0740	R/V Tati B.	Gray whale	1	Travelling NW inshore of vessel	no	Yes	Delayed survey start until outside protection zone
3/24/17 0835	R/V Tati B.	California sea lion	3	resting on buoy	no	No	
3/24/17 0835	R/V Tati B.	Common dolphins	Pod (too far away to count)	Heading south rapidly, possible feeding (surface activity)	no	No	Outside of protection zone
3/24/17 0847	R/V Tati B.	California sea lion	3	resting on buoy	no	No	
3/24/17 0911	R/V Tati B.	California sea lion	1	Swimming along outfall to buoy ~ 85 m (280 ft) upcoast	no	No	Healthy individuals
3/24/17 0914	R/V Tati B.	California sea lion	5	resting on buoy	no	No	
3/24/17 0926	R/V Tati B.	California sea lion	5	resting on buoy	no	No	
3/24/17 0939	R/V Tati B.	California sea lion	2	Swimming along outfall ~ 55 m (180 ft) upcoast	no	No	Healthy individuals
3/24/17 0951	R/V Tati B.	California sea lion	5	resting on buoy	no	No	

Date Time	Vessel	Species	Estimated Number	Activity	Disturbance Observed	Action Required	Action
3/24/17 1002	R/V Tati B.	California sea lion	5	resting on buoy	no	No	
3/24/17 1012	R/V Tati B.	California sea lion	7	resting on buoy	no	No	
3/24/17 1024	R/V Tati B.	California sea lion	7	6 - resting on buoy, 1 - jumping up out of water	no	No	
3/24/17 1038	R/V Tati B.	California sea lion	7	resting on buoy	no	No	
3/24/17 1047	R/V Tati B.	California sea lion	7	resting on buoy	no	No	
3/24/17 1110	R/V Tati B.	California sea lion	7	resting on buoy	no	No	
3/24/17 1115-1125	R/V Tati B.	Common dolphins	15	122 m (400 ft) inshore of vessel, jumping and travelling	no	Yes	Halted work for 10 minutes
3/24/17 1130	R/V Tati B.	Common dolphins	40	300 m offshore of vessel, moving downcoast, amid bird frenzy feeding	no	No	Outside of protection zone
3/24/17 1133	R/V Tati B.	California sea lion	7	resting on buoy	no	No	
3/24/17 1140	R/V Tati B.	California sea lion	7	resting on buoy	no	No	
3/29/17 0820	Scorpaena	California sea lion	1	~ 30 m from vessel, swimming near buoy	no	No	
3/29/17 0949	Scorpaena	California sea lion	8	resting on buoy	no	No	
3/29/17 1013	Scorpaena	Gray whale	1	Travelling W & surfaced ~ 30 m inshore of vessel	no	Yes	Stopped transect, waited for animal to exit protection zone

Date Time	Vessel	Species	Estimated Number	Activity	Disturbance Observed	Action Required	Action
3/29/17 1043	Scorpaena	Harbor seal	1	Swimming near boat, healthy	No	no	
3/29/17 1052	Scorpaena	Gray whale	1	Travelling W by outfall	no	No	In transit & sonar off, exited protection zone prior to restart

ATTACHMENT A

Environmental and Marine Wildlife Observations

Marine Environmental Variables Form

Date: 3/20/17

Monitor: Wayne Dossett

Time	Latitude	Longitude	Vessel Activity	Weather	Cloud Cover	Glare	Visibility	Wind Speed	Sea State	Swell Height	Comments
0850	from dock		start transit to site	overcast	100%	none	25 nm	1-3 SW	scaly ripples	1-2 W	
1013	33 55.200	118 26.579	surveying	cloudy	90%	none	25nm	0-3 SW	none	1-2 W	
1100	33 55.026	118 26.537	transit	cloudy	90%	none	25nm	1-3 SW	scaly ripples	1-2 W	
1143	33 55.294	118 26.329	survey	cloudy	55%	mild	25nm	1-3 SW	scaly ripples	1-2 W	
1226	33 55.228	118 26.327	survey	cloudy	10%	mild	25nm	0-3 SW	scaly ripples	1-2 W	

16546 E

Marine Mammal and Wildlife Observation and Monitoring Log

Hyperion 1-Mile Outfall Repair Project

Vessel Scorpena Marine Mammal Observer(s): Wayne Dossett

	Date	Time *	Vessel Position (Lat/Long) / Activity	Mammals or Turtles Observed: Species, Size, Health	Est. # Indiv.	Distance, Heading, Speed, & Activity of Wildlife & Behavior Changes (if any)	Recommended Action / Notification
transit	3/20/17	0918	33 54.977 118 26.884	ca sea lion, small, healthy	1	150 m from boat, heading SW away from boat	none
survey	11	1013	33 55.200 118 26.579	sea lions on buoy 1 in H2O swimming by buoy	9	all healthy no impact	none
transit	11	1100	33 55.1026 118 26.533	none	—	no marine mammals	—
survey	11	1143	33 55.294 118 26.329	1 sea lion swimming	1	25m from boat SW-swimming away-no impact	none
survey	11	1226	33 55.228 118 26.327	none	—	no marine mammals	—
End	11	1315		none	—	no marine mammals	

* Minimum observation record: once per hour. Note duration of presence of animals,

Marine Wildlife Observations Form

Date: 20 Mar 17 Monitor: Wayne Dosse 4

Time: 1015	Latitude: 33 55.200	Longitude: 118 26.579
Weather: Cloudy	Cloud Cover: 90%	Glare: none
Visibility: 25 nm	Wind Speed: 0-3 kt	Sea State: none
Swell Height: 1-2 ft	Survey Vessel Activity: surveying	

Marine Wildlife Observations and Interactions:

28 sealions hauled out on buoy. 1 sealion in water swimming around buoy. All seemed healthy. No obvious impact to animals so continued survey.

Time: 1143	Latitude: 33 55.294	Longitude: 118 26.329
Weather: cloudy	Cloud Cover: <50%	Glare: mild
Visibility: 25 nm	Wind Speed: 1-3 kt	Sea State: 1-2 ft
Swell Height: 1-2 ft	Survey Vessel Activity: surveying	

Marine Wildlife Observations and Interactions:

1 sealion swimming ~25m from boat. Appeared healthy and was swimming away. No apparent impact. continued survey.

Marine Environmental Variables Form

Date: 24Mar17 Monitor: JNS

Time	Latitude	Longitude	Vessel Activity	Weather	Cloud Cover	Glare	Visibility	Wind Speed	Sea State	Swell Height	Comments
0740 ~~0742~~	33°54.881	118°26.972	Arriving @ Pipe	Sunny	0	0	unlimited	3-4kn NE	Ripples	2-3' W	
0835	33°55.043	118°26.875	Transect	Sunny	0	0	unlimited	3-4kn NE	Ripples	~~2-3'~~ W	
0939	33°55.253	118°26.390	Transect	Sunny	0	0	unlimited	3-4kn NE	Ripples	2-3' W	
1130	33°55.062	118°26.906	Transect	Sunny	0	0	unlimited	3-4kn NE	Ripples	2-3' W	
1144			Transit	Sunny	0	0	unlimited	3-4kn NE	Ripples	2-3' W	

Marine Mammal and Wildlife Observation and Monitoring Log

Hyperion 1-Mile Outfall Repair Project

Alan. Dave.

Vessel GBA survey Marine Mammal Observer(s): JNSmith

Date	Time *	Vessel Position (Lat/Long) / Activity	Mammals or Turtles Observed: Species, Size, Health	Est. # Indiv.	Distance, Heading, Speed, & Activity of Wildlife & Behavior Changes (if any)	Recommended Action / Notification
3/24/17 ~~0712~~	0712	Leaving dock				
	0740	Arriving @ area.	Grey whale, Juvenile, Healthy	1	Heading NW in ~45 ft water. Regular mvmt surfacing to breath. 300 m inshore of boat	Hauled start.
	0805	Allowed to start. Turned on sonar.			Grey whale out of safety zone	
	0811	Heading NE	Ca. Sea lions, healthy	3	Hauled out on buoy. No change of behavior. ~~330~~ 350 ft away	No action.
	0835	Heading SW	Common dolphins, healthy	Pod	Heading S quickly, was possibly feeding - a lot of action @ surface.	Outside of zone. No Action
	0847	Heading NE	Ca. Sea lions, healthy	3	Same as above. Hauled out on buoy. ~~300~~ 280 ft away upcoast	No Action
	0911	Heading SW	Ca. Sea lion (avg. size) healthy	1	Swimming along pipe heading towards buoy 280 ft from boat. No behavior change.	No. Action.
	0914	Heading NE	Ca. Sea lions, healthy Avg. size	5	Same buoy, hauled out. 230 ft upcoast of boat	No Action
	0926	Heading SW	Ca. Sea lions, healthy	5	Same buoy, hauled out. 190 ft upcoast of boat	No Action
	0939	Heading NE	Ca. Sea lions, avg. size, healthy	2	Swimming together along pipe ~180 ft upcoast of boat. No behavior changes	No. Action
	0951	Turned near buoy w/ hauled sea lions	Ca. Sea lions, 2 yng, rest avg. size.	5	Same buoy, hauled out. 90 ft upcoast of boat	No Action
	1002	Heading SW	Same as ~~above~~ above on buoy	5	Same buoy. hauled out 30 ft upcoast of boat	No Action
	1012	Heading NE	Ca. Sea lions, Juvenile, healthy.	7	Same buoy, hauled out. Came w/in 5 ft of them, Moved around but stayed on buoy.	No Action
	1024	Circled around buoy	Same as above	7	Same buoy, 6 hauled out, 1 getting onto buoy. No change in activity.	No Action
↓	1038	Heading SW	Same as above	7	Same buoy. All 7 hauled out. No change in behavior, 30 ft downcoast of boat.	No Action

* Minimum observation record: once per hour. Note duration of presence of animals,

Marine Mammal and Wildlife Observation and Monitoring Log

Hyperion 1-Mile Outfall Repair Project

Vessel GBA survey Marine Mammal Observer(s): JNSmith

Date	Time *	Vessel Position (Lat/Long) / Activity	Mammals or Turtles Observed: Species, Size, Health	Est. # Indiv.	Distance, Heading, Speed, & Activity of Wildlife & Behavior Changes (if any)	Recommended Action / Notification
3/24/17	1047	Heading NE	Same as previous, Ca. Sealions juvenile	7	Same buoy, 7 hauled out of buoy. Not disturbed. 90ft downcoast of boat	NO Action
	1110	Heading SW	Same as above	7	Same buoy 150 ft downcoast of boat.	NO Action
	1115-1125	33°55.062 N 118°26.906 W	Common dolphins, Healthy.	15	400 ft inshore of boat jumping around, moving downcoast. Out of sight.	Halted work for 10 min
	1130	Heading NE	Common dolphins, Healthy	40	300m. offshore of boat, frenzy of birds following (Gulls & Brown Pelicans) Moving downcoast	Out of safety zone. No Action
	1133	Heading NE	Ca. Sealions, Juvenile Healthy	7	Same buoy as above. Hauled out. 150 ft upcoast of boat	No Action
	1140	Heading SW	Same as above.	7	Same as above.	No Action
	1144	Sonar is off.	Headed in.		No marine mammals in site except Sealions on buoy.	
	1220	Arrive @ Dock				

* Minimum observation record: once per hour. Note duration of presence of animals,

Marine Wildlife Observations Form

Date: 24 Mar 16 Monitor: JNS

Time: 0745	Latitude: 33° 54.881	Longitude: 118° 26.972
Weather: Sunny	Cloud Cover: 0	Glare: None
Visibility: unlimited	Wind Speed: 3-4kn NE	Sea State: ~~Calm~~, scaly ripples
Swell Height: 2-3' W	Survey Vessel Activity: Arriving on site	

Marine Wildlife Observations and Interactions:

Just arrived on site, along pipe in ~45 ft of water. 1 grey whale (Juvenile) ~100ft inshore of boat heading upcoast. Crew still setting up. No action taken. — stay in zone. Holding crew to start. Whale not seen for 25min. Allow crew to start 0805.

Buoy coords: 33° 55.218 118° 26.537

Time: 0811	Latitude: 33° 55.177	Longitude: 118° 26.445
Weather: Sunny	Cloud Cover: 0	Glare: None
Visibility: unlimited	Wind Speed: 3-4kn NE	Sea State: ~~Calm~~, scaly ripples
Swell Height: 2-3' W	Survey Vessel Activity: Surveying, transects	

Marine Wildlife Observations and Interactions:

Down coast of buoy

Cruised by buoy (~350ft) ~~containing~~ containing 3 hauled out Ca. Sealions. No change of activity.

0847 - 300ft, 3 sealions hualed out.
0914 - 230ft, 4 sealions hualed out
0926 - 190 ft, 5 sealions hualed out
~~1002~~0951 - 90 ft, 5 sealions hualed out
1002 - 30 ft, 5 sealions hualed at.
1012 - 5ft, 7 ~~few~~ Juvenile sea lions hualed out. Spooked them a little ~~bit~~ but stayed on buoy. ~~Once we left~~

1024 - 5ft from buoy, turned around, 6 Juvenile Sea lions hualed at. 1 Juvenile in H2O getting on to buoy. They checked us out but appeared to be fine and healthy.

Marine Wildlife Observations Form

Date: 24 Mar 17 Monitor: JNS

Time: 835	Latitude: 33°55.043	Longitude: 118°26.875
Weather: Sunny	Cloud Cover: 0	Glare: None
Visibility: Unlimited	Wind Speed: 3-4 kt NE	Sea State: ~~Calm~~ Scaly ripples
Swell Height: 2-3' W	Survey Vessel Activity: Taking a WD reading	

Marine Wildlife Observations and Interactions:

Pod of common dolphins - to far away to see how many. Spotted by a frenzy of gulls and brown pelicans following pod. Swam downcoast heading South quickly. No action taken, well outside safety zone.

Time: 0911	Latitude: 33°55.242	Longitude: 118°26.373
Weather: Sunny	Cloud Cover: 0	Glare: None
Visibility: Unlimited	Wind Speed: 3-4 kt NE	Sea State: Scaly ripples
Swell Height: 2-3' W	Survey Vessel Activity: Transect heading SW	

Marine Wildlife Observations and Interactions: 80 ft NW of boat.

One Ca. sea lion, average size, heading NE along pipe towards buoy ~~to~~ where other hauled out sea lions are. Appears to be feeding. and not affected by us at all. No action taken.

Marine Wildlife Observations Form

Date: 24mar17 Monitor: JNS

Time: 0939	Latitude: 33°55.253	Longitude: 118°26.390
Weather: Sunny	Cloud Cover: 0	Glare: None
Visibility: Unlimited	Wind Speed: 3-4 kt NE	Sea State: ~~bd~~ Scaly ripples.
Swell Height: 2-3'W	Survey Vessel Activity: Transect heading NE	

Marine Wildlife Observations and Interactions:

Two Ca. sea lions swimming together along pipe ~180 ft upcoast of boat. Looked at the boat but expressed no interest. Dove under. No action taken.

Buoy coords: 33°55.218 .118°26.537

Time: 1038	Latitude: ↑	Longitude: ↑
Weather: Sunny	Cloud Cover: 0	Glare: None
Visibility: Unlimited	Wind Speed: 3-4 kt NE	Sea State: Scaley ripples
Swell Height: 2-3'W	Survey Vessel Activity: Transects surveying	

Marine Wildlife Observations and Interactions: 30 ft. downcoast of boat

UPcoast of buoy - 7 hualed out Juvenile Ca. Sea Lions. Are aware of us but show no signs of aggitation. No action taken.

1047 - 90 ft, 7 sea lions hualed out

1058 - 90 ft, 7 sea lions hauled out.

1110 - 150ft Downcoast, 7 sea lions hauled out.

1133 - 150 ft Upcoast, "

1140 - 150 ft Upcoast, "

Marine Wildlife Observations Form

Date: 24Mar17 Monitor: JNS

Time: 1115-1130	Latitude: 33°55.062	Longitude: 118°26.906
Weather: Sunny	Cloud Cover: 0	Glare: None
Visibility: Unlimited	Wind Speed: 3-4 Kn NE	Sea State: Scaley ripples
Swell Height: 2-3' W	Survey Vessel Activity: Finishing 1pa transect.	

Marine Wildlife Observations and Interactions:

Pod of common dolphins ~15 came 400ft inshore of boat jumping around. Looked as if feeding. Halted work for 10 min until they were moving downcoast, out of safety zone. Resumed work heading inshore. Another pod of common dolphins (~40) heading downcoast ~~behind~~ 300m offshore of boat. Frenzy of gulls and brown pelicans following. Movement of pod was offshore and downcoast, no ~~second~~ action was taken the second time.

Time:	Latitude:	Longitude:
Weather:	Cloud Cover:	Glare:
Visibility:	Wind Speed:	Sea State:
Swell Height:	Survey Vessel Activity:	

Marine Wildlife Observations and Interactions:

Marine Environmental Variables Form

Date: 29 Mar 17 Monitor: WH Dossett

Time	Latitude	Longitude	Vessel Activity	Weather	Cloud Cover	Glare	Visibility	Wind Speed	Sea State	Swell Height	Comments
0745	55.552	26.759	transit	clear	0	none	15nm	1-3kt	scaly ripples	3-4ft	
0820	55.119	26.933	sonar calibration	clear	0	medium	15nm	1-3kt	scaly ripples	3-4ft	
0913	55.153	26.950	Sonar calibration	clear	0	medium	15nm	1-3kt	smooth	3-4ft	
0949	55.206	26.564	sonar	clear	0	medium	15nm	1-3kt	smooth	3-4ft	
1013	55.269	26.442	Sonar	clear	0	medium	15nm	1-3kt	smooth	3-4ft	
1043	55.282	26.478	sonar	clear	0	medium	15nm	1-3kt	smooth	3-4ft	
1052	55.141	27.110	In transit	clear	0	medium	15nm	1-3kt	scaly ripples	3-4ft	
1230	56.068	26.223	Sonar Calibration	clear	0	mild	15nm	1-3kt	smooth	3-4ft	
1334	55.120	26.616	In transit	clear	0	mild	15nm	1-3kt	smooth	3-5ft	

Marine Mammal and Wildlife Observation and Monitoring Log

Hyperion 1-Mile Outfall Repair Project

Vessel: Scorpaena Marine Mammal Observer(s): U H Dossett

Date	Time *	Vessel Position (Lat/Long) / Activity	Mammals or Turtles Observed: Species, Size, Health	Est. # Indiv.	Distance, Heading, Speed, & Activity of Wildlife & Behavior Changes (if any)	Recommended Action / Notification
3/29/17	0745	In transit	None	—	None	none
"	0820	Sonar calibration	Ca sealion	1	swimming near buoy, no impact	none
"	0913	Sonar calibration	None	—	None	None
"	0949	Sonar Sta. 3	Ca Sealion (juv-Adults)	8	all on buoy, no impact, all healthy	none
"	1013	Sonar Sta 2	gray whale	1	whale swimming ~ 30m from boat, healthy	stopped sonar
"	1043	sonar 2A	Harbor seal	1	seal swimming near boat, healthy, no impact	none
"	1052	In transit	gray whale	1	gray whale swimming by pipe	wait til swims out of area
"	1230	Sonar calibration	None	—	None	none
"	1334	In transit	None	—	None	none

* Minimum observation record: once per hour. Note duration of presence of animals,

Hyperion 1-Mile Outfall Repair Project

Marine Wildlife Observations Form

Date: 29 Mar 17 Monitor: W Dossett

Time: 0820	Latitude: 33 55.119	Longitude: 118 26.933
Weather: clear	Cloud Cover:	Glare: medium
Visibility: 15 nm	Wind Speed:	Sea State: scaly ripples
Swell Height: 3-4	Survey Vessel Activity:	

Marine Wildlife Observations and Interactions:

1 sealion swimming near outer buoy, near boat while using sonar. No apparent impact.

Time: 0949	Latitude: 55.706	Longitude: 26.564
Weather: clear	Cloud Cover: 0	Glare: Medium
Visibility:	Wind Speed: 1-3	Sea State: Smooth
Swell Height:	Survey Vessel Activity: Sonar	

Marine Wildlife Observations and Interactions:

Around 8 sealions on buoy. All appear healthy and don't seem to be impacted by sonar.

Hyperion 1-Mile Outfall Repair Project

Marine Wildlife Observations Form

Date: 29 Mar 17 Monitor: V

Time: 1013 *1052*	Latitude: 55.269	Longitude: 26.442
Weather: clear	Cloud Cover: 0	Glare: medium
Visibility: 15 nm	Wind Speed: 1-3 W	Sea State: smooth
Swell Height: 3-4 SW	Survey Vessel Activity: sonar	

Marine Wildlife Observations and Interactions:

1 gray whale appeared ~30m from boat while using sonar. Whale appeared healthy. Immediately stopped sonar. Did not appear to have an impact but stopped sonar anyway. Swam out of 500m zone.

*1052 Reappeared while we were not using sonar. Swam out of 500m zone.

Time: 1043	Latitude: 55.282	Longitude: 26.478
Weather: clear	Cloud Cover: 0	Glare: medium
Visibility: 15 nm	Wind Speed: 1-3 W	Sea State: smooth
Swell Height: 3-4SW	Survey Vessel Activity: Sonar	

Marine Wildlife Observations and Interactions:

1 harbor seal swimming in water about 10m from boat. Appeared healthy. No impact. No action taken