3.3. RECORD OF OPERATIONS

Project number 61362 **Operations page number** 1 of 2

Date	Time pre-shooting visual monitoring began	Time pre-shooting visual monitoring ended	Was it day or night in period prior to firing?	Reason for firing s = survey t = test x = test followed immediately by survey	Time soft start / ramp-up began	Time soft start / ramp-up ended	Time of start of line / test	Time of end of line / test	Time mitigation gun enabled / source output reduced	Time mitigation gun disabled / end of reduced output	Was any mitigation action required?
2010-01-15[1]								07:37			no
2010-01-17	14:04	14:34	day	s	14:35	15:00	15:52	20:45	20:45		no
2010-01-18										07:41	no
2010-01-18			night	s	07:41	08:08	08:38	12:55			no
2010-01-18	17:20	17:50	day	s	17:50	18:15	18:52	23:58	23:58		no
2010-01-19										07:01	no
2010-01-19			night	s	07:01	07:24	08:00	13:37			no
2010-01-19	20:00	20:30	day	s	20:30	20:54	21:26				no
2010-01-20								02:32	02:32	06:35	no
2010-01-20			night	s	06:35	07:00	07:55	13:50			no
2010-01-20	18:46	19:16	day	s	19:16	19:46	20:35				no
2010-01-21								00:51	00:51	00:57	no
2010-01-21			night	s	05:07	05:32			05:55	10:55	no
2010-01-21			night	s	10:55	11:25	12:27	13:25			no
2010-01-21	18:58	19:28	day	s	19:28	19:54	21:30				no
2010-01-22								03:06	03:06	06:20	no
2010-01-22			night	s	06:20	06:45	07:39				no
2010-01-23								05:06	05:06	10:12	no
2010-01-23			night	s	10:12	10:32	11:27	17:30			no
2010-01-23	18:02	18:32	day	s	18:32	19:00	20:47				no
2010-01-24								06:36			no
2010-01-24	13:40	14:10	day	s	14:10	14:30	15:27				no
2010-01-25								06:43	06:43	13:05	no
2010-01-25	17:50	18:20	day	s	18:20	18:45	19:26				no
2010-01-26								10:15	13:45	15:20	no
2010-01-26	14:50	15:20	day	s	15:20	15:40	16:38				no

[1] This entry continued from the previous report

Date	Time pre-shooting monitoring began	Time monitoring ended	Was it day or night in period prior to firing?	Reason for firing s = survey t = test x = test followed immediately by survey	Time soft start / ramp-up began	Time soft start / ramp-up ended	Time of start of line / test	Time of end of line / test	Time mitigation gun enabled / source output reduced	Time all airguns / source stopped	Was any mitigation action required?
2010-01-27								08:00	08:00	12:44	no
2010-01-27			dusk	s	12:44	13:20	14:03				no
2010-01-28								05:21	05:21	10:00	no
2010-01-28			night	s	10:00	10:20	10:47				no
2010-01-29								03:40	03:40		no
2010-01-29			night	s	10:53	11:22	12:12				no
2010-01-30								04:49	04:49	12:06	no
2010-01-30			dawn	s	12:06	12:38	13:11		13:31	18:59	no
2010-01-30			day	s	18:59	19:21	19:31				no
2010-01-31								05:58	05:58	11:00	no
2010-01-31[1]			night	s	11:00	11:29	12:35				no

[1] This entry will continue on the next report

3.4. LOCATION AND EFFORT

Project number 61362 **Effort page number** 1 of 1

Date	Visual or PAM	Observers' initials	Start of watch				End of watch				Wind speed (knots)	Wind direction	Beaufort sea state	Swell (m)	Visibility (km)	Glare severity
			Time	Latitude	Longitude	Depth (m)	Time	Latitude	Longitude	Depth (m)						
2010-01-15	visual	LH, MC, FS	13:10	26.98462°N	93.75767°W	1310	23:50	26.29350°N	93.91235°W	1761	21	SE	5	>4	2-5	none
2010-01-16	visual	LH, MC, FS	13:00	25.77918°N	93.39870°W	3271	23:45	26.10420°N	93.49502°W	2990	27	W	5	2-4	>5	none
2010-01-17	visual	LH, MC, FS	12:45	26.63155°N	93.09750°W	1426	00:05	27.07725°N	94.32350°W	1086	14	W	4	<2	>5	moderate
2010-01-18	visual	LH, MC, FS	12:50	27.04512°N	94.34420°W	1124	00:00	26.72639°N	094.02028°W	1354	15	SE	4	<2	>5	moderate
2010-01-19	visual	MH, JK, AA	12:55	27.02611°N	094.30028°W	1656	00:05	26.85694°N	094.18667°W	1507	20	SSE	5	<2	>5	moderate
2010-01-20	visual	MH, JK, AA	12:55	26.99500°N	094.30972°W	1852	00:00	26.81056°N	094.14722°W	1311	16	SE	4	<2	2-5	moderate
2010-01-21	visual	MH, JK, AA	12:55	26.88694°N	094.06361°W	1575	00:05	26.89056°N	094.15611°W	1090	10	WNW	3	<2	2-5	moderate
2010-01-22	visual	MH, JK, AA	12:55	26.81528°N	093.90194°W	1728	00:00	26.26528N	093.28444°W	2122	12	ESE	3	<2	2-5	moderate
2010-01-23	visual	MH, JK, AA	12:55	26.33194°N	093.17889°W	1927	00:00	26.26528N	093.84333°W	1404	20	SSE	5	<2	2-5	moderate
2010-01-24	visual	MH, JK, AA	12:50	27.15861°N	093.90194°W	991	00:05	26.59028°N	093.26750°W	1498	25	NNW	6	<2	2-5	moderate
2010-01-25	visual	MH, JK, AA	12:45	26.11194°N	092.63944°W	2140	00:05	26.51167°N	093.17361°W	1928	14	NNE	3	<2	>5	moderate
2010-01-26	visual	MH, JK, AA	12:45	27.20333°N	093.80111°W	1327	00:05	26.65306°N	093.32694°W	1533	12	NNE	3	<2	>5	severe
2010-01-27	visual	MH, JK, AA	12:45	26.21139°N	092.82222°W	1991	00:00	26.79278°N	093.47083°W	1357	18	ESE	4	<2	>5	severe
2010-01-28	visual	MH, JK, AA	12:45	26.41056°N	093.63694°W	1318	00:00	26.41056°N	093.02944°W	1812	25	ESE	6	2-4	2-5	moderate
2010-01-29	visual	MH, JK, AA	12:50	26.31778°N	092.91861°W	1926	23:55	26.85083°N	093.52222°W	1324	20	SSE	6	2-4	2-5	mild
2010-01-30	visual	MH, JK, AA	12:50	27.06667°N	093.75833°W	1004	23:50	26.56750°N	093.18861°W	1800	24	NNW	6	2-4	2-5	mild
2010-01-31	visual	MH, JK, AA	12:50	26.30222°N	092.87861°W	1946	23:55	26.88667°N	093.53722°W	1448	10	NE	3	<2	>5	none

3.5. RECORD OF DETECTION

PROTECTED SPECIES RECORDING FORM
DETECTION

GeoCet

Date	**Project number**	**Time at first detection** (UTC)	**Time at last detection** (UTC)	**Visual detection number**	**Acoustic detection number**
2010-01-27	61362	19:02	19:03	276	n/a

Regulatory reference number	**Vessel name**	**Survey type**	**Observer(s)**
T09-009	*Western Monarch*	WAZ	[redacted]

Detection was made	**Detection was first made**
visually	visually by observer keeping a continuous watch

Latitude of vessel	**Longitude of vessel**	**Bearing of vessel** (degrees)	**Water depth** (metres)
26.55722°N	093.20833°W	319	1839

Swell height (metres)	**Beaufort sea state**	**Precipitation**	**Visibility** (km)	**Cloud cover** (%)	**Glare severity and direction**
2-4	5	none	>5	60	severe from SSW

Common name	**Scientific name**	**Certainty of identification**
Loggerhead sea turtle	*Caretta caretta*	definite

Total number	**Number of adults**	**Number of juveniles**	**Bearing to animal(s) when first detected** (degrees)	**Range to animal(s) when first detected** (metres)
1		1	40	20

Description (include features such as overall size; shape of head; colour and pattern; size, shape, and position of dorsal fin; height, direction, and shape of blow; etc.)	**Visual sighting and/or Acoustic detection details** (note behavior, especially changes in relation to gun activity and distance from gun array)
The turtle's carapace was approximately 12 inches in diameter and brownish orange in color. It's head was large.	The turtle was sighted at the surface of the water at 19:02 UTC, approximately 20 m from the starboard side of the vessel. It was heading toward the rear of the vessel when first sighted, but it veered slightly away from the vessel as it neared the streamers. It picked its head up out of the water just before going out of sight at 19:03 UTC. A "turtle pause" was called at 19:03 UTC.

Direction of travel / first approach (relative to vessel)	**Initial compass heading** (degrees)	**Final compass heading** (degrees)
parallel in opposite direction as vessel	110	115

Closest distance of animals to airguns/source (metres)	**Closest distance of animals to vessel** (metres)	**Source activity at initial detection**	**Source activity at final detection**
460	20	full power while on survey line	full power while on survey line

Time at closest approach (UTC)	**Distance during soft start** (m)			**Source mitigation action(s) required**	**Strike avoidance maneuvers required**
	First	**Closest**	**Last**		
19:02	n/a	n/a	n/a	power reduction of active source	no

	Total duration of mitigation action(s) (HH:MM)	**Total duration of production loss due to mitigation** (HH:MM)
	00:03	00:00