

WESTERN GRAY WHALE ADVISORY PANEL
9th Meeting
PUBLIC

WGWAP 9/11
4-6 December 2010
ENGLISH

Marine Mammal Carcass Survey
2010 Close-Out Report
Submitted by: SEIC

Classification: Unrestricted
Issue Purpose Approved for Use

BM Code: 17.03.07.03
November, 2010



Sakhalin Energy Investment Company Ltd.

**Marine Mammal Carcass Survey 2010
Close-Out Report**

**(Заключительный отчет по программе обнаружения мертвых морских
млекопитающих в 2010 г.)**

Document Number: 0000-S-90-04-T-0283-00-E

Revision 01



MARINE MAMMAL CARCASS SURVEY

2010

CLOSE-OUT REPORT



YUZHNO-SAKHALINSK

NOVEMBER 2010

TABLE OF CONTENTS

| | | |
|-----------|--|----|
| 1. | INTRODUCTION | 5 |
| 2. | SURVEY METHODS | 5 |
| 2.1 | Crew-Change Flights | 5 |
| 2.2 | Dedicated Survey Flights | 7 |
| 2.3 | Dedicated survey equipment | 10 |
| 2.4 | Other survey activities | 10 |
| 2.4.1 | Onshore Behavioural and Distribution Teams | 10 |
| 2.4.2 | Marine Mammal Observers | 10 |
| 3. | RESULTS | 10 |
| 4. | CONCLUSIONS | 11 |
| 5. | REFERENCES | 13 |
| | APPENDIX A - MORTALITY REPORT, AUGUST 20, 2010. | 14 |

1. INTRODUCTION

Sakhalin Energy Investment Company Ltd (Sakhalin Energy) has implemented a *Marine Mammal Protection Plan* (SEIC 2009a) to reduce the threat to marine mammals in the area of its operations off the north east coast of Sakhalin Island.

In 2006, the Interim Independent Scientists Group (IISG) recommended that Sakhalin Energy search for, and investigates whale carcasses along the northeast coast of Sakhalin Island. At their meeting in St Petersburg, April 2007, the Western Gray Whale Advisory Panel (WGWAP) provided further specification that Sakhalin Energy has implemented during period from 2007 to 2010. This report presents the findings of the marine mammal carcass surveys conducted in 2010.

2. SURVEY METHODS

The coastal zone in the Piltun area is monitored for the presence of injured or dead marine mammals using various methods. These methods range from regular crew-change flights and onshore WGW monitoring to dedicated aerial carcass surveys.

2.1 Crew-Change Flights

Depending on weather conditions, there are normally several crew-change flights per day between Nogliki and the Piltun area (PA-A and PA-B platforms), and between Nogliki and the Lunskeye area (LUN-A platform) (Figure 1, Table 1).

Between 1 June and 31 October a total of 222 flights between Nogliki and the Piltun area, and 61 flights between Nogliki and the Lunskeye area took place (Table 1).

The helicopter crews have been instructed to keep a lookout during the flight for whale carcasses on the beach, near the shore and at sea.

During the 2010 season no carcasses were observed and reported by the helicopter crews.

Table 1. Crew-change flights that participated in beach carcass surveys.

| Month | № of flights | |
|--------------|---------------------------------|------------------------------|
| | NGL - Piltun - NGL ¹ | NGL - LNA – NGL ² |
| June | 53 | 29 |
| July | 51 | 6 |
| August | 46 | 13 |
| September | 53 | 8 |
| October | 19 | 5 |
| Total | 222 | 61 |

¹Flight from Nogliki to Piltun area including flight to PA-A, PA-B platforms, OPF and Okha and back.

² Flight from Nogliki to LUN-A platform and back.



Marine Mammal Carcass Survey 2010 Close-Out Report

Rev 01

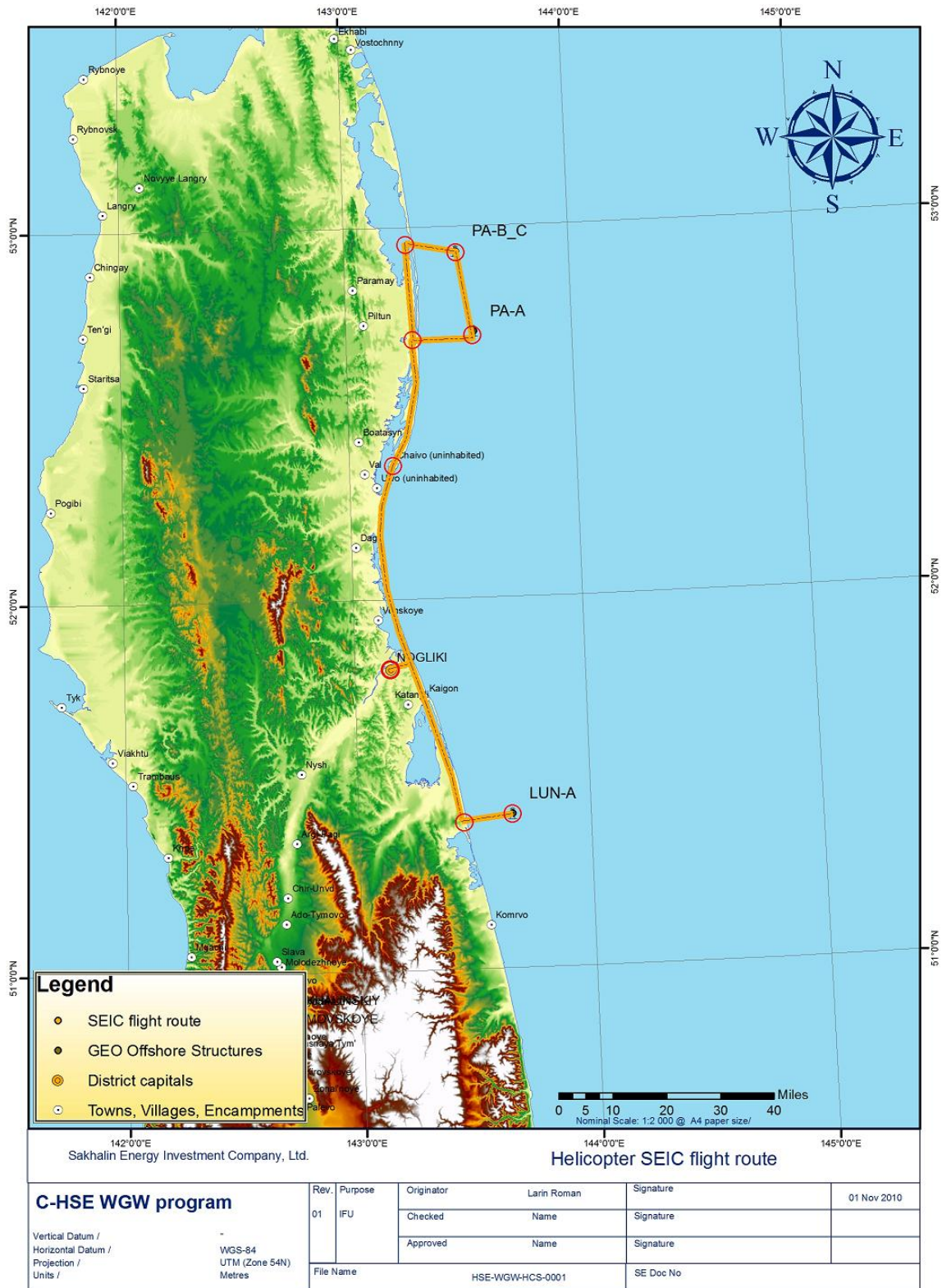


Figure 1. Crew-change flight routes

2.2 Dedicated Survey Flights

In 2010, dedicated surveys were conducted three times during the period August-October. The dates of these surveys are provided in table 2. Whereas in previous years these surveys were typically conducted on a monthly basis, in 2010 the number of surveys was reduced in line with the company's policy on use of non-winged aircraft.

Table 2. Dates of dedicated carcass surveys.

| No. | Date |
|-----|------------|
| 1 | 20 August |
| 2 | 02 October |
| 3 | 29 October |

The dedicated surveys were conducted using a Mil Mi-8MTV-1 helicopter, which is used for crew transfers (Figure 2) and operate from the Nogliki airport. Both Marine Mammal Observers (MMO) and Sakhalin Energy representatives participated in these surveys. All observers on board had extensive experience in the identification of marine mammals in the field.



Figure 2. Helicopter Mil Mi-8MTV-1.



Marine Mammal Carcass Survey 2010
Close-Out Report

Rev 01

During the aerial survey all information including the flight parameters, weather conditions and coordinates of any detected marine mammals was recorded on a form (Annex A). During the survey GPS tracks of the flight route were recorded and waypoints were taken of points of interest, like possible carcasses that required further inspection. The crews of the helicopters were briefed on the preferred flight specifications prior to the start of the survey. Typically the flight (ground) speed ranged between 80-100 knots (148-185 km/hr) at an altitude of 500 – 1500 ft.

All flights were performed in accordance with the recommendations made by the GWAP except for the recommendation on flight altitude. There are a large number of wooden logs and other large objects on the beach in this area, which significantly reduced the probability of finding (small) cetacean carcasses at altitudes exceeding 600 ft.

The dedicated helicopter carcass surveys consisted of two phases. The first phase included the flight from Nogliki along the beach to Okha (Figure 3). During this phase the position of all objects resembling dead animals was determined, which was recorded. During return flight (Okha- Nogliki) observers conducted a more detailed investigation of the objects at the recorded locations. If these objects were identified as dead cetaceans, the helicopter was requested to land for a detailed investigation.



Marine Mammal Carcass Survey 2010 Close-Out Report

Rev 01

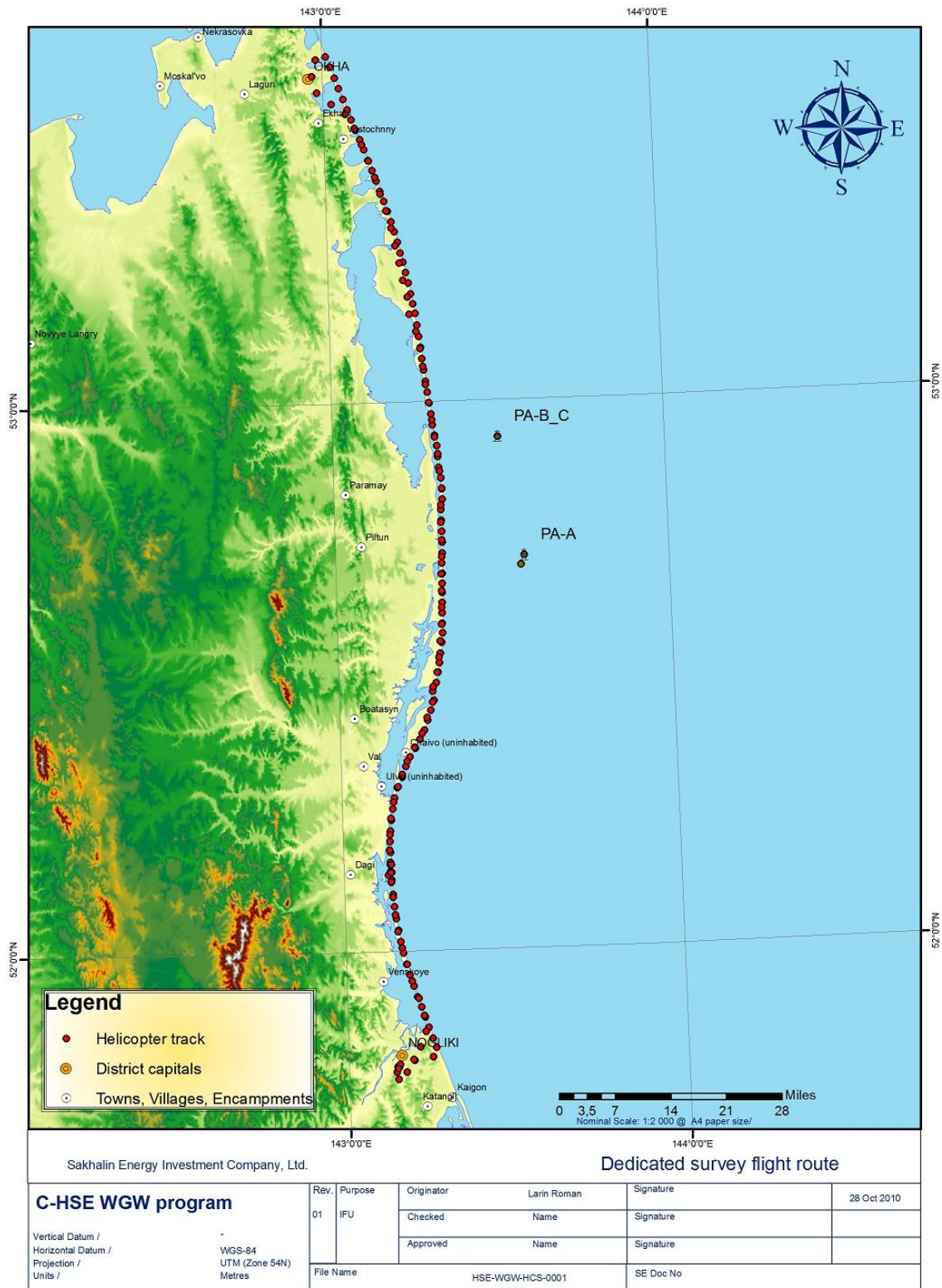



Figure 3. GPS-track of dedicated survey flight route.

| | | |
|---|---|---------------|
|  | <p>Marine Mammal Carcass Survey 2010 Close-Out Report</p> | <p>Rev 01</p> |
|---|---|---------------|

2.3 Dedicated survey equipment

Standard helicopter equipment was used during the surveys, including an accurate radar altimeter, GPS navigation system, headphones, respirators, survival equipment etc. In addition, MMOs on the dedicated survey flights were equipped with their own global positioning system (GPS) devices (Garmin GPSMAP 60CSX), digital cameras, recording sheets, basic sampling materials, and tape to measure the length of marine mammal carcasses.

2.4 Other survey activities

2.4.1 Onshore Behavioural and Distribution Teams

In 2010, members of the Sakhalin Energy seismic survey team and the Sakhalin Energy/ENL joint program survey teams studied the behaviour and abundance of western gray whales from a number of onshore monitoring stations located along the northeast coast of Sakhalin Island. The team members travelled extensively between these monitoring stations by vehicle. During these activities, the team members also monitored for presence of dead or injured marine mammals. In 2010 onshore teams were present in this area from early June until the 1st of October. During this period 2010 no carcasses were observed by the onshore survey teams.

2.4.2 Marine Mammal Observers

As part of Sakhalin Energy's Marine Mammal Protection Programme, MMOs were also located aboard key vessels (crew-change boats, seismic and research vessels in 2010) engaged in Sakhalin Energy activities. The main task of MMO's on board of these vessels was to look for marine mammals and alert the captain to reduce the risk of collisions. Additionally, MMOs are also instructed to record sightings of dead or injured animals. In 2010 no dead or injured marine mammals were observed by MMO's.

3. RESULTS

During 2010 field season one dead marine mammal was found. On the 20th of August a dead Bearded Seal (*Erignathus barbatus*) was detected during the dedicated carcass survey.

The carcass was in moderate state of decomposition (Figure 4, Annex C). During the inspection the cause of death of this seal could not be determined.

During the 2010 season no dead cetaceans were observed by any of the above-mentioned surveys. The results of carcass surveys in previous years are provided in table 3.


| | | |
|---|---|---------------|
|  | Marine Mammal Carcass Survey 2010 Close-Out Report | Rev 01 |
|---|---|---------------|

Table 3. History of dead marine mammals observed in the Piltun area.

| Year | Species |
|-------------|--|
| 2010 | Bearded seal |
| 2009 | Western gray whale, Beluga whale |
| 2008 | Minke whale |
| 2007 | Spotted seal, Beluga whale, Cuvier's beaked whale |
| 2006 | Minke whale, Baird's Beaked whale, Killer whale, spotted seal, and ringed seal |

4. CONCLUSIONS

- One dead Bearded seal was found during the 2010 carcass survey season.
- The cause of death for this seal could not be established.
- No dead cetaceans were encountered during the 2010 MMO program and carcass surveys.



Marine Mammal Carcass Survey 2010 Close-Out Report

Rev 01

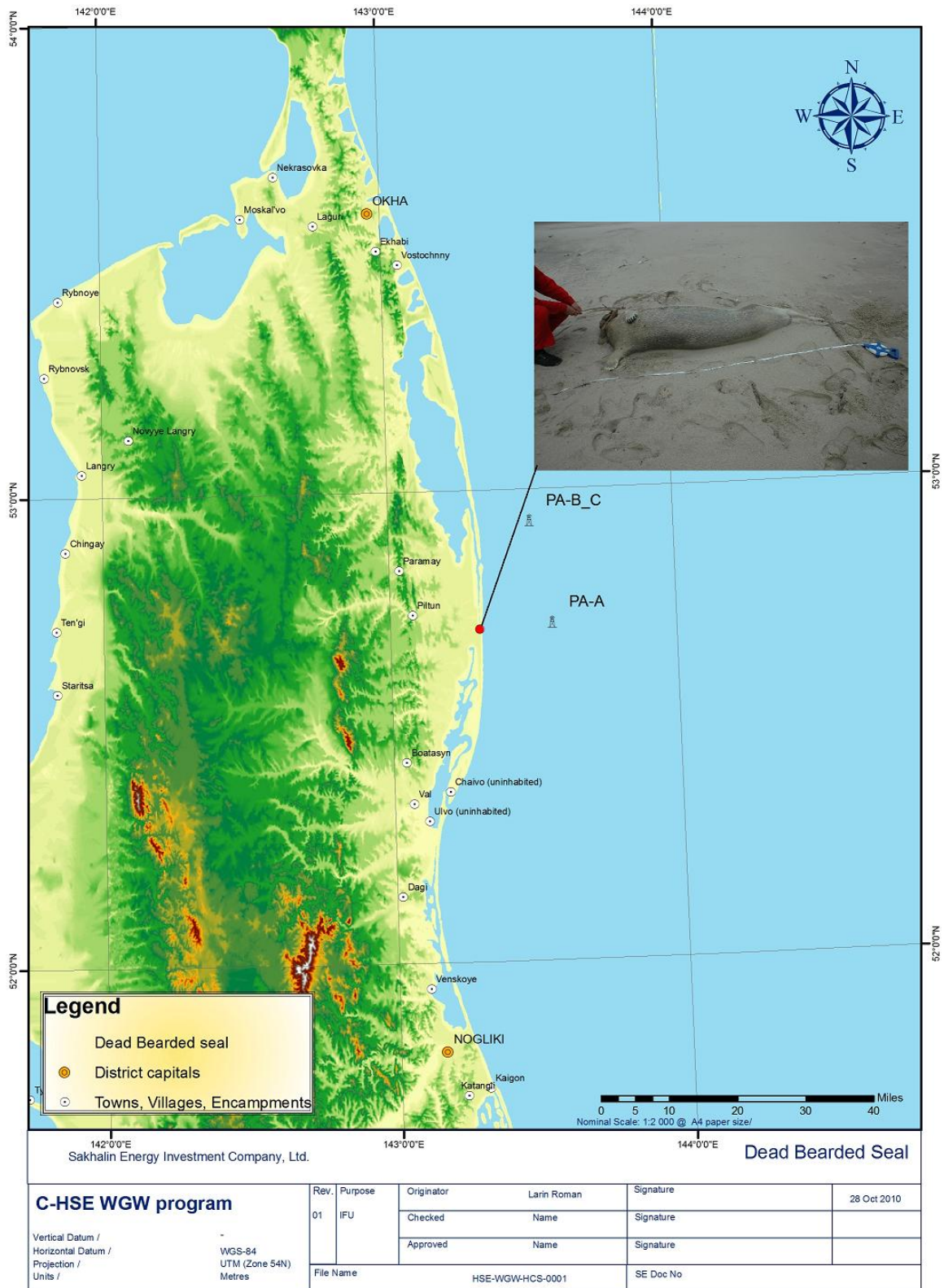



Figure 4. Stranded seal carcass found in 2010.

| | | |
|---|---|----------------------|
|  | <p>Marine Mammal Carcass Survey 2010 Close-Out Report</p> | <p>Rev 01</p> |
|---|---|----------------------|

5. REFERENCES

SEIC, 2009a. Marine mammal protection plan. Document number 1000-S-90-04-P-0048-00-E

APPENDIX A - MORTALITY REPORT, AUGUST 20, 2010.

Marine Mammal Mortality - Injury Report

EXAMINER

Name: Roman Larin
Affiliation: Sakhalin Energy
Address: Chehovo str. 78 Sfera building
Phone: +7 9147594226

SPECIES AND LOCATION DETAILS

Common Name: Bearded Seal
Genus: Phocidae **Species:** *Erignathus barbatus*
Site Description: North-east Sakhalin Island Piltun

GPS Coordinates: N 52°42'54" E 143°19'14"

Vessel (if applicable): N/A
Sighting conditions: N/A
Vessel speed: N/A
Vessel activity: N/A
Distance to Marine Mammal at first sighting: N/A

Floating? YES NO
Stranded? YES NO

DATE OF INITIAL OBSERVATION

Year: 2010 **Month:** August **Day:** 20

Condition:

| | |
|---|---------------------------|
| 1. Alive/Healthy | 6. Advanced Decomposition |
| 2. Alive/Injured | 7. Mummified/Skeletal |
| 3. Alive/Sick | 8. Decomposition Unknown |
| 4. Fresh Dead | |
| <u>5. Moderate Decomposition</u> | |

CARCASS DISPOSITION

Check One or More:

- 1. Left at site**
2. Buried
3. Towed ashore
4. Other _____
5. Unknown



Marine Mammal Carcass Survey 2010
Close-Out Report

Rev 01

Necropsied? YES NO Date: N/A

Necropsied by: N/A

TAG DATA

| Tag # | Color | Type | Placement |
|-------|-------|------|-----------|
|-------|-------|------|-----------|

N/A

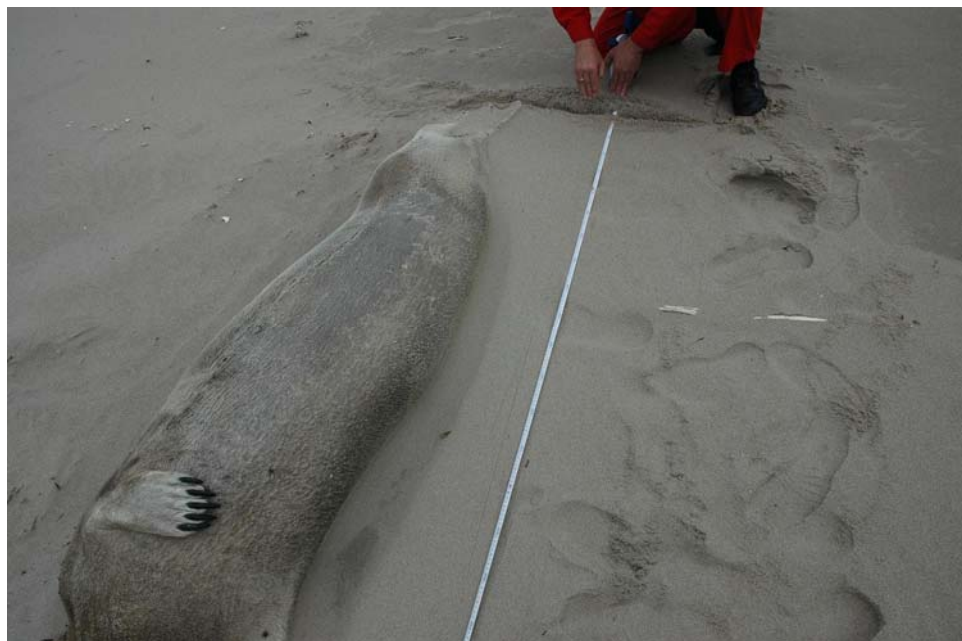
MORPHOLOGICAL DATA

SEX: 1. Male
2. Female
3. Unknown

Straight Length: 250 cm

Weight: N/A kg/lb (estimate)

| | | | | |
|---------------|------------|-----------|--------------|----------------------------|
| PHOTOS TAKEN? | <u>YES</u> | NO | Disposition: | Sakhalin Energy's LiveLink |
| VIDEO TAKEN? | YES | <u>NO</u> | Disposition: | N/A |





Marine Mammal Carcass Survey 2010
Close-Out Report

Rev 01





Marine Mammal Carcass Survey 2010
Close-Out Report

Rev 01

