

**Russian Federal Research Institute of Fisheries and Oceanography
(VNIRO)**

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**DISTRIBUTION AND ABUNDANCE OF KOREAN STOCK
GRAY WHALES
IN THE WATERS OF NORTHEASTERN SAKHALIN
DURING JUNE – OCTOBER 2007
(based on data from onshore and vessel-based surveys)**

**REPORT ON STUDIES CONDUCTED
AS PART OF THE “PROGRAM FOR STUDY AND MONITORING OF GRAY WHALES OFF THE
NORTHEAST COAST OF SAKHALIN ISLAND IN 2007”**

V. A. Vladimirov (VNIRO), S. P. Starodymov (VNIRO),
A. G. Afanasyev-Grigoriyev (Marine Biology Institute of the Far East Branch of the Russian
Academy of Sciences), and J. E. Muir (LGL Limited)

Prepared for
Exxon Neftegas Limited
and
Sakhalin Energy Investment Company Limited

M o s c o w
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1 EXECUTIVE SUMMARY

This report presents the results of vessel-based and onshore surveys of the Korean stock (western) of gray whales performed in the summer and fall of 2007 under the auspices of the Program for Study and Monitoring of Korean Stock Gray Whales off the Northeast Coast of Sakhalin Island. As in 2004-2006, surveys indicated that gray whales were concentrated in the near-shore Piltun feeding area. However, the density of whales decreased compared to previous years in the Piltun area, coupled with an increase in the density of animals in the Offshore feeding area. The highest number of gray whale sightings recorded on a single day during the summer-fall period of 2007 off the coast of Sakhalin Island was 19.2% lower than in 2006 (from 125 to 101 individuals). This is likely correlated with reports that a significant number of western gray whales were in the Eastern Kamchatka area (which is supported by photo ID data - *Vertyanin, personal communication*) and possibly to other areas of the Sea of Okhotsk. There is no indication of a reduction in the overall population of western gray whales.

The number of current-year young sighted in the Piltun area in 2007 was 5 animals, as in 2005-2006, which indicates a relatively stable level of reproduction of the Korean stock gray whales based on observations from shore.

Keywords: gray whale, Sakhalin, Piltun, survey, feeding, distribution, abundance

Tables - 14, figures - 22, bibliography - 5, appendices - 53, pages – 135.

**PROGRAM FOR STUDY AND MONITORING
OF THE KOREAN STOCK GRAY WHALES
OFF THE NORTHEAST COAST OF SAKHALIN ISLAND
IN 2007**

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1. INTRODUCTION

The research work to survey the Korean stock (western) of gray whales (*Eschrichtius robustus*) in the offshore waters of Sakhalin Island, the results of which are presented in this report, were performed during the summer-fall period of 2007 in accordance with the "Program for Study and Monitoring of Korean Stock Gray Whales off the Northeast Coast of Sakhalin Island", which was duly endorsed by the appropriate Russian organizations and agencies – with the Russian Federation Ministry of Natural Resources (MNR), the Federal Oversight Service for Natural Resource Use (ROSPRIRODNADZOR), the Federal Veterinary and Phytosanitary Oversight Service (ROSSELKHOZNADZOR), the Russian Federal Fishery Agency, and the local Sakhalin departments of ROSPRIRODNADZOR and ROSSELKHOZNADZOR.

The program, which complies with the basic principles of the Russian-American "Joint Declaration on Ensuring Biodiversity Conservation in the Sakhalin Island Area" (1997), is aimed at studying regional populations of marine mammals and obtaining the biological data needed to develop conservation and mitigation measures to be implemented during development of oil and gas fields on the northeastern shelf of the island. The northeast Sakhalin feeding areas of this population are in direct proximity to several offshore petroleum license areas, in two of which (Piltun-Astokh and Chayvo) active operations have begun within the framework of the Sakhalin-1 and Sakhalin II projects (Fig. 1). This work is important as the Western gray whales residing in this area during the summer-fall season are critically endangered with only about 120-130 animals according to the latest data (Vladimirov et al., 2005, 2006;2007; Yakovlev and Tyurneva, 2006, 2007; Cooke et al., 2006, 2007; Vladimirov et al., 2006, 2007; Weller et al., 2006). Western gray whales are listed in the "Red Data Books" of the International Union for the Conservation of Nature (IUCN) and the Russian Federation. It is therefore important to monitor this population during continued development, to ensure the projects are developed without negatively impacting the Western gray whale population. The surveys performed in 2007 included regular vessel-based and onshore surveys in key feeding habitats of Western gray whales to continue monitoring whale distribution and abundance in the waters off northeastern Sakhalin. These operations continued and expanded upon the program of surveys performed under the similar Russian "Programs for Study and Monitoring of the Korean Stock Gray Whales off the Northeast Coast of Sakhalin Island" in 2002-2006.

This ongoing research is funded by Exxon Neftegas Limited (ENL) and Sakhalin Energy Investment Company, Ltd. (SEIC), the operators of the Sakhalin-1 and Sakhalin II projects.

In 2007 the survey operations were performed by specialists from the Russian Federal Research Institute of Fisheries and Oceanography (VNIRO) and the Marine Biology Institute (MBI) of the Far East Branch of the Russian Academy of Sciences. Students from the Far East State University (FESU) and Far East State Technical Fisheries University (FESTFU) participated in the collection of field data, along with other experienced specialist.

This summary report on gray whale distribution studies performed in 2007 was prepared by V. A. Vladimirov (VNIRO) based on the processing of onshore survey data (S. P. Starodymov) and vessel-based surveys (A. G. Afanasyev-Grigoryev). J. E. Muir (LGL Limited, Sidney, Canada) provided maps and an analysis of gray whale population density in the feeding areas.

1.1. NEED FOR MONITORING

The Western gray whales constitute one of the world's smallest population of large whales. Currently, the number of animals older than 1 year is estimated to total just 121 (90% confidence interval of 112 – 130) individuals (Cooke et al., 2007). However, the results of studies of recent years performed by Russian scientists show that this number largely reflects only the number of whales in the feeding group continuously concentrated during the summer and fall months in the waters off northeastern Sakhalin (Vladimirov et al., 2005, 2006, 2007), while the overall abundance of the entire Korean stock gray whale population, judging by photo identification data, is somewhat greater and may total approximately 140-150 (Yakovlev and Tyurneva, 2006, 2007).

Based on currently-available data, during the summer and fall months, i.e., during the feeding season, the majority of Western gray whales that have been identified are concentrated in the Sea of Okhotsk off the northeastern coast of Sakhalin Island (Wursig et al., 1999, 2000; Vladimirov, 2004; Vladimirov et al., 2005, 2006, 2007; Weller et al., 2000, 2001, 2002, 2003, 2004, 2005, 2006, etc.), although feeding gray whales have also been found in larger numbers in the waters of eastern Kamchatka (where 20-30 gray whales have been observed in recent years (e.g. Vertyankin et al., 2007). In addition, gray whales have also been observed in other coastal areas of the Sea of Okhotsk (; Weller et al., 2002, 2003; A. V. Andreyev [Institute of Biological Problems of the North of FERAS, Magadan], S. I. Korniyev [KamchatNIRO, Petropavlovsk-Kamchatsky] and V. N. Malakhov [Rosselkhoznadzor, Magadan] – *personal communications*). The shallow bays on the southern coast of the Korean Peninsula were long thought to be the wintering grounds for the Korean (hence its name) stock of gray whales. In recent years, however, it is thought that gray whales are sighted off the Korean coast only during migrations, and that whales more likely winter and breed somewhere in the South China Sea, most probably off the coast of Guandong Province and in the waters around Hainan Island (Rice, 1998). The exact wintering grounds and seasonal migration paths have yet to be identified.

The coastal waters of northeastern Sakhalin near Piltun, Chayvo and Nyyskiy bays are clearly important feeding areas of the Korean stock gray whales. Gray whales are benthophages and, in contrast to all other cetaceans, feed primarily on benthic (bottom) and epibenthic (near-bottom) invertebrates. The exceptionally high biomass of preferred prey in the area (up to 1 kg/m² or more – Koblikov, 1986; Fadeyev, 2003, 2004, 2005, 2006, 2007) is apparently the reason for the formation of gray whale feeding aggregations in specific areas

near the shores of northeastern Sakhalin. In recent years, whales have been feeding in two limited offshore areas located in close proximity to each other – the Piltun and Offshore areas (Fig. 1).

Gray whales appear off the northeast coast of Sakhalin in late May – early June, when the water area is free of ice, and remain there for the most part until October. They then begin their fall migration to their wintering grounds in the south. The gray whales exit Sakhalin waters entirely by late November or early December, when the sea starts to freeze again.

The annual feeding routine has evolved in such a way that the gray whales actively feed only during the summer-fall season when they arrive offshore Sakhalin. During the rest of the year, including the breeding season, they survive almost entirely on accumulated energy reserves stored in a layer of subcutaneous blubber. As a result, it is very important that normal feeding conditions be maintained in order to preserve the Western gray whale population. Recent survey data on Western gray whales (Weller et al., 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006; Wursig et al., 1999, 2000) indicate that the current reproductive potential of the population is extremely low. Although there are low numbers of reproductive females, Cooke's model (2007) indicated that the population has > 99% probability of increasing assuming no additional mortality or disturbance to reproduction. Only 23 productive cows were reliably identified in 2006, and the total number of calves observed in 1994-2006 with the exception of 1996 was only 59 (Cooke et al., 2007; Weller et al., 2006), i.e., an average of 6.5 calves per year.

The average annual gray whale calf mortality rate (in a range of approximately 6 month to 1.5 years), based on data from observations on Sakhalin Island, is currently estimated to be 24% (90% confidence interval of 15–34%) for the Korean stock gray whales, and 1.8% (90% confidence interval of 0.9–2.8) for adults (Cooke et al., 2007). It is possible, however, that some of the calves spend the entire year in regions elsewhere such as Kamchatka and may not be observed off northeast Sakhalin until later.

Symptoms of deteriorating physical health have also been detected in the whale population in the last decade, which is demonstrated by the appearance of unusually emaciated animals in the feeding areas after wintering. Their number in the last 5 years has varied from year to year – from 4 to 15% of the number of individuals observed (Yakovlev and Tyurneva, 2004, 2005, 2006, 2007; Weller et al., 2005, 2006). The majority of whales that are observed to be underweight at the beginning of the feeding season significantly improve their physical condition as the year progresses (Yakovlev and Tyurneva, 2006, 2007).

1.2. SURVEY GOALS AND OBJECTIVES

The main objective of the 2007 surveys was to study and monitor spatial and seasonal patterns in the distribution of gray whales in the coastal waters of northeastern Sakhalin, which not only serve as practical indicators of the status of the Western gray whale population, but may also provide insight into the condition of the summer-fall feeding habitat.

The area covered by the 2007 surveys included the coastal area of the island's northeast shelf and the offshore license areas for the Sakhalin-1 (Odoptu, Chayvo and Arkutun-Dagi fields) and Sakhalin II projects (Piltun-Astokhskoye field).

As part of the 2007 program, onshore vehicle-based route surveys were performed in Piltun area from 23 June through 17 October, and systematic transect vessel-based surveys were conducted from the "Akademik Oparin" research vessel in the Piltun and Offshore feeding areas and adjacent areas from 30 July through 4 October. Gray whale sightings from the "Professor Bogorov" research vessel, which was operating in the same areas, were also recorded under different sections of this Program. The purpose of onshore vehicle-based surveys was to study patterns and seasonal variations in gray whale distribution in their main feeding habitat in near-shore shallow areas of the Sea of Okhotsk near Piltun Bay. The specific goals of these surveys, as during the previous year, were as follows:

- gathering detailed data on the spatial and temporal distribution of gray whales during the feeding season in the near-shore waters from Odoptu Bay in the north to Chayvo Bay in the south. This included monitoring for distribution changes associated with the installation of the PA-B drilling platform topside in the summer of 2007).

- estimating the abundance of whales concentrated in the Piltun area during the feeding period, and also cow-calf pairs and the timing of calves transitioning to independent feeding.

The most important tasks of the vessel-based surveys were:

- collecting data on gray whale distribution in the Offshore feeding area to facilitate estimating abundance.

- monitoring the presence of whales in the waters of the Arkutun-Dagi license area (Sakhalin-1 Project).

- Surveying for whales further from shore in the Piltun area (since observing whales and determining the distance to the animals from shore is more difficult at longer distances).

- periodically surveying the Piltun area located outside the visibility range of the shore-based surveyers in order to monitor the distribution and abundance of gray whales in this area.

- surveying the coastal waters to the north and south of the Piltun feeding area to monitor whale distribution and abundance outside the visibility range of the most northern and southern onshore Stations.

Data were also collected on the distribution and abundance of other marine mammal species observed during the surveys.

The details of systematic survey methodology is outlined in the following section. All surveys were conducted following protocols designed to ensure minimal disturbance of the whales.

2. METHODS AND MATERIALS

2.1. *STUDY AREA AND SURVEY ORGANIZATION*

In recent years, Western gray whales have concentrated during the feeding season in the shelf waters off northeastern Sakhalin near Piltun, Chayvo and Nyyskiy bays (between 52°00' and 53°30' north latitude) in two feeding areas located in close proximity to each other (Fig. 1).. The first of these areas, the "Piltun" or "near-shore" area, is about 100 km long and is located opposite Piltun Bay, where the whales normally remain in shallows with depths up to 20-25 m, primarily within 4-5 km from shore. The second feeding area, which was discovered only in 2001 and is called the "Offshore" feeding area (Blokhin et al., 2002; Maminov and Yakovlev, 2002; Meier et al., 2002), is located 40-50 km south-southeast of the Piltun area opposite Chayvo and Nyyskiy bays, 25-45 km offshore in waters 35-50 m deep.

The shallow Piltun area has special importance for the Western gray whales, since this is the only known location where cows are observed weaning their current calves and teaching them foraging skills before the transition to independent life. Whales remain close to the shore, making it possible in good weather to observe whales in the Piltun feeding waters from coastal hills, to perform repeat surveys during good weather, and thereby to obtain highly detailed information on gray whale distribution patterns for subsequent statistical analysis.

As already mentioned, a significant concentration of gray whales in the Offshore area was observed for the first time only in 2001. The animals feed there at substantially greater depths than in the near-shore area, and no cows with calves have been observed. This is most probably attributable to the fact that the calves are not yet able to dive to such depths and learn to forage there. It might also be due to the fact that young gray whales have less protection from killer whale attacks than in the shallower Piltun area. At the same time, studies performed as part of the program in 2002-2006 (Fadeyev, 2003, 2004, 2005, 2006, 2007) showed that the resources of fodder benthos accessible to whales in the Offshore area is significant and could support a reasonably large number of animals. The number of

feeding gray whales in the Offshore area in 2002-2003 was similar to Piltun (Blokhin et al., 2003, 2004). As the distance of the Offshore area from shore makes it impossible to perform surveys from shore, a research vessel is used for this purpose.

In view of these circumstances, systematic vessel-based transect and onshore vehicle survey methods were used during the 2007 surveys to acquire the most comprehensive and detailed information possible on the distribution of the gray whales in their feeding range off the Sakhalin coast. This approach yielded comprehensive and reliable information on the nature and features of the distribution of the gray whales in their main feeding range. Issues concerning the methods and organization of the surveys will be covered in greater detail in the following sections.

2.1.1. VESSEL-BASED SURVEYS

2.1.1.1. Area of Operations

Systematic shipboard surveys in the Piltun feeding area were conducted in 2007 on a single transect laid out along the Sakhalin shoreline at a distance of 4.0 km from the shore. The survey transect in 2007 was extended in a southerly direction to Nyisky Bay ($52^{\circ}01'30''$ N), and in a northerly direction to Urkt Bay ($53^{\circ}36'$ N) with a total length of 172 km (Fig. 2).

In the Offshore area, as in 2006, the systematic vessel-based gray whale surveys were conducted on 8 transects with intervals of 6.5 km oriented east to west in an area bound to the south and north by latitudes $51^{\circ}50' - 52^{\circ}14'$ N, and to the west and east by longitudes $143^{\circ}30'$ and $143^{\circ}50'$ E (Fig. 2).

Systematic vessel-based surveys in the Arkutun-Dagi license area were also performed again in 2007, and as in the previous year were on 7 traverses running east to west, which were bounded to the south and north by latitudes $52^{\circ}18' - 52^{\circ}39'$ N, and to the west and east by longitudes $143^{\circ}30'$ and $143^{\circ}55'$ E (Fig. 2).

2.1.1.2. Survey Organization and Protocols

In 2007, systematic vessel-based surveys were conducted off the northeastern coast of Sakhalin Island from the "Akademik Oparin" research vessel during July 30 through October 4 at the survey frequency described below, and opportunistic vessel-based sightings of gray whales were made from July 8 through October 5 when other research activities were performed. Opportunistic sightings of gray whales and other marine mammals were also made from July 4 through September 9 from the "Professor Bogorov" research vessel.

Experienced observers (A. G. Afanasyev-Grigoryev, M. S. Korniyenko, E. A. Pimenova, B. V. Stekhov, and Yu. M. Yakovlev), surveyed marine mammals daily (weather permitting) from the bridge during daylight. The elevation of the observation point was 10 m above sea level. For observation of marine mammals, determining their species, evaluating their behavior, and estimating their individual sizes, the observers used Fujinon 7x50 FMTRC-SX 7°30' reticule binoculars with a range scale and built-in compass.

Systematic surveys were performed in the Piltun area and adjacent areas to the north and south, weather permitting, at an approximately monthly interval from August 5 through October 4, in the Offshore area and Arkutun-Dagi license area at approximately 15-day intervals (Offshore from July 31 through October 1; Arkutun-Dagi from July 30 through September 30).

These systematic surveys were performed at a vessel speed of 10-11 knots. The ship's GPS system and the Furuno marine radar system were used to determine the exact position of the vessel during the surveys, the ship's gyrocompass was used to determine the true bearing to a gray whale sighting and the distance was recorded based on the range scale at the moment of their first sighting. Systematic whale surveys were conducted only in conditions of good visibility (at least 6-8 km) and smooth seas (not exceeding 3 points on the Beaufort scale).

In order to obtain the most representative data on gray whale distribution and abundance in the Offshore feeding area and in the adjacent waters of the Arkutun-Dagi license area, the procedures for the systematic vessel-based surveys called for them to be performed with a minimal time interval – over two consecutive days, weather permitting. This minimizes the probability of duplicate counting or undercounting of whales as they move from one area to another. However, whale movement is still likely given significant variation in gray whale abundance has been observed in replicate shore based samples in over a 12 hour period (Gailey et al., 2006, 2007).

During periods of other research activities on the vessel such as photo identification and benthos studies, opportunistic gray whale surveys were also performed. However, only results of the systematic surveys are used in the analysis of their distribution or abundance reported here.

Information on the date and time of sightings of animals, their species, the numbers of animals in groups, the distance from the vessel, the position and heading of the vessel, and the weather and visibility was recorded immediately on a special record card and was entered in a computer database at the end of each working day.

2.1.1.3. Calculating Whale Coordinates

The coordinates of whales sighted during vessel-based surveys were calculated as outlined in Yermolayev and Zoteyev (1988) with minor adjustments as illustrated below.

$$\begin{aligned}\varphi_2 &= \varphi_1 + \cos K \times S / (1853 \times 60) \\ \lambda_2 &= \lambda_1 + \sin K \times \sec \varphi_{cp} \times S / (1853 \times 60)\end{aligned}$$

where Φ_2 and λ_2 – latitude and longitude coordinates of the animal's location, respectively
(in decimal degrees)

φ_1 and λ_1 - latitude and longitude coordinates, respectively, of the ship (in decimal degrees)

K - bearing to the animal (in degrees);

S - distance to the animals (in meters);

φ_{cp} - average latitude, computed by the formula below:

$$\varphi_{cp} = \frac{\varphi_1 + \varphi_2}{2}$$

2.1.1.4. Data Analysis

Statistical analysis of the data collected in the course of the shipboard survey program was performed using MS Excell.

2.1.1.5. Minimizing the Impact of Vessel-Based Surveys on Whales

Since ensuring the reliability of vessel-based survey results inevitably requires some vessel encroachment into gray whale concentration areas, detailed survey safety procedures have been developed based on the appropriate international guidelines. Compliance with the instructions by the vessel captains and the members of the scientific teams ensures minimal disturbance to the gray whale population during survey operations and other studies. In addition, when vessel-based surveys were performed in the Piltun area, the transect 4 km from shore is close to the eastern boundary of the whale concentration area, which minimizes interaction with individual animals further.

2.1.2. SHORE-BASED SURVEYS

2.1.2.1. Coastal Features and Locations of Stations

The Piltun feeding area, which is located in the coastal area of the Sea of Okhotsk and stretches approximately from the mouth of Ekhaba Bay in the north to the mouth of Chayvo Bay in the south (i.e., approximately 120 km along the Sakhalin coast), is divided into two parts by a channel connecting Piltun Bay to the sea, which is impassable by vehicles. Therefore, the survey area was divided into two parts – the Odoptu-Piltun (north) section, covering the waters north of the mouth of Piltun Bay, and the Astokh-Chayvo (south) section, occupying the near-shore waters south of the mouth of Piltun Bay (Fig. 3). Onshore route surveys were carried out by two survey teams, one of which (the north team) performed surveys in the Odoptu-Piltun section, while the other (the south team) was responsible for the Astokh-Chayvo section.

The surveys were performed from the same 13 permanent Stations that had been used in the two sections during 2003-2004. They were situated in elevated areas of the coast, approximately 8-10 km from one another (Table 1, Fig. 3), in order to reduce the recounting of the same whales in adjacent sectors of neighboring survey zones. The distances between Stations was not always the same, since their locations were selected according to the terrain (the highest points on shore with the best view of the offshore waters were chosen). Table 1 provides geographic coordinates and other characteristics for all the Stations. Another 2 Stations (14 and 15) were identified at the south edge of the area since 2004, although no observations were performed from these Stations in 2007 due to their remote location.

2.1.2.2. Survey Organization and Protocols

Onshore vehicle-based surveys of gray whales (and other marine mammals) were performed by two survey teams – north and south – on coordinated routes run concurrently. The north survey team included S. P. Starodymov (who simultaneously managed the field operations of both teams as part of the shore-based survey program), I. P. Marchenko, and R. E. Sidorenko, and the south team included D. S. Samarin (team leader), N. V. Doroshenko, and I. P. Marchenko. Also, V. A. Vladimirov participated in the onshore surveys from September 7 through October 1.

Due to the poor condition of the roads in the study area (and sometimes the lack of roads), all-terrain vehicles were used to perform the route surveys: a Ural-4320 truck in the Odoptu-Piltun section, and a 4WD Toyota Land Cruiser 800 in the Astokh-Chayvo section. The use of vehicles allowed the groups to rapidly move along the shoreline from one survey section to another, significantly reducing the time interval between surveys from adjacent Stations and thereby minimizing survey errors related to whale movements along the coast.

The whale surveys were organized as follows.

The two teams called each other in the morning and began the survey if the weather was good. The north team, based in a Sakhalinmorneftegaz dormitory between Odoptu and Piltun bays, started the survey from the northernmost Station (Station No. 1) and moved south. The survey route in the north section was about 70 km long, covering all 8 Stations in about 7 hours. The team spent the night in a temporary portacabin near the mouth of Piltun Bay (Station No. 8) and repeated the survey from south to north, from Station No. 8 to Station No. 1, the next day.

The south team was based at ENL's Chayvo camp, and it took the team about 5 hours to perform a complete survey on the route from Station No. 9 to Station No. 13. However, performing the entire survey in the Astokh-Chayvo section took at least 7 hours, since the south group still needed time to get from the base Station to the initial point on the route or to return from the end Station. Hence the actual length of the route for the south team (for a complete survey) was about 90 km in a day. The survey direction for this team was opposite to that of the north team.

The work of the two teams was structured to synchronize the survey time at the neighboring end Stations near the mouth of Piltun Bay (Stations 8 and 9). Therefore, if the north team conducted a survey from Station 1 to Station 8, the south team conducted a survey moving in the opposite direction, from Station 13 to Station 9, and the teams finished the surveys in precise synchronization by matching the exact time of the start of counting at Station 8 and Station 9 by satellite telephone. In similar fashion, if the north team started a survey from Station 8 in the morning, the south team started its survey from Station 9, and the exact time for the start of the surveys by the two teams was matched by radio.

The whale surveys were conducted according to the procedure developed by the Canadian environmental consulting company LGL Limited (LGL). The surveys are systematic with subsequent statistical processing of the data to calculate the distribution density of the whales in individual areas and estimate whale numbers on that basis. The surveys were performed during daylight hours, using Fujinon 7x50 binoculars provided by LGL, with a 7°30' field of view, a built-in compass and range finding reticules, along with the similar Steiner Commander V binoculars.

All the surveys were performed according to the following protocol:

- observations were conducted from fixed Stations located along the route, the exact elevations and coordinates of which were known;
- the direction for viewing the water area (scanning) matched the direction of movement along the route, thereby minimizing the interval between scans of adjacent sectors of the survey zones;
- all team members participated in the surveys – two continuously scanned the water area through binoculars, while the third recorded whale

sightings;

- scanning was performed from a standing position, using a rest for the binoculars, at a constant survey rate of 10° per minute;
- all cetaceans sighted, as well as all vessels, were recorded;
- the distances and bearings to the whales sighted and other targets were determined according to readings of the built-in compass and range finder reticule of the binoculars;
- when whales and other cetaceans were sighted, the precise time of the sighting, the species, the number of animals in the pod, the heading, the distance, the direction of movement of the animals, behaviors, cow-calf pairs, and the observer's initials were recorded on a special form;
- environmental conditions and the starting and ending times of the scanning were also entered in the record;
- details not included in the record columns were entered as notes.

Surveys were not performed or were terminated under the following conditions:

- wave conditions rated 4 or higher on the Beaufort scale;
- wind speed of 10 m/sec or higher;
- heavy precipitation (rain, hail, snow);
- fog;

Upon completion of each survey, all data recorded on the record forms regarding the number of whales sighted, their positions, environmental conditions and other details were transferred to computer (in MS Excel electronic worksheets) on the evening of that same day. The survey data were sent to the companies on a daily basis to keep them informed of the distribution of gray whales in the Piltun area.

Methods and organization of the onshore vehicle-based gray whale surveys are described in greater detail in the report on gray whale distribution in Sakhalin waters for 2004 (Vladimirov et al., 2005).

2.1.2.3. Calculating Whale Coordinates and Distances from Shore

During the surveys, the distance to the whales was determined from the range finder scale of the binoculars, and the bearing was selected from the built-in compass. When a whale or spout was sighted with the binoculars, divisions on the scale were counted from the horizon to the whale or the base of the spout. The data were entered into the computer, where the number of divisions was converted to distance. In 2007, as in previous years, the distance was determined by the following formula (Lerzack and Hobbs, 1998):

$$\alpha = \arctan\left(\sqrt{2hR_E + h^2}/R_E\right) \cong \sqrt{2hR_E + h^2}/R_E$$

$$\beta = \frac{\pi}{2} - \alpha - \theta$$

$$H = \alpha R_E \cong \sqrt{2hR_E}$$

$$D_0 = (R_E + h)\cos(\text{UBW}) - \sqrt{(R_E + h)^2\cos(\beta)^2 - (2hR_E + h^2)}$$

$$\delta = \arcsin\left(\sin(\beta)\frac{D_0}{R_E}\right) \cong \sin(\beta)\frac{D_0}{R_E}$$

$$D = \delta R_E \cong \sqrt{D_0^2 - h^2}.$$

where α - the angle between a horizontal line (90°) and the horizon;

β - the angle between the Station and the target;

δ - the arc between the Station and the target;

θ - the angle between the horizon and the target object;

h - the elevation of the Station;

R_E - = radius of the Earth (6.371×10^6 M)

D_0 - straight-line distance to the object;

D - the distance between the Station and the target on the Earth's surface.

In addition, a correction for sea level depending on the high or low tidal phase was included in the calculations. Then, given the distance to the whales or pods and the bearing to the animals from a Station with known coordinates and elevation, the exact coordinates of the animals were calculated using the appropriate formulas (this stage of the calculations was discussed in greater detail in the 2004 Report – Vladimirov et al., 2005).

2.1.2.4. Minimizing the Impact of Onshore Surveys on Whales

Since there was no known direct or indirect impact on Western gray whales during the process of visual surveys from shore, no special measures were taken to regulate the survey work to minimize the effect of the surveys on the animals.

2.1.3. DATA ANALYSIS AND MAPPING

Statistical analysis of data obtained in 2007 during systematic vessel and onshore vehicle-based surveys in northeastern Sakhalin and preparation of the data for mapping were performed using MS Excel and the density analysis method.

In this method, the study area was divided into a grid of 1.0 x 1.0 km cells, with average WGW densities (WGW/ km²) estimated for each cell that was sampled during the 2007 survey season. Average density estimates correct for the possible double counting of WGWs from different vessel transects or shore Stations by incorporating each survey's effort

(area of the grid cell that was surveyed) into the calculation of the average WGW density estimate for that grid cell.

Gray whale sightings from systematic vessel-based and shore-based surveys were first calibrated, or brought to a common standard, by correcting for two types of visibility bias that typically result in an underestimation of animal abundance (Marsh and Sinclair 1989):

- 1) Availability bias: This is the probability that WGWs were available to be seen on the surface of the water during a particular survey based on the amount of time an area of water is observed during a survey (dependent on the size of the area in view, and vessel survey speed or binocular scanning rate at shore-based Stations), and 2007 WGW surface-respiration-dive cycle behavior (Gailey et al. 2008).
- 2) Perception bias: This is the probability that an observer perceives an available gray whale. Distance sampling methodology (Buckland et al., 2001; Buckland et al. 2004) was used to analyze the effects of distance and other factors (e.g. sea state and WGW group size) on the probability of detecting an available gray whale. Distance 5.0 (Thomas et al. 2006) was used to model a detection function for the vessel-based surveys. The detection function used to correct vessel survey observations toward the shore (i.e., to the west) from the Piltun transect was right truncated at a distance of 2 km from the shore, since the detection by vessel-based surveyors of gray whales at shallow waters sharply decreased in this area. Accordingly, no WGW estimates for this nearshore area were made based on the vessel survey data. The remaining systematic vessel sightings were right truncated at a perpendicular distance of 4.5 km from a transect line that corresponded to a detection probability of approximately 0.10 (Buckland et al. 2001).

The shore-based detection function was assumed to be flat (i.e. the detection probability does not decrease with increasing distance from the observation Station) for up to 0.1 reticle radial distance (range 4.5 to 10.8 km) from each shore Station, to a maximum of 8 km distance. This detection function is based on an analysis conducted by the University of St. Andrews (Rexstad and Borchers 2007). The model they fitted included both shore-based and ship-based sightings in a joint analysis to estimate parameters of a shore-based detection function. This indicated that whale detectability did not diminish to the off-shore limit of ship-based surveys (7 km). An important assumption of the analysis is that the detectability of whales from the ship does not depend on distance from shore. In addition, the effects on the shore-based detection function of variables other than distance were not considered. A small number of shore-based sightings located beyond the distance from a shore station corresponding to the binocular's 0.1 reticle mark are not included in the density estimates because there is substantial error in estimating the distance to these whale sightings (i.e., there is a long distance from the 0.1 reticle mark to the horizon), and associated uncertainty in assigning these sightings to specific grid cells. The actual distance corresponding to the 0.1 reticle mark depends on the height of the shore station and ranges from approximately 4.5 km to 10.8 km. Because the analysis to determine a shore-based detection function tested to a maximum radial sighting distance of 8 km, the maximum allowable distance to a whale

sighting for the density analysis is shortened to 8 km for two stations (stations 2 and 3) in the northern part of the Piltun feeding area that are high enough to make the 0.1 reticle mark represent a distance greater than 8 km (**Error! Reference source not found.**2). Density estimates are not calculated for grid cells with less than 0.1 km² surveyed area because of the high bias that is associated with these estimates.

A WGW density was estimated for each grid cell that was sampled during a particular survey of a vessel transect or shore Station by summing that survey's corrected WGW sightings in the grid cell, and then dividing by the area that was surveyed in the grid cell. Gray whale sightings beyond the truncation distances described above were excluded from this analysis. The estimated densities from each survey are maintained in a database that allows WGW density estimates to be extracted for selected combinations of survey type and time period. These estimates were used to create WGW density surface maps at several temporal scales (e.g., monthly, yearly) that depict the WGW spatial distribution and abundance at a resolution of 1.0 km² for most of the northeast Sakhalin Island coastline. The estimated average density in each 1.0 km² grid cell was calculated by taking a weighted average of the WGW density estimated by each survey that sampled that grid cell, with weights correlated with the area that was surveyed in the grid cell.

Then whale distribution maps were plotted with the ArcView GIS program based on the data obtained.

2.2. RESEARCH EFFORTS AND COLLECTED DATA

2.2.1. VESSEL-BASED SURVEYS

Per the program, in 2007, 14 special full-scale gray whale surveys were performed— 3 in the Piltun feeding area, 5 in the Offshore area, and 6 in the Arkutun-Dagi license area (Sakhalin-1). Due to poor survey weather that lasted almost all of July, the surveys were begun only in the very last days of that month. Systematic surveys were conducted in the Piltun area, weather permitting, in an approximately monthly interval (8/5, 9/7, and 10/4), and in the Offshore area and waters of the Arkutun-Dagi license area – approximately twice a month (in the first – 7/31, 8/15, 9/1, 9/15, and 10/1, in the second – 7/30, 8/16, 8/25, 9/6, 9/14, and 9/30).

A total of 2289 sightings of various marine mammal species, including 1690 gray whales, were recorded during both systematic and opportunistic vessel-based survey operations period in the waters of Sakhalin Island (Table 2). During the systematic surveys, 152 sightings of solitary gray whales and their groups were recorded (the total number of individual animals was 287 – Table 31).

2.2.2. SHORE-BASED SURVEYS

Shore-based surveys of gray whales continued in 2007 for approximately 4 months (from June 23 through October 17). However, due to extremely poor weather in the summer and first half of fall, only 26 complete synchronized surveys were able to be performed in the entire Piltun area. In addition, 21 complete surveys were also performed in one of the

1 MMOs indicated that 19 sightings of 46 gray whales were possible resights.

sections (3 in the Odoptu-Piltun and 18 in the Astokh-Chayvo areas), when due to weather conditions it was impossible to perform complete surveys in the second of these areas. On 27 occasions, initiated surveys had to be suspended due to worsening weather (reduced visibility or high seas). The total time spent directly on the surveys in 2007 was 177 hours 10 minutes (Table 4). In 2006, only 15 complete synchronized surveys were performed. In 2004-2005, when the weather conditions were significantly better, 35 and 40 of these surveys were able to be performed, respectively.

A total of 1612 sightings of individual whales and groups were made in 2007 from the shore-based surveys in the Piltun area, and the total number of animals was 1997 (Table 4, Appendix 2). This is somewhat more than during the poor weather of 2006 (1590 sightings and 1973 individuals), but much lower than in 2004-2005, when the weather conditions were much better (2004 - 3518 sightings and 4414 individuals, and in 2005 - 3892 sightings and 4527 individuals). The data obtained in 2007 provided significant insight into seasonal gray whale distribution dynamics and utilization of the Piltun area.

In addition to the gray whales, other cetacean and pinniped species were observed during the surveys in the coastal waters of Sakhalin; information on these species is presented in Appendix 2.

Data on weather conditions in the 2007 onshore survey area are given in Appendix 3.

3. STUDY RESULTS

3.1. *DISTRIBUTION AND ABUNDANCE OF GRAY WHALES*

3.1.1. PILTUN AREA

3.1.1.1. Vessel-based Surveys

In 2007, the first full-scale survey in the Piltun area was conducted on August 5. Whales were sighted at this time by themselves and in groups throughout the area (Fig. 4-b). A total of 28 sightings were made, with a total of 45 individuals² (Table 3). Data collected during systematic surveys in August demonstrated the density of whales was dispersed throughout the area. In its northern part (near onshore Station 2), there were up to 4.0 individuals per sq. km, opposite of Station 6 – up to 4.5, and in the area between Stations 7 and 8 – up to 5.0 (Fig. 4-b).

During the second systematic survey, which was conducted on September 7, gray whales were primarily (67%) sighted in the central part of the Piltun area (Fig. 4-c). There were a total of 26 sightings of whales and their groups, and the total number of animals sighted was 45 (Table 3), a 50% increase compared to August if possible resighted whales are excluded from the August counts. Twenty-eight whales were observed in the Offshore area on September 1. The average density between onshore Stations 2 and 3 was 2.4 individuals/km², between Stations 6 and 7 – 3.0, between 7 and 8 – up to 5.0, between 9 and 10 – up to 6.4, and between 12 and 13 it again dropped to 3.0 individuals/km².

The third and final full-scale vessel-based survey in the Piltun area was performed on October 4, which also showed that the majority of whales (63%), as before, remained near the mouth of Piltun Bay, while with very few observations in the northern half of the area (Fig. 4-d). A total of 16 sightings of solitary whales and groups of whales were recorded during this survey, and a total of 30 gray whales were counted (Table 3). Thirty-six whales were observed in the Offshore area three days earlier, indicating whales were increasingly using the Offshore area with decreased use of the Piltun area by early October. The systematic survey in early October indicates gray whale density in the coastal waters opposite Piltun Bay dropped in comparison with September and did not exceed 3.5 individuals/km² (slightly to the south of onshore Station 9, - Fig. 4-d).

² MMOs indicated that 9 sightings of 15 gray whales were possible resights.

The three systematic surveys performed in the coastal waters of the Piltun area, indicated that large aggregations of whales observed in the northern area in previous years were not observed in 2007 (Fig. 4-e). The majority of whales were observed aggregating, throughout the year in an area extending 15-20km north and south of the mouth of Piltun Bay (adjacent to onshore survey stations 6-10). Western gray whale distribution gradually shifted to the south each month, and by October only solitary whales were observed in the northern part of the Piltun area. The number of whales in south of the mouth of Piltun Bay increased in September and October compared with August.

The maximum number of gray whales recorded in 2007 from vessel-based surveys in the Piltun feeding area, as was mentioned above, was 45 individuals (September 7, Table 3), which is much lower than in 2006 (75 individuals, August 23). Gray whale abundance increased from early August to early September if possible resighted whales are excluded from the August counts, otherwise the abundance remained the same, and then again decreased by early October (453 – 45 – 30 individuals).

3.1.1.2. Onshore Surveys

Detailed information on the gray whale distribution within the Piltun feeding area and its seasonal dynamics during the period from the late June to mid-October 2007 was acquired by onshore vehicle-based surveys. Foggy weather, which occurred in the 2nd and 3rd ten days of July hampered efforts to conduct full synchronized surveys during this period. However, the remaining data provided insight into seasonal abundance dynamic and the distribution of gray whales in the Piltun area in 2007.

1.1.1.1.1.1.1 Seasonal Variations in Whale Spatial Distribution

The results of onshore surveys conducted in the Piltun area in 2007 are summarized in Table 5. Average whale population density was calculated based on these data as described in section 2.1.2.4, allowing gray whale density to be plotted at a 1 km² resolution to illustrate gray whale distribution within the feeding area. This density analysis accounts for effort, double counting, and whale availability and perception biases, and therefore corrects for much of error associated with using raw count data.

The overall distribution of gray whales in the Piltun area in June – October 2007, which was determined based on onshore survey data, is presented in Fig. 5. This WGW density map gives an indication of the boundaries of the summer-fall feeding area of the Western gray whales in the Piltun area, the nature of whale distribution within the area for the entire season, and density of whales in a given section of the area for the survey period. In contrast to previous years, only one clear aggregation of whales was present in the coastal feeding area, occupying the area adjacent to the mouth of Piltun Bay (the area of Station 9) and extending northward to Stations 6 and 7. This aggregation is observed every year adjacent to Piltun Bay, varying only in the size of the area occupied and the concentration of animals. In 2007, the area of this aggregation increased substantially in comparison with 2006, while its average seasonal population density varied, in the majority of cases from 0.01 to 1.0 individuals per km², and only in three locations (in the area of Stations 7 and 9) somewhat exceeded this level (maximum – up to 1.2 individuals/km²).

The increased concentration of whales in the northern part of the area that have been observed previous years (Fig. 1) was notably absent in 2007. In 2006, the area surveyed by Stations

3 MMOs indicated that 15 gray whales were possible resights.

2-4 was heavily used (it should be noted that in 2004-2005, the northern area was again heavily used, occupying the area from Stations 2 to 5, Vladimirov et al., 2005, 2006). In 2007, the whales as a whole were distributed in the northern half of the feeding area (north of survey station 6), practically uniformly, and with a very low density – the average seasonal density almost everywhere was within 0.-0.3 individuals/km² and only occasionally increased to 0.5 individuals/km² (Fig. 5).

In the southern part of the Piltun area (south of Station 10), gray whale distribution in 2007 was essentially the same as in the previous year. In a large part of this area (from Station 10 to Station 12), the animals were evenly distributed, with a density of 0.-0.3 individuals/km², in other areas – up to 0.5 individuals/km², but by Station 12 and slightly north of Station 13, in the 2-km coastal area, there were localized spots of increased whale concentration, where their density increased to 1.0 individuals/km² (Fig. 5).

However, throughout the summer-fall season, the distribution of whales from month to month within the Piltun area displayed considerable natural variation.

Late June - July

The gray whales' approach to the Piltun area began unusually late in 2007 – only in the last 10 days of June, since ice remained near the coast of northeastern Sakhalin until the 20th of the month. Based on the study results of previous years, we know that whale migration from wintering areas to the feeding area usually occurs during June and July. In 2007, the long period of foggy weather from July 10 to early August strongly hindered the gathering of data on whale distribution in the Piltun area during the time of their arrival from wintering. The limited 2007 data set indicates the distribution was similar to 2004-2006. During this period, the animals were mainly sighted sparsely throughout the entire coastal zone of the Piltun area, and their density generally did not exceed 0.5 individuals/km². Near the mouth of Piltun Bay, in the area of Stations 8-10 were small aggregations observed with a somewhat increased density (up to 1.0 individual/km²). However, the maximum average whale density (up to 1.4 and 1.8 individuals/km²) was observed at this time north of the mouth of the bay, between Stations 7 and 8 (Fig. 6-a).

August

In August 2007, the weather improved and surveys began being performed fairly regularly (10 complete synchronized surveys this month). The data obtained showed that by the middle of the first 10-day period of August the initial gray whale migration to the Piltun area appeared to have ended, and their overall number reached close to the seasonal maximum and became relatively stable (Table 5, Fig. 7). By this time, the whales were distributed throughout the coastal area. The whale distribution in the Piltun area in August of 2007 was much different than the same month the previous year. This was demonstrated by the lack of a gray whale aggregation in the northern part of the Piltun area and their elevated concentration in the central and southern parts of the area. The larger central aggregation, which formed near the entrance to Piltun Bay and north of it, occupied the area from Station 6 to Station 10 (Fig. 6-b) and included 55% of the whales present in the area (Table 6). In previous years, the gray whale aggregation that invariably appeared in August in the waters adjacent to the mouth of the bay represented only up to 35% of the whales present in the area (in 2006), while in 2004-2005 – only about 20% (Vladimirov et al., 2005, 2006, 2007). The densest whale distribution within this aggregation was observed in 2007 in the 1-km coastal area south of Station 9, where in one location it reached 2.4 individuals/km².

North of this near-mouth aggregation, the whales were distributed, as in July, more or less uniformly with a relative low density, somewhat elevated in the areas of Stations 5 and 6 and between Stations 3 and 4, but here it also did not exceed 0.5 individuals/km² (Fig. 6-b). The large aggregation of whales present in previous years in the northern part of the feeding area was absent in 2007. In the area adjacent to Stations 2-5 60-65% of the total number of whales were concentrated in August 2004-2005, and in 2006 it was up to 35% (Vladimirov et al., 2005, 2006, 2007). Overall, only 21% of the total number of whales in the coastal area were recorded in the area of Stations 1-6 in August (i.e., in the entire area north of the near-mouth Piltun aggregation) (Table 6).

In the southern part of the Piltun area, south of the near-mouth aggregation (i.e., in the area from Station 10 to Station 13), 24% of the gray whales remained here, while almost half of them were concentrated in the southernmost periphery of the feeding area south of Station 12 (Table 6, Fig. 6-b). The maximum values of average monthly density of whale distribution there reached 1-2 individuals/km², while in the rest of the southern area they remained more or less spread out, with a density not exceeding 0.5 individuals/km².

September

In September 2006, gray whale distribution in the Piltun area was similar to that observed in August (Fig. 6-c). In the near-mouth area of Piltun Bay and north of it (from Station 6 to Station 10) a clearly elevated concentration of whales continued to be observed in comparison with the other parts of the feeding area. This aggregation retained its somewhat bifurcated structure – the majority of whales, as before, remained close to the mouth of the bay (in the area between Stations 8-10), and the second, lesser part of whales, remained in the area of Stations 6-7. The total number of whales recorded in this aggregation in September (between Stations 6 and 10) increased even more, reaching 63% of the whales recorded during this month in the area (Table 6). Accordingly, the average monthly whale density in this aggregation also increased, reaching 1.8 individuals/km², while in the near-mouth area of the bay (opposite Station 9) it reached 3.3 individuals/km², which was the maximum density observed during the entire 2007 study period, although it was much lower than the 2006 maximum (4.9 individuals/km²). The large near-mouth aggregation of whales remaining here in September was a new phenomenon in their seasonal distribution in the Piltun area, since in the

previous 3 years this aggregation during this month invariably dispersed, with 12-15% of all whales observed in Piltun being observed near Piltun Bay mouth (Vladimirov et al., 2005, 2006, 2007).

In September 2007, north of the near-mouth Piltun aggregation (north of Station 6), the relative number of gray whales remained similar to August (up to 22%), and overall they remained evenly dispersed here, with a small area of increased concentration between Stations 3 and 4 (Table 6, Fig. 6-c). The average monthly density in this part of the area fluctuated between 0 and 0.5 individuals/km².

In the southern part of the Piltun area (south of the near-mouth aggregation), the relative gray whale population dropped in September 2007 (to 16%), both in comparison with August of this year as well as with September of 2006 (35%). There was elevated density close to the southern boundary of the feeding area, between Stations 12 and 13 (9%), as in previous years (Fig. 6-c).

October

In the first to second 10-day periods of October 2007, due to the typical degradation of the weather in northern Sakhalin (increased wind), only 4 complete surveys were able to be completed throughout the entire Piltun feeding area (3, 4, 16 and 17 October). These surveys showed elevated density near the mouth of Piltun Bay between Stations 8 and 10. The relative whale abundance in the aggregation, despite the much smaller area occupied, remained very high – 54% of the total number of whales recorded in this area during this time (Table 5, Fig. 6-d), while their density reached 2.6 individuals/km². This picture of gray whale distribution in October was never seen in any of the years of survey operations in the Piltun area as this aggregation had usually dispersed by the beginning of October. Further north (in the area of Stations 1-6), the number of sighted whales dropped sharply in comparison with September (to 6%), and they were encountered there mainly solitarily and dispersed. In only one location did the density of gray whales reach 1 whale/km² (Fig. 6-c) on average for the October surveys. South of the mouth of Piltun Bay the relative number of whales increased again in October, reaching 28% of the whales in the area, which was evidently due to their usual shift to the southern boundary of the area during this month as a result of the fall migration. The majority of whales here were concentrated in the area of Station 12, where in individual squares their density reached 1.52 individuals/km².

In summary, the main features of the distribution of whales in the Piltun area was:

- a large aggregation of whales that remained throughout the entire season immediately adjacent to the mouth of Piltun Bay
- significant numbers of whales by the southern boundary of the coastal area, observed for most of the season from mid July
- A significantly more dispersed and generally lower utilization of the remaining area that has been used for feeding in previous years of shore-based study (2003-2006).

A correlation analysis of whale distribution in the Piltun area, which was based on comparing the number of whales in sections of the area from survey to survey (its principles and procedures were developed by A. V. Vladimirov and were described in detail previously - Vladimirov, 2007; Vladimirov et al., 2005), also confirmed the high stability of the spatial structure of the feeding grouping of gray whales in the Piltun area in the fall-summer period of 2007. This is demonstrated by the highly-significant correlation factors of whale distribution in the coastal feeding area ($r=0.8$ and greater), where they remained throughout the majority of the season (Table 7). We should also note that the stable spatial structure of the feeding grouping of whales was established unusually early in 2007, by

the first half of period of the whales' arrival from wintering (starting July 9), while in previous years this occurred only in the very last days of this month (Vladimirov et al., 2005, 2006, 2007). Another unusual phenomenon was that in the beginning of October, when in previous years gray whales had left the Piltun area due to the beginning of the fall migration gray whale abundance remained reasonably high. Gray whale numbers noticeably decreased in the second half of October. Thus, in terms of the nature and seasonal dynamic of gray whale distribution in the Piltun area, 2007 differed sharply from the three previous years. The reason for this is unclear, but may be related to certain changes in the feeding conditions.

Seasonal-Spatial Changes in Whale Abundance

Gray whales were observed arriving to the Piltun area unusually late in 2007 – not until the third 10-day period of July, since the coastal area of the Sea of Okhotsk at northeastern Sakhalin did not become ice-free until the 20th of the month (i.e., about a month later than usual). The first complete survey was performed on June 24, and only 8 whales were sighted in the entire area (Table 5, Fig. 7). Only 16 and 14 whales were sighted on June 29 and July 1, respectively, lower than for the same period in 2006 (40 whales on June 30 - Vladimirov et al., 2007). By the end of the first 10-day period of July, whale abundance in the Piltun area increased to 25 whales (9.VII). Fog hampered further survey efforts until the beginning of August.

At the beginning of August, when the weather improved, up to 67 gray whales were located in the Piltun area (Table 5) and remaining reasonably constant from August to mid-September (39 to 80 whales) (Fig 7, Table 5). In the second half of September, however, fewer whales were observed towards the end of the month and a further decrease was observed in October as migration out of the area was initiated. These trends are consistent with studies from 2004-2006. The total number of raw data gray whale sightings in the Piltun area (based on data from full-scale synchronized surveys) was as follows:

- August 56.5 whales (min – 39, max – 80)
- September 51.0 whales (min – 37, max – 69)
- October 35.0 whales (min – 24, max – 48)

The reduction in the abundance of the feeding group (beginning in the second half of September) was likely related to whales utilizing the Offshore area, where their increase numbers were observed.

The average numbers of gray whales in these areas for the season as a whole are shown in Fig. 8 (synchronized surveys only). The area around the mouth of Piltun Bay (between Stations 8 and 10*) averaged 17.8 whales during each survey, while their average number in the entire survey area was 47.2 whales per survey. The second localized aggregation of whales, which was smaller in number was located in the area between Stations 12 and 13, where an average of almost 5 whales was observed per survey. North of the Piltun mouth aggregation, starting with the area between Stations 7 and 8 and to the area of 4-5, the number of whales dropped quickly (from 4.5 to 1.9 whales per survey), but in areas between Stations 2-3 and especially 3-4, it again increased somewhat (reaching 2.8 whales in the latter). Then, with their approach to the northern boundary of the feeding area, the number of whales in sections of the area rapidly dropped to completely negligible values (0.4-0.1 whales per survey). It is likely the whale abundance illustrated in Fig. 8 reflects the presence of food available to the whales in the area. With the exception of July, where whales were observed throughout the area, monthly distribution (figure 9) is reasonably consistent with the overall distribution

* The bay mouth is located approximately 100 m to the north of Station 9.

shown in figure 8. The spatial and temporal variation of the whales along the Piltun survey area is illustrated collectively in figure 10.

The total abundance of the feeding group of gray whales present during the summer-fall months of 2007 in the coastal waters of the Piltun area (judging from the averaged numbers of three onshore surveys during which the greatest number of whales was recorded) reached 68.3 whales (min – 65, max – 73). This is much lower than in 2006, when onshore surveys in the area counted 90 - 100 whales. This is discussed further later in the report.

Whale distribution as a function of distance from shore and water depth

In 2007, 99.4% of whales were recorded within 5 km of shore. This is consistent with previous years. Specifically, 48.4% were within 1-2 km from the shore, 23.7% were within 2-3 km, and 16.5% were within 0.5-1 km (Table 8, Fig. 11). No essential difference was observed in whale distribution based on their distance from the shore between the Odoptu-Piltun and Astokh-Chayvo sections. In both sections, a shift of the whales to shallower depths was observed from June-July to August, and then they gradually returned by October to the deeper zone (Table 8). This primarily occurred due to corresponding changes in the number of whales in the near coastal (0-1 km) and seaward (2-5 km) zones; at a distance of even 1 to 2 km, the number of whales remained relatively stable throughout the entire season. The far-seaward zone (> 5 km from shore), the number of whales was greatest during their approach from wintering (June-July). Sightings in deeper water were decreased in August, with occasional sightings in September and few in October (Table 8, Fig. 11).

As water depth is generally correlated with distance from shore, it is unsurprising that 99.2 % of gray whale observations in the Piltun area were in water <20m depth (Table 9, Fig. 12) This is consistent with previous years. The majority of observations (81.0%) were found throughout the area at depths from 6 to 10 m (43.7%) and 11 to 15 m (37.3%). In the Astokh-Chayvo section no whales were observed at depths greater than 25 m, and they were sighted only rarely in the 20-25-meter range (0.4% of sightings for the season), and then only during the spring-summer migration (in June-July). In the northern part of the feeding area, in the Odoptu-Piltun section, where the whales had a much greater tendency to feed in the deep-water part of the area, according to data from observations in 2004-2006, their occurrence frequency beyond the 20-m isobaths was much higher (1.4% for the season), and the maximum depths in the sighting locations reached 31-35 m (Table 9). However, it must be noted that the observation stations are generally higher in the Odoptu-Piltun section. No obvious seasonal dynamic of gray whale depth distribution was observed in 2007. The only notable aspect was the gradual reduction in their occurrence frequency from August to October in the shallowest zone, from 1 to 6 m (Fig. 13).

Interestingly an adult gray whale was observed entering the channel connecting Piltun Bay to the sea on September 20, 2007. The whale entered there at high tide together with a large school of herring and remained in the channel for about an hour. Although unusual, gray whales entering this channel have been observed occasionally in previous years, including reports of a cow with a calf briefly entering the bay in 1998.

3.1.2. OFFSHORE AREA

In the summer-fall season of 2007, 5 systematic surveys were made in the Offshore feeding area. The first of these, which was performed on July 31, showed a very low abundance (5 sightings,

18 whales⁴) and a dispersed whale distribution in the southeastern part of the area. The distribution map of gray whales in this area, which is based on data on the single systematic survey conducted in July (Fig. 4-a), shows that the greatest average whale density during this period was in the central part of the feeding area and its northern boundary (3.31 and 4.0 individuals/km²).

The second systematic survey (August 15) illustrated the whales remained concentrated in the same part of the Offshore area, but their number had significantly increased (13 sightings, 43 whales⁵). The average density of whales recorded during this systematic survey reached 5.0 individuals/km² in individual squares (Fig 4-b).

The next survey, which was conducted on September 1, showed further expansion of the whale distribution zone in the Offshore area, spreading somewhat further to the north and east, but they remained just as dispersed – individually or in groups; their abundance was slightly higher than in mid-August (18 sightings, 28 whales). In mid-September (15.IX), during the next survey in the same area, as with 15 days earlier, solitary gray whales and small groups of them were spread apart and widely distributed throughout the eastern and southeastern part of the Offshore area (Fig. 4-c), while their number markedly increased (20 sightings, 34 whales⁶). Average whale density in the squares dropped however, and the maximum was only 2.54 individuals/km² according to data from the two systematic September surveys.

The last systematic survey in the Offshore area was conducted on October 1, during which the most gray whales for the season were recorded there (19 sightings, 36 whales), although in comparison with the previous survey their number changed only slightly. The whales were just as dispersed and were in approximately the same area as in September, but with a small shift of part of the whales to the west (Fig. 4-d). Their maximum density in the Offshore area, which was estimated based on the results of the single systematic survey conducted in early October, increased again, reaching 5.37 individuals/km² in one of the squares.

4 MMOs indicated 2 sightings of 8 gray whales were possible resights

5 MMOs indicated that 5 sightings of 17 gray whales were possible resights

6 MMOs indicated that 2 sightings for 5 gray whales were possible resights.

Gray whales were observed in the Offshore area in each survey, with increasing abundance as the season progressed. This is similar to 2005-2006, but in 2007 the absolute number of sighted whales increased in comparison with the previous year by more than a third (in 2006, a maximum of 26 whales were sighted here). And in early October (1.X), the number of whales sighted in the Offshore area during vessel-based surveys (36 whales) exceeded the number sighted in a vessel-based survey in the Piltun area three days later by 20% (30 whales, - Table 3). The main aggregation of whales remained during the entire season in the deepest waters of the south-south-east and eastern parts of this area, while a large number of whales fed directly in the area of the 50-meter depth isobath (Fig. 4-e). The whales in the Offshore area were relatively dispersed although sometimes they were sighted in groups numbering up to 6-10 whales (Table 10). The average seasonal gray whale density, according to data from all surveys from early July through early October, did not exceed 1.3 individuals/km².

3.2.1. ARKUTUN-DAGI LICENSE AREA

Six planned vessel-based surveys were also performed in 2007 in the Arkutun-Dagi license area. As in the previous year, gray whales were frequently sighted here: in two of these surveys (7/30 and 9/30) no whales were seen, 1 whale was sighted in the survey on 9/6, 2 whales were sighted in each of two surveys (8/16 and 8/25) and 3 whales⁷ were sighted in the survey on 9/14 (Table 3). All recorded whales were sighted in the southern zone of the license area (Fig. 4-e). In 2006, there were also individual gray whale sightings at the area's western boundary. In essence, all of these whales appear to be utilizing the Offshore area, since the southern boundary of the Arkutun-Dagi license area is adjacent to the northern part of the area (Blokhin et al., 2002, 2004; Maminov, 2004; Maminov and Blokhin, 2004; Maminov and Yakovlev, 2002; Vladimirov et al., 2005, 2006 et al.).

3.3. SIZE OF WHALE GROUPS

3.3.1. PILTUN AREA

3.3.1.1. Vessel-Based Surveys

In 2007, 70 gray whale sightings encompassing 120 whales⁸ were recorded in the Piltun area during dedicated vessel-based surveys conducted at the beginning of each month. The whales were found individually or in groups numbering up to 7 whales (Table 10). The average number of whales per group during the period from August through October was 1.619.

From the limited data of these surveys, lone whales were most often observed in the coastal area – in 60.2% of observations (August - 57.1%; September - 46.1%, October - 73.5%). Groups of two whales were sighted in 27.3% of observations (August - 31.6%; September - 42.3%, October - 12.5%). Groups of three whales were sighted in 8.0 % of observations (August - 5.3%; September - 7.7%; October 18.8%).

3.3.1.2. Onshore Surveys

Primarily, - solitary gray whales were observed in the Piltun area (79.7% of the sightings), making up 64.4% of the animals recorded (Table 11), during the onshore

⁷ MMOs indicated that 1 sighting of 1 gray whale was a possible resight

⁸ MMOs indicated that 9 sightings of 15 gray whales were possible resights.

⁹ The average number of whales/group is also 1.61 if possible resights are excluded.

survey period (from late June to mid-October 2007). The frequency of groups of two whales was 17.2%, and they made up 27.7% of all whales. Groups of 3 were observed with considerably less frequency (2.7% of the sightings, accounting for 6.5% of the animals), groups of 4 whales made up 0.4% of the sightings (1.2% of the animals), and the number of sightings of groups of 5 whales was negligible (0.06% of the sightings, and 0.25% of the animals). There was no apparent seasonal dynamic of the sighting frequency of groups of various sizes, only a small reduction in the frequency of lone whales in August. Overall, the proportion of lone whales and groups of a given number in 2007 was very similar to that of 2005-2006.

3.2.2.OFFSHORE AREA

In 2007, 75 gray whale sightings¹⁰ were recorded during systematic vessel-based surveys conducted in the Offshore area. The largest groups had 10 whales, but lone whales, as usual, were prevalent and were recorded in 53.3% of the sightings (Table 10). The average size of groups during the observation period was 2.12 whales¹¹. Thus, the size of the groups here was somewhat larger than in the Piltun area. Lone whales were also mainly prevalent here, and the tendency of their groups to grow larger by the end of the season was also related to the initiation of social behavior, which began in September.

3.2.3.ARKUTUN-DAGI LICENSE AREA

In the course of the 2007 systematic vessel-based surveys in the Arkutun-Dagi license area, 7 gray whale sightings were recorded¹² (Table10). Six of these sightings were lone whales, the other sighting was a group of 2 whales.

10 MMOs indicated that 9 sightings were possible resights

11 This value includes groups that MMOs indicated were possible resights

12 MMOs indicated that 1 sighting was a possible resight.

During 2007 systematic and opportunistic vessel based surveys in the waters of northeastern Sakhalin, 936 gray whale sightings were made, consisting of 1690 whales. The animals were solitary or in groups of up to 12 (Table 10). The average number of whales per group during the period from July through October was 1.82.

Lone whales were most often encountered – in 54.6% of cases; groups of two whales were sighted in 25.6% of cases, of three – in 11.7%, of four – in 4.9%, of five – 1.7%, of six – 0.8%, of seven – 0.3%, of eight – 0.3%, of ten – 0.1% and twelve – 0.1% of cases (Table 10).

3.4. DISTRIBUTION OF COWS WITH CALVES

All gray whale cows with calves arriving to the shores of northeastern Sakhalin Island to feed remained exclusively in the shallow waters of the Piltun area in summer and the beginning of fall (up to the time the calves were weaned).

In 2007, the first cow that arrived with its calf to feed was sighted in the coastal Piltun shallows on June 30 (near Station 9). The last cow-calf pair was sighted on September 18. The maximum number of cow-calf pairs (5 pairs) in any given day was recorded during onshore surveys on August 4.

On August 4, a lone young whale, probably a yearling, was sighted in the northern part of the Piltun area. The last current-year young, which was separated from its mother, was sighted on September 9 in 2007.

Thus, the number of calves observed from shore in the Piltun gray whale feeding grouping remained at a level similar to the preceding year, although it is possible that not all calves were able to be identified during the onshore surveys, since it is difficult to detect them at a distance of more than 2-2.5 km from the observer due to their small body size and small waterspouts. An artifact of this is that all the calf observations are near the Stations).

The distribution of cows with calves throughout the coastal area in 2007, as in 2006, was concentrated near the mouth of Piltun Bay and in the shallower waters of the Astokh-Chayvo area, especially near Station 12. In the northern part of the feeding area, only one case of a cow with calf was recorded (Fig. 14).

An analysis of data on depths in the areas where cows with calves were sighted (Fig. 15) showed that in 2007 they were observed in a depth range of 1 to 19 m, with the majority (91.3%), as in the previous year, in the immediate vicinity of the shore, at depths of up to 11 m, predominantly in the 5-8-meter isobaths (60.9%). First-year calves separated from their mothers were found at depths of 5 to 10 m (Fig. 15).

No cow-calf pairs or individual calves were sighted in vessel-based surveys in 2007.

3.5. IMPACT OF ANTHROPOGENIC FACTORS ON GRAY WHALES

ON GRAY

In the summer and fall of 2007 there was construction work on the topside of the PA-B platform. At that time a number of operating vessels were present near the platform. Since all of these operations were performed more than 10 km from the shore, direct impact on gray whales in the coastal area is improbable. Data from onshore surveys for the entire season (Fig. 5 and 6-a-d), and on combined maps for June-July, August, and October (Fig. 20-a, b, d), indicate a slightly lower

density in whales directly opposite the PA-B platform. The density in September (Fig. 20-c) does not illustrate any lower density (Fig. 4-a-e). The area directly opposite the PA-B has not been heavily used in previous years. No effect of any other anthropogenic factors on gray whales was identified during either vessel-based or onshore surveys.

3.6. SIGHTINGS OF OTHER MARINE MAMMAL SPECIES

During the vessel-based surveys in 2007, along with gray whales, there were two other cetacean species that were sighted quite regularly in the waters of northeastern Sakhalin: northern minke whales *Balaenoptera acutorostrata* (104 whales) and harbor porpoises *Phocoena phocoena* (160 animals). Less frequently observed were Dall's porpoises *Phocoenoides dallii* (30 animals) and killer whales (*Orcinus orca*) (41 individuals). As always, there were individual sightings of Baird's beaked whale *Berardius bairdi* (2 whales).

The following pinnipeds were sighted during vessel-based surveys in 2007: the ringed seal (*Pusa hispida*) - 20 animals, largha seal (*Phoca largha*) - 127 animals, northern fur seals (*Calorhinus ursinus*) - 65 animals (the vast majority were sighted near Cape Terpeniya), bearded seals (*Erignathus barbatus*) - 8 animals, and Steller's sea lion (*Eumetopias jubatus*) - 24 animals (Fig. 16, Table 2).

When the research vessel Akademik Oparin traveled north of Sakhalin Island, 18 Pacific white-sided dolphins (*Lagenorhynchus obliquidens*) were also sighted.

Based on shore-based survey data, the following cetacean species in addition to gray whales were sighted in the Piltun area in 2007: northern minke whales (16 sightings, 16 animals); common killer whale (7 groups, 15 animals); and common harbor porpoise (27 groups, 36 animals). The lesser rorquals were mainly sighted in the deeper, northern half of the area, the harbor porpoises and killer whales were found dispersed throughout the entire area, and none of them formed any aggregations (Fig. 17, Appendix 2). A dead white whale was also found beached in early September near Station 5.

Pinnipeds in the Piltun area were mainly represented by the ringed seal and bearded seal, the most numerous of which were the first two [sic] species. No special survey of the pinnipeds was performed due to specific features of the onshore vehicle-based surveys, but they were sighted constantly in small numbers along the route. There is a permanent mixed seal rookery near the mouth of Piltun Bay, numbering approximately 800-1000 animals.

4. DISCUSSION OF RESULTS

Surveys of the Western gray whales performed in 2007 offshore northeastern Sakhalin yielded extensive data on the distribution and abundance of the animals in the summer-fall feeding areas. Moreover, the materials collected during the 4-year period of the program make it possible to conduct annual comparisons to provide insight into yearly dynamics of gray whale distribution near the northeastern Sakhalin coast.

While plots of whale sighting locations are useful to give a broad sense of gray whale distribution and abundance over time, survey data must be standardized for effort and corrected for possible double counting bias before data can be compared and examined for trends in gray whale distribution and abundance. In addition, estimates of abundance based solely on raw count data are

typically negatively biased because not all animals were observed (Caughley et al. 1976, Marsh and Sinclair 1989). This may be because an animal was hidden from the observer (availability bias), or because of perception bias, i.e., an available animal was not detected. Studies have found that availability and perception biases can vary even with standardized methods (e.g. constant platform speed, consistent scanning protocols and weather conditions) because factors such as observer performance, animal size and behaviour, distance to the animal and water turbidity that can affect availability and perception biases may vary both within and across surveys (Marsh and Sinclair 1989, Holt and Cologne 1987, Buckland et al. 2001, Pollock et al. 2006). Consequently, it is crucial to develop survey specific correction factors for availability and perception biases to standardize data across surveys and survey replicates if absolute population estimates are required or trends are being monitored (Marsh and Sinclair 1989, Norvell et al 2003). These goals have been achieved in the gray whale distribution study through use of the density analysis described in section 2.1.2.4 that produces estimates of whale densities at a 1.0 km² resolution throughout the shore-based and systematic vessel survey area of coverage. This density analysis accounts for each survey's effort (area of the grid cell that was surveyed), double counting, and whale availability and perception biases, and therefore eliminates much of error associated with using raw data. In addition, correction and standardization of survey data for effort, and availability and perception biases, allows data across all systematic surveys to be compared and integrated for analysis.

A comparison of a map showing all shore-based survey gray whale sightings to a map of gray whale densities calculated from the shore-based survey data set (Figure 5) shows the relationship between actual sightings and estimated average densities. Areas of high gray whale density correspond to areas where higher numbers of shore-based gray whale sightings have been made. As explained in section 2.1.2.4, the density analysis excludes some shore-based sightings that are located beyond the maximum distance determined for each shore station (Table 12), and sightings in grid cells that have less than 0.1 km² surveyed by a shore station when the truncation distance is taken into account.

Estimates of daily gray whale abundance in the Piltun feeding area made separately by a) raw count data, and b) average density estimates, were calculated and compared for each day of full surveys during the month of August (Table 13). Full surveys were those during which surveys that met the meteorological conditions specified in section 2.1.2.2 were conducted at all 13 shore stations. All gray whale sightings observed during these full surveys with the exception of sightings indicated as "out of scan" were included in the calculations indicated as "Raw Data". Daily abundance estimates based on estimated WGW densities were calculated using the following steps: (1) The number of WGWs within each grid cell was estimated by multiplying the cell area by the average density in that cell; (2) Estimated numbers of WGWs were then summed across all grid cells to determine the number of WGWs.

The estimated abundance of gray whales in the Piltun feeding area based on raw counts ranged from 39 to 80 whales, with an average estimated abundance of 58.2 whales (SD 11.03). Estimates of WGW abundance in the Piltun feeding based on average WGW densities ranged from 57.7 to 124.4 whales, with an average estimated abundance of 80.7 whales (SD 20.13). The abundances based on density estimates were consistently higher than those estimated from raw count data, with the exception of 30 August when both estimates were equivalent. Although the density estimates account for effort and correct for some double counting of whales from adjacent observation stations, the correction for availability bias (0.55 in 2007) resulted in higher abundances compared to estimates based on raw counts. It is expected that gray whale abundance estimates based on densities would be less than the 2007 WGW population size of 131 estimated by photo ID (Yakovlev

and Tyurneva 2008) because not all gray whales will be in the Piltun feeding area on any given day. In addition, the shore-based observation stations south of the Piltun Lighthouse are low in elevation compared to the northern stations and the density analysis does not estimate densities to the edge of the feeding area in the region surveyed by observers at these stations.

As in the previous three years, 2007 vessel-based surveys showed a smaller number of gray whales in the Offshore feeding area than in 2001-2003. For example, in 2003 one vessel-based survey identified approximately 48-50 whales (Maminov, 2004) in the Offshore area. In 2004 more whales were observed in the Piltun area, potentially due to the appearance during that year of major spawning concentrations of aggregations young fish of the bottom-dwelling sand lance *Ammodytes hexapterus*, which is an easily-accessible and high-calorie food of gray whales (Fadeev, 2005). In 2004-2006, their number in the Offshore area remained low. In 2004, a maximum of only 9 whales were counted, in 2005 and 2006 – 25 and 26, respectively (Vladimirov et al., 2005, 2006, 2007). In 2007, a maximum of 43 whales¹³ were observed in a single survey, indicating higher utilization of the Offshore area.

The number of gray whales in the Piltun area, which in 2003 reached a maximum of approximately 90 whales per survey (Melnikov and Starodymov, 2004), increased significantly in 2004, likely due to decreased use of the Offshore area.

Natural variation in use of northeast Sakhalin by gray whales for feeding is observed every year. For example, in 2005 (Vladimirov et al., 2006) during surveys in late September, higher number of whales were observed (up to 138 whales – raw data) compared with a maximum of 119 whales (raw data) from early August to early September. During this time there was an increase in the number of animals at the northern edge of the area, in the zone of Stations 1 to 4-5. On October 2, the number of surveyed whales in the Piltun area dropped sharply (to 89 whales – raw data), and remained consistently below 100 thereafter. The temporary increase in whales is likely due to a small number of gray whales that had not used the Piltun area for most of the summer visiting this area. A similar situation was observed in the Piltun area in 2006 (Vladimirov et al., 2007). From early August through early October of that year, the maximum number of whales recorded during onshore surveys was reasonably consistent (raw data – around 90-100 whales). Then on August 23, 131 whales (raw data) were observed indicating additional gray whales had entered the area. Poor weather prevented further observations to monitor how long this increased abundance lasted, V. V. Melnikov and S. P. Starodymov (2004) also noted the directly-observed migration of a group of whales from the north to the Piltun area in 2003.

Thus, these short-term spikes in gray whale abundance during onshore surveys in the Piltun area indicates that groups of Western gray whales that usually feed in other areas, such as in the northern part of the Sea of Okhotsk or Eastern Kamchatka, occasionally briefly visit the Piltun area (their presence in Eastern Kamchatka of this feeding group and their migration from there to the Sakhalin shores is documented by the results of photo ID operations of the previous two years - Yakovlev et al., 2007, Vertyankin, 2007). As the amount of whales that do not spend most the season off northeast Sakhalin is unknown and other areas frequented by Western gray whales have now been documented, it is difficult to analyse annual variation in gray whale abundance in the Piltun area

To gain an understanding of the gray whale abundance in the Piltun area for 2004-2007, gray

¹³ MMOs indicated that 17 gray whales were possible resights.

whale abundance was calculated based on density analysis for each complete survey conducted during acceptable environmental conditions. Table 14 lists the average abundance, the minimum abundance and the maximum abundance for gray whales surveys on an annual basis for 2004-2007. The average gray whale abundance was 85.2 ± 22.1 (1sd) in 2004, 105.3 ± 17.9 (1sd) in 2005, 101.6 ± 20.1 (1sd) in 2006 and 75.8 ± 19.5 (1sd) in 2007. These numbers are less than the number of whales identified by photo-ID in any given year consistent with the fact that it is highly unlikely that all whales in this population will be present in the Piltun area on one day given the mobility of gray whales and the location of other feeding grounds. In 2007, there was a significant decrease in abundance compared with 2005 (28.0%) and 2006 (25.4%). The maximum abundance of whales observed for each year was 135.2 in 2004, 128.8 in 2005, 123.4 in 2006 and 124.4 in 2007. These numbers are reasonably consistent with modeled population estimates given that even on days when the majority of whales are in the Piltu area, a few other individuals are still likely located elsewhere. Given the reasonably high estimates of abundance based on shore based data, the only positive bias could be a slight overcorrecting for availability given that sightability is one out to the limits of the survey area.

In addition, vessel-based surveys also illustrated a reduction in the maximum number of whales recorded here – from 75 whales in 2006 to 45 in 2007. The increase in sand lance abundance in 2004-2005 in waters >20m in the Piltun area, was coincident with increased whale density in these deeper waters and a decrease in utilization of the Offshore area. Although it is possible that whales may transfer between the Piltun and Offshore feeding areas withing day, the abundance of whales observed in both areas (shore based and vessel surveys) within a 48 hour period was evaluated to gain some insight into the general abundance of whales observed in the Piltun and Offshore area at any given time.

In 2007, the onshore survey in the Piltun area and the vessel-based survey in the Offshore area that met these requirements - and were performed with the shortest break, and which gave the maximum overall number, were made on 8/31 and 9/1, respectively. The data obtained (124.4 whales in the Piltun area and 20 in the Offshore area) results in a maximum abundance inform both areas of 144 whales. In 2006, the overall data from two similar surveys, which were also performed over 2 subsequent days – an onshore survey in the Piltun area (10/6) and a vessel-based survey in the Offshore area (10/7) – gave a similar number of whales – 136 (120.1 in the Piltun area and 16.1 in the Offshore area).

The reduction in the average number of gray whales sighted in 2007 in the Piltun feeding area should not be interpreted as a reduction in the population of Western gray whales. Results of surveys conducted as part of this program in 2006 (Yakovlev et al., 2007; Vertyankin et al., 2007) reported movement of gray whales between the eastern Sakhalin feeding areas and the newly-identified feeding areas in the coastal area of Eastern Kamchatka. Information received from lead specialist V. Vertyankin (city of Petropavlovsk-Kamchatsky) confirms that, parallel with the gray whale reduction that we observed in 2007 in the waters of northeastern Sakhalin, there was a corresponding increase in their number in the previously-identified Western gray whales offshore of Eastern Kamchatka (primarily in Olga Bay, where up to 30 whales were observed in Olga Bay). It is not know why gray whales utilized northeastern Sakhalin less in 2006-2007, but it is reasonable to assume feeding conditions may be a key driver. It is

also interesting to note the Okha fishery inspector S. Baikalov, who in the summer of 2007 was monitoring gray whales in northern Sakhalin, by the eastern shore of the Shmidt peninsula, and sighted 1 whale moving in a northerly direction, approximately 40 km north of the Piltun feeding area (11.VIII) and a group of 7 gray whales feeding over the course of 6 days (13-18.VIII) in the 1-km coastal zone 60 km north of the area (these dates are the time the observer was located in this area – the time this group was located there is unknown).

The gray whale distribution maps presented 2004-2007 (Fig. 18) demonstrate that in 2004-2005, gray whale distribution was quite similar, characterized by the presence of a large whale concentration in the northern part of the area, another smaller aggregation near the mouth of Piltun Bay, and the low density of whales in the southern part of the area. In 2006, along with a reduction in overall whale abundance in this area, the previously-largest northern aggregation also decreased, the aggregation by the mouth of Piltun Bay remained the same, and the number of whales in the southern part of the area noticeably increased. In 2007, together with a further reduction in the abundance of the Piltun feeding group, the aggregation in the northern part decreased further, the southern group was also reduced, and only the aggregation near the mouth of Piltun Bay remained. To illustrate this changing use of the Piltun area as a function of year, Figure 19 plots the raw survey data for each station on an annual basis for 2004-2007 (Fig. 19).

This chart shows that over the past 4 years, only the gray whale aggregation concentrated near the mouth of Piltun Bay and the immediately adjacent northern sections (between Stations 6 and 10) retained a stable abundance (the only exception is the reduced number of whales in the section between Stations 9-10 in 2004). In the more northern part of the area (in the sections from Station 1 to Station 6), utilization by gray whales has varied. This variability is most evident in the sections from Stations 1 to 4, where the variations in whale abundance for the past 4 years fluctuated from 5 to 19-fold, with use of the areas observable from sections between Stations 1-2 and 2-3 decreasingly markedly in 2007. In the southern part of the Piltun area (south of Station 10), whale abundance by year was also variable, with 8 to 12-fold fluctuations in average whale observations between some years. In this part of the Piltun area, it is interesting to note the consistent low frequency of whale observations between Stations 10-11.

In 2007 between Station 6 and Station 10 (i.e., centered on the mouth of Piltun Bay), an average of 26.5 whales were observed, similar to previous years. In the northern part of the area (north of Station 6), the average seasonal whale population in 2007 was at the lowest level for the 4 years of observations – their average total number here was only 9.3 whales. In the southern part of the Piltun area (south of Station 10), the number of gray whales in 2007 was approximately at the average level of the previous 4 years (10.2 whales), with a peak in the section between Stations 12 and 13 (4.8 whales).

The distribution of whales throughout the area is likely heavily dependent on the feeding conditions, i.e., the presence of their preferred benthic and epibenthic food organisms (their biomass and accessibility). Given the continued observations around the mouth of Piltun Bay it is reasonable to assume that the Piltun Bay plays an important role in influencing conditions adjacent to the outflow. However, the exact role of Piltun Bay is unclear given reports (Fadeev, 2008) that the Piltun Bay is likely not a significant source of carbon to the area.

Clearly limited conclusions can be made regarding biomass abundance based on gray whale

distribution and data from benthic studies are needed to provide better insight. Benthic data has been collected over the past several years and a comparative analysis using both distribution and benthic data sets to better understand the link between benthic biomass and whale distribution is now underway.

5. CONCLUSIONS

The combined program of survey work carried out during the summer-fall period in 2007 in the northeast Sakhalin feeding area of the Western gray whales off the northeastern coast of Sakhalin Island yielded new information on the distribution and abundance of these animals, as well as on a number of other aspects of their biology. The most important and noteworthy results of the work are as follows:

1. As the results from the surveys demonstrated, in 2007 the average abundance of gray whales in the Piltun area decreased in abundance compared with 2005 (28.0%) and 2006 (25.4%), and there was also a certain redistribution of the whales – a reduction in their number in the Piltun area and an increase in the Offshore area.

2. The reduction in the number of whales feeding in the waters of northeastern Sakhalin in 2007 may be related to the increased use of Eastern Kamchatka feeding habitat (confirmed by photo ID data – Tyrneva personal communication), and possibly to other areas of the Sea of Okhotsk; therefore, it cannot be interpreted as a reduction in the overall abundance of Korean stock gray whales.
3. The number of current-year young sighted in 2007 in the Piltun area from shore amounted to 5 whales (as in 2005-2006), which indicates the continued stable reproduction level for the Korean stock gray whales.

The "Program for the Study and Monitoring of the Korean Stock Gray Whales off the Northeastern Coast of Sakhalin Island" is important to monitor the health of the Western gray whale population and habitat and will continue to provide useful information to monitor any long-term anthropogenic impact on whales during industrial activity in the region.

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2.13.1 FIGURES

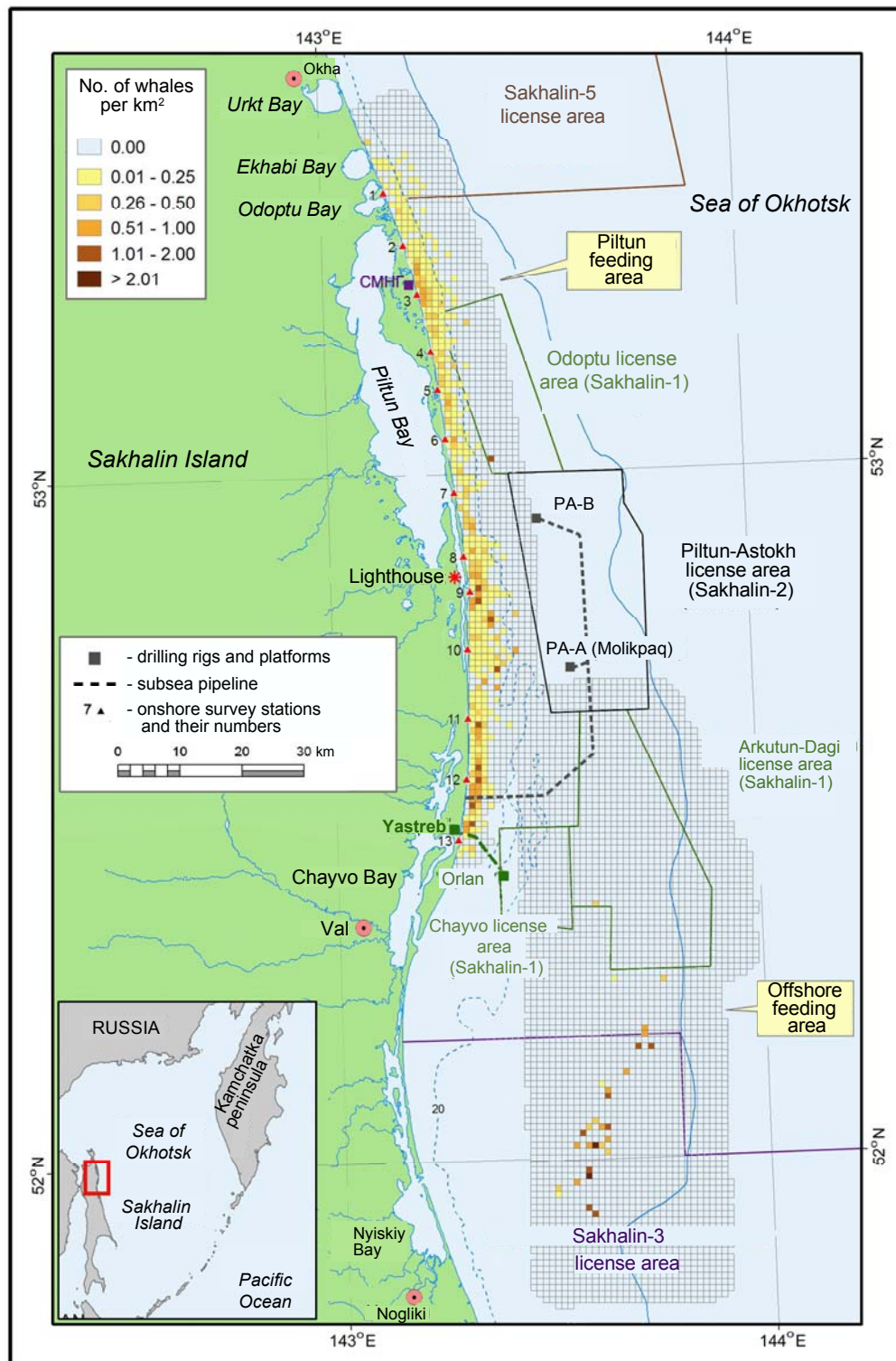
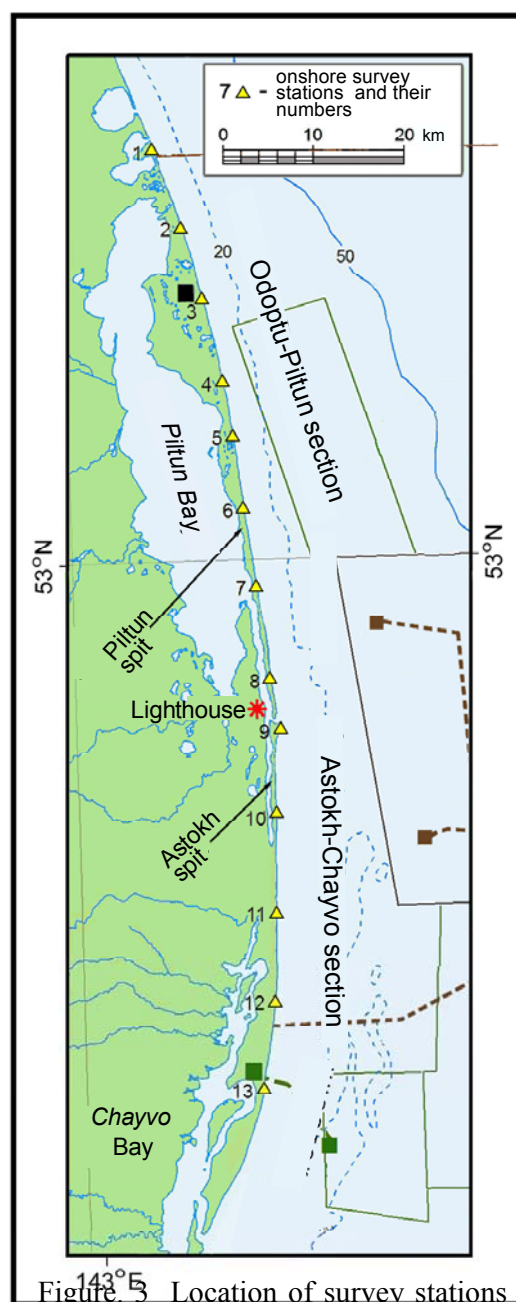
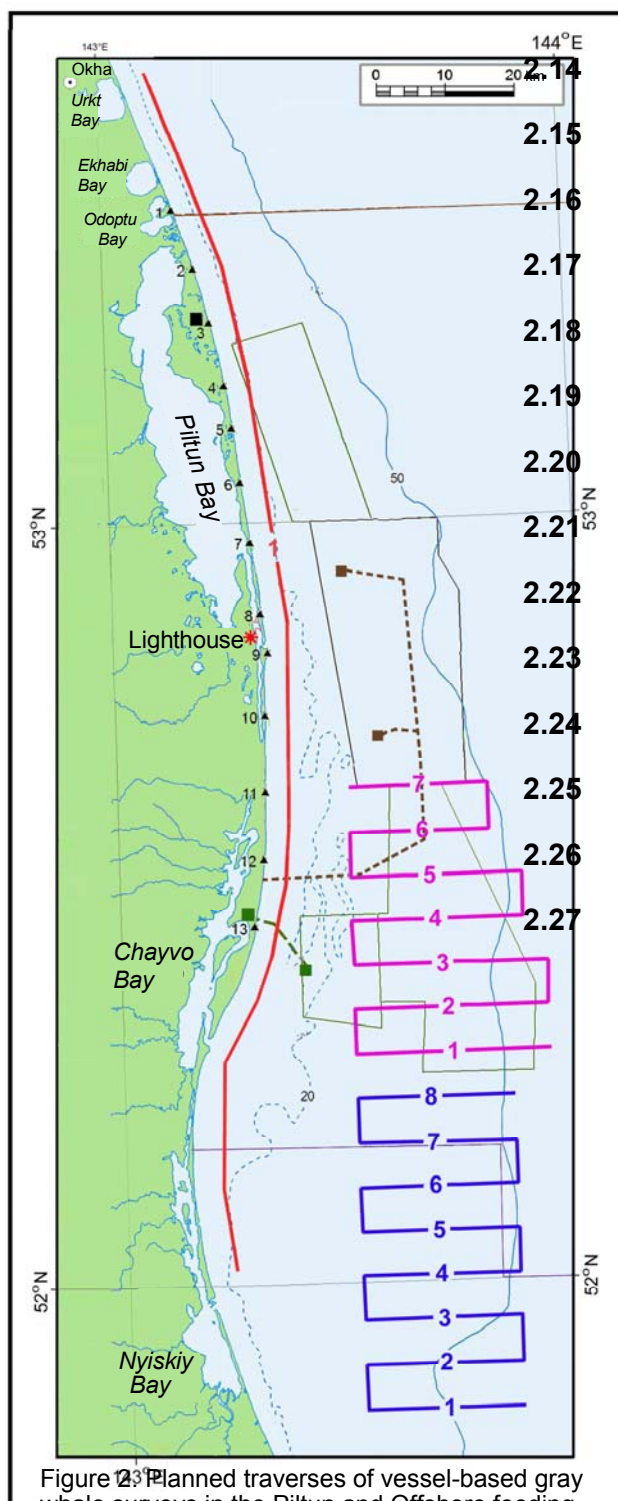


Figure 1. License areas and production facilities of offshore oil and gas projects in northeastern Sakhalin and the distribution of gray whales in the summer-fall feeding areas in 2006 based on combined data of vessel-based, and onshore surveys (average seasonal whale population density per km²)



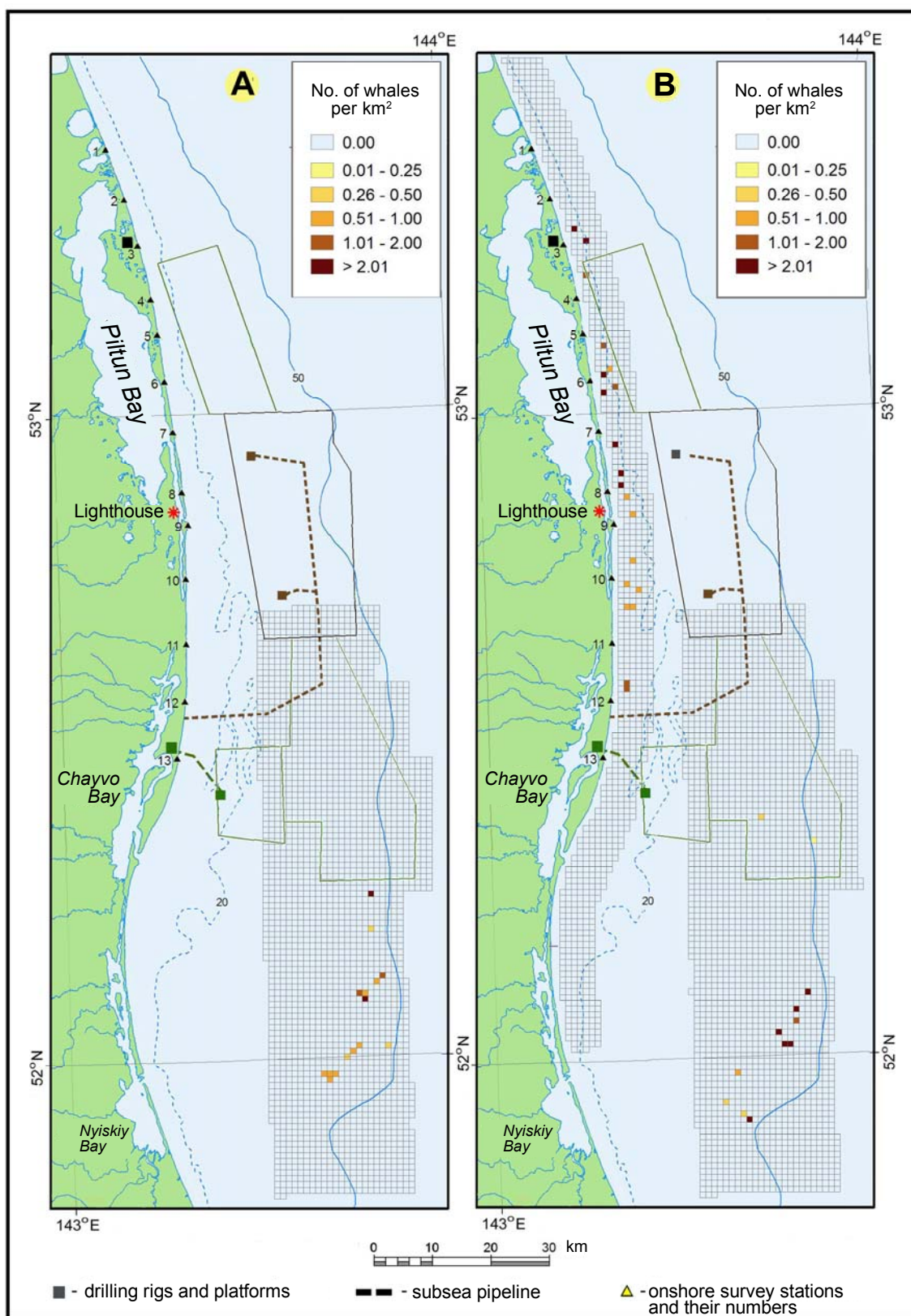


Figure 4. Gray whale distribution in the Piltun and Offshore areas in July-October 2007, based on data from vessel-based surveys (whale population density per km²)

A – July, B – August, C – September, D – October, E – July-October

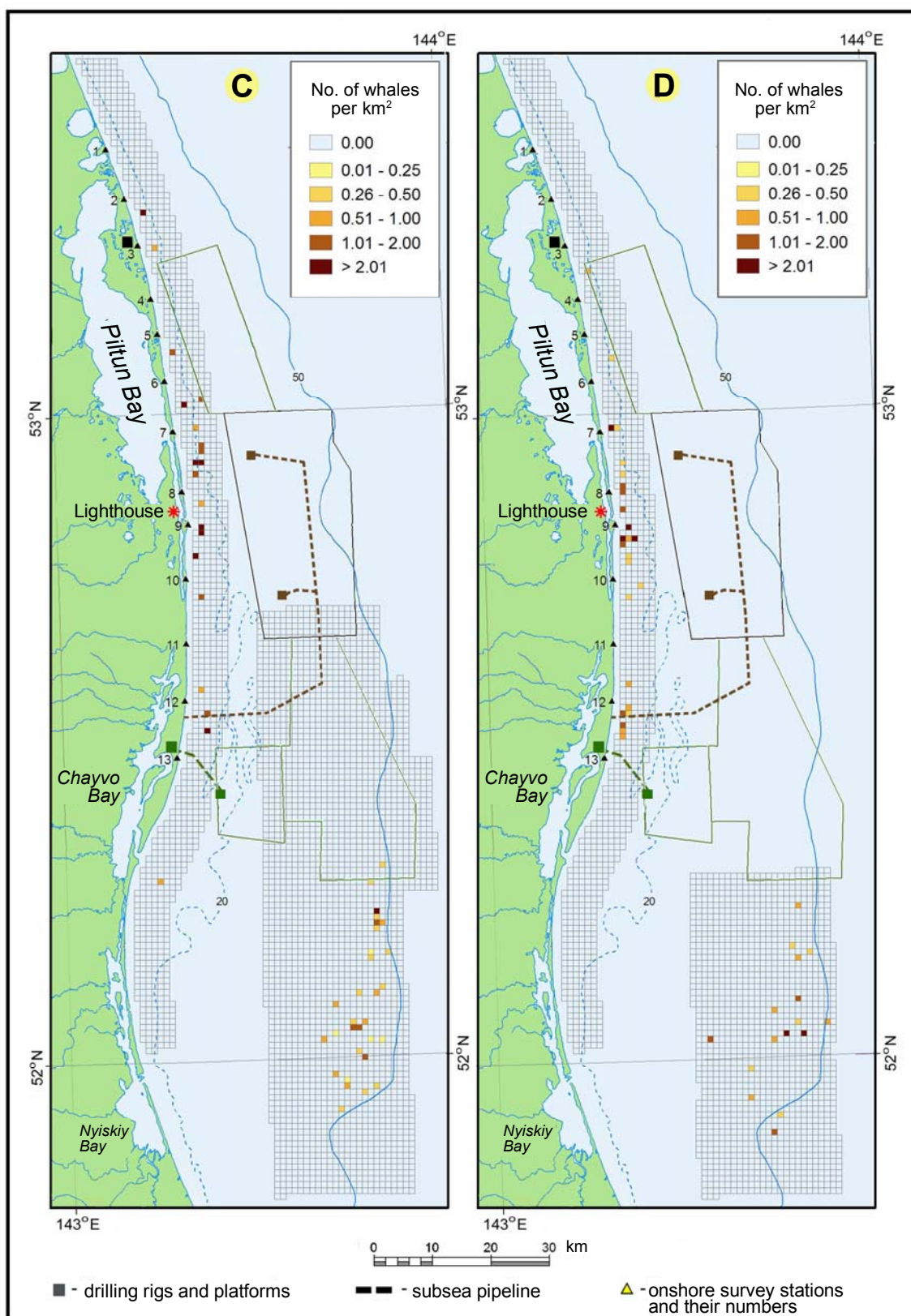


Figure 4 (continued)

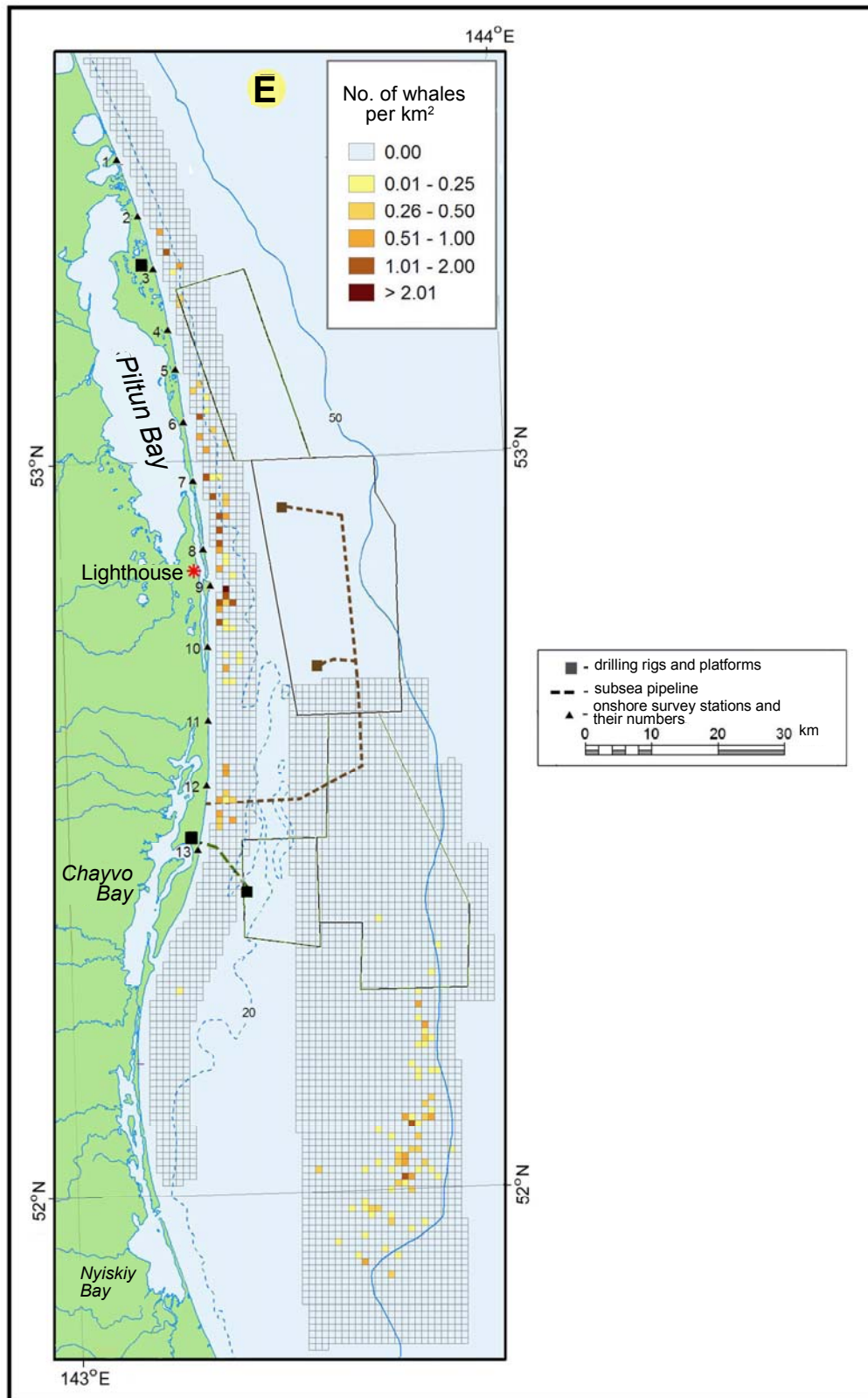


Figure 4. (end)

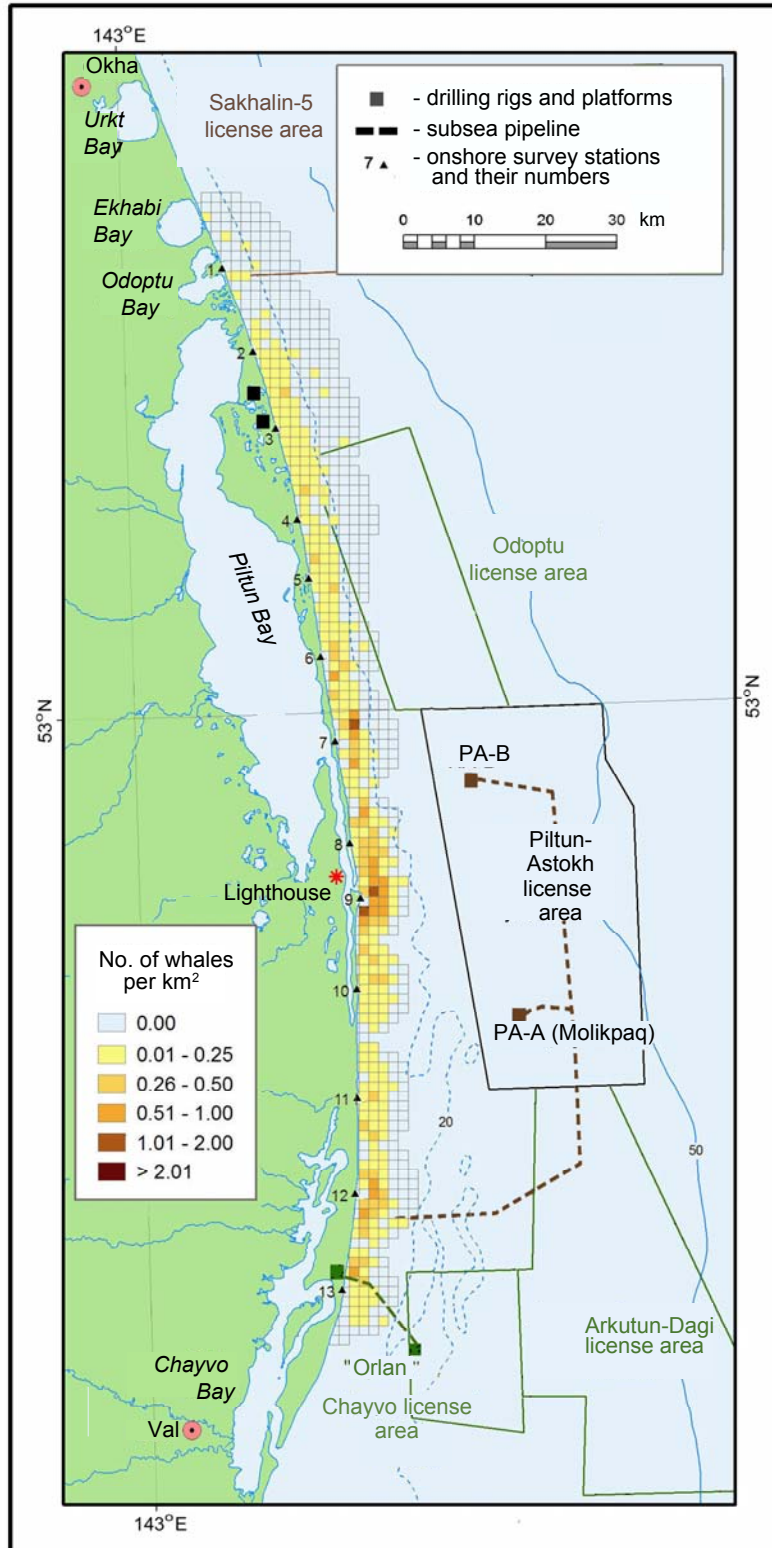


Figure 5. Overall gray whale distribution in the Piltun area in the summer-fall period of 2007, based on data from onshore surveys (average seasonal whale population density per km²)

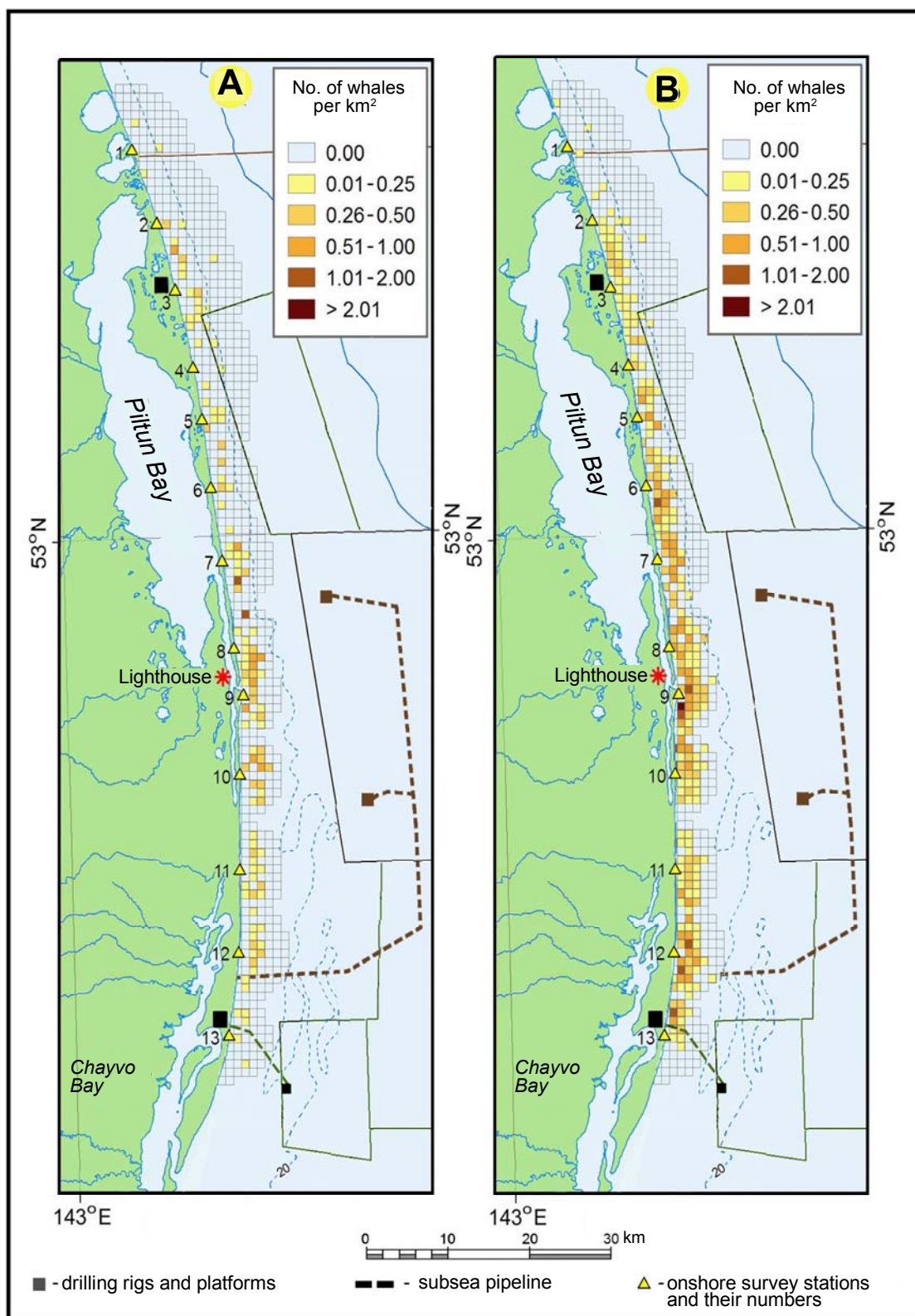


Figure 6. Seasonal dynamic of gray whales in the Piltun area in June-October 2007, based on data from onshore surveys (average seasonal whale population density per km²)

A – June-July, **B** – August, **C** – September, **D** – October

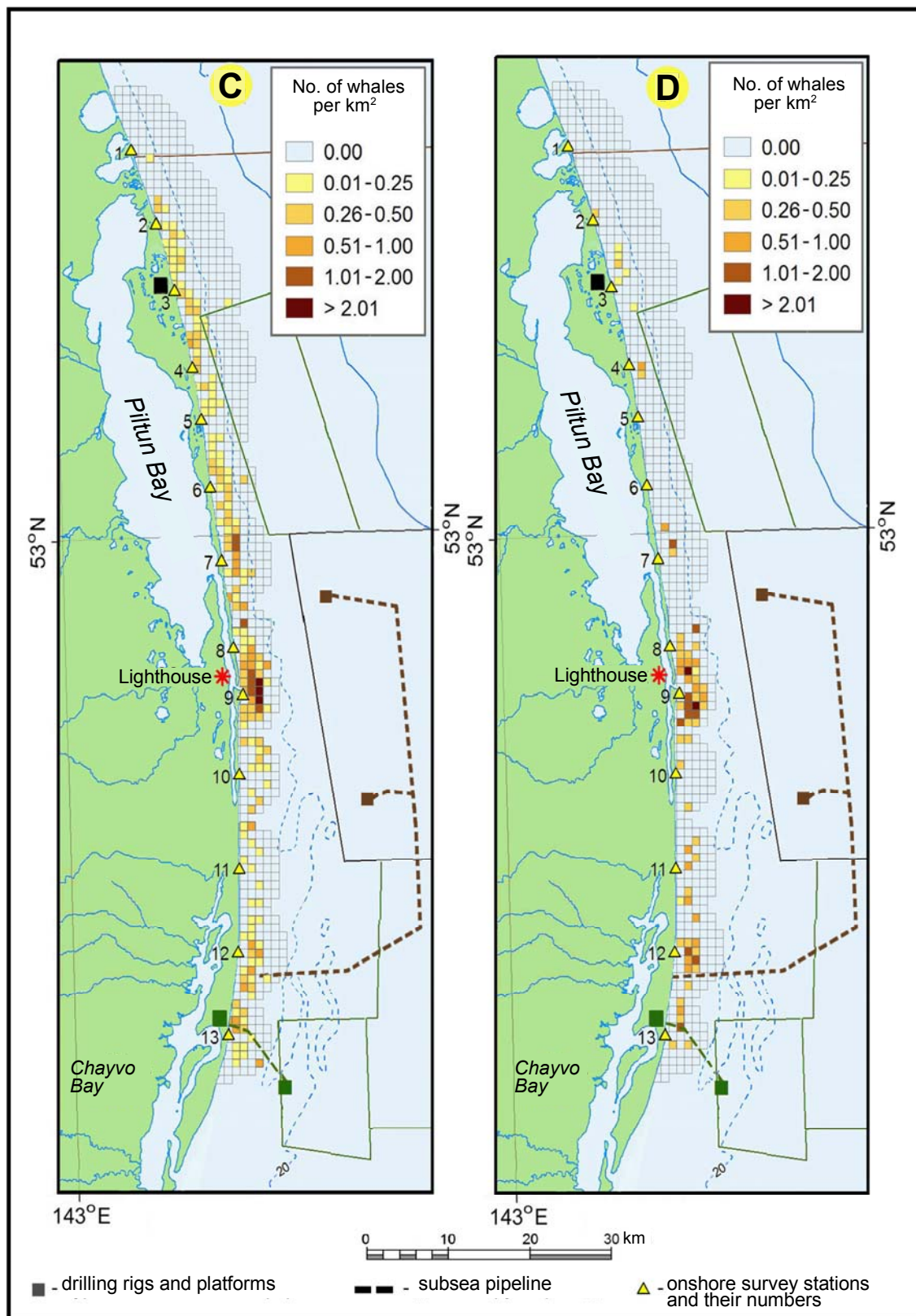


Figure 6. (end)

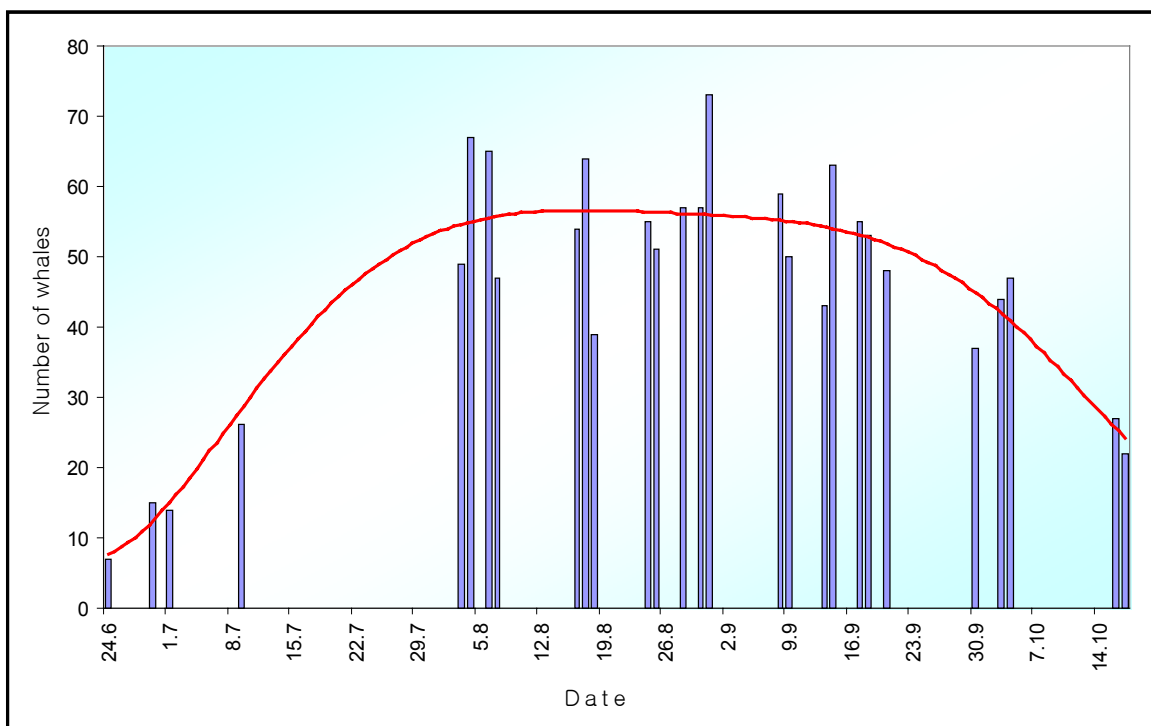


Figure 7. Seasonal dynamics of gray whale abundance in the Piltun area in June-October 2007 (based on data from complete synchronized onshore surveys)
Red line – polynomial trend

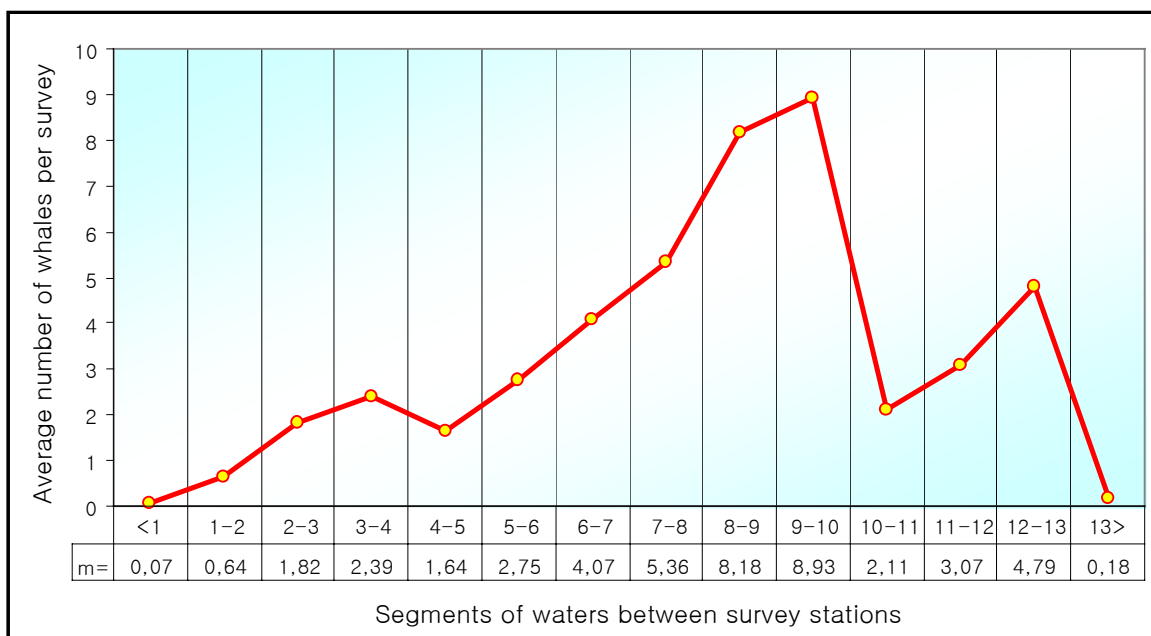


Figure 8. Gray whale distribution by Piltun area segments for the entire 2007 feeding season (based on data from complete synchronized onshore surveys)

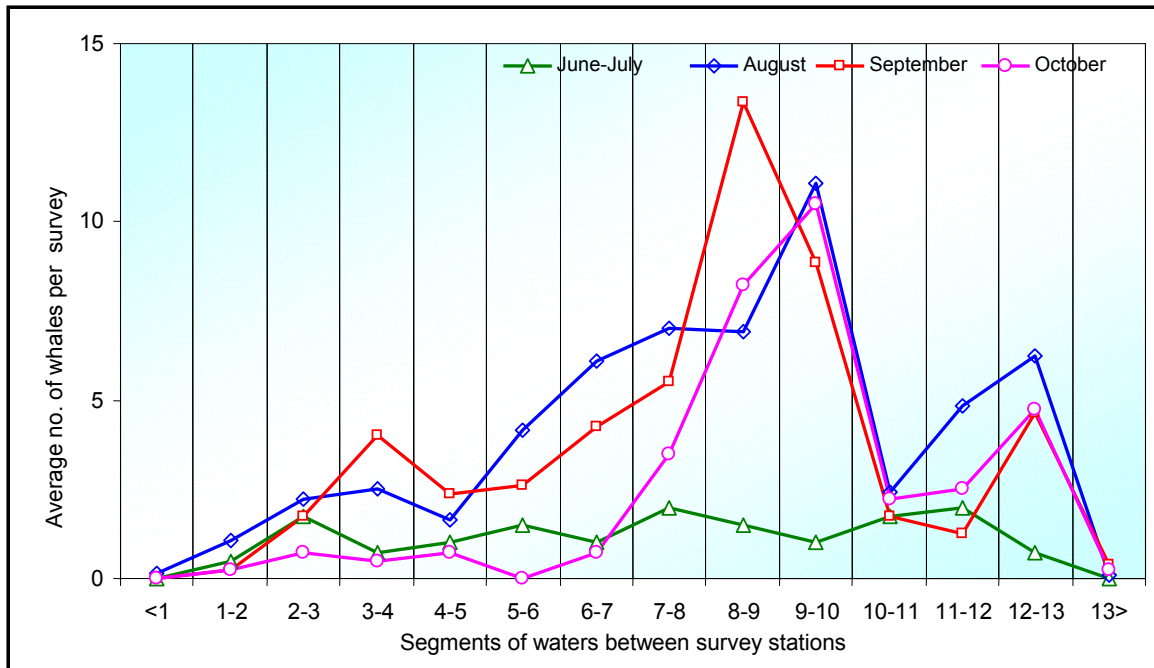


Figure 9. Gray whale distribution by Piltun area segments in June-October 2007
(based on data from complete synchronized onshore surveys)

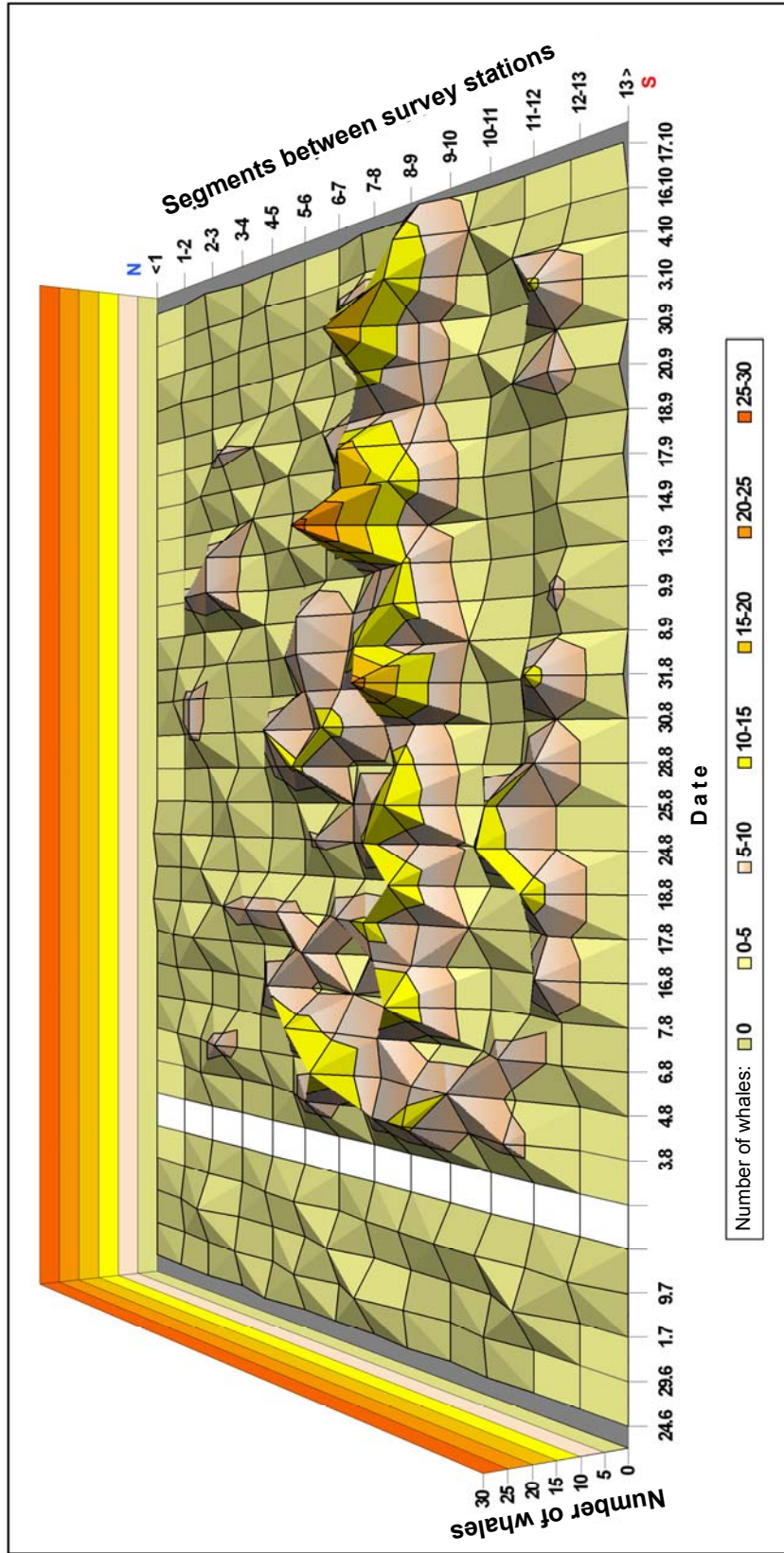


Figure 10. Space-time variations in gray whale distribution in the Piltun area in June-October 2007
(based on data from complete synchronized onshore surveys)
White indicates interval between survey series.

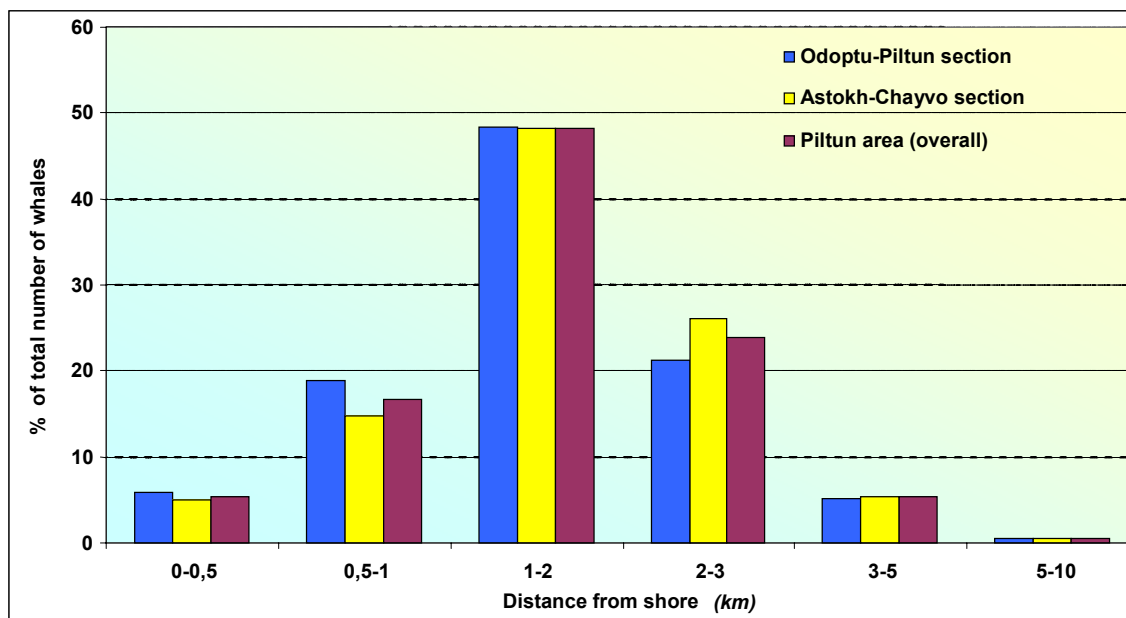


Figure 11. Gray whale distribution in Piltun area in June-October 2007
in terms of distance from shore
(based on data from onshore surveys)

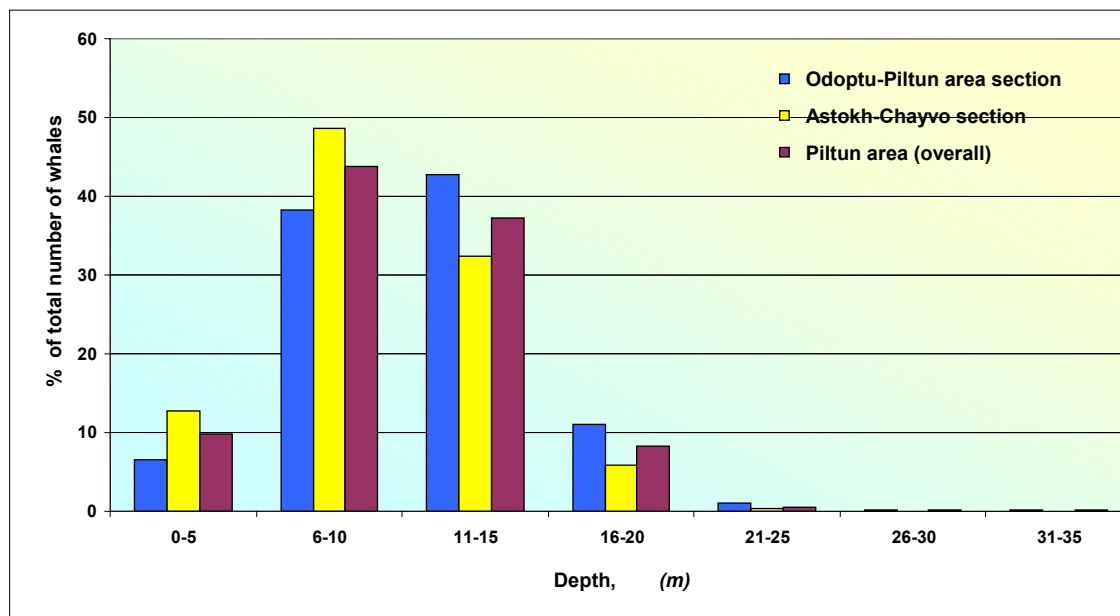


Figure 12. Distribution of gray whales in Piltun area in June-October 2007
in terms of water depth
(based on data from shore surveys)

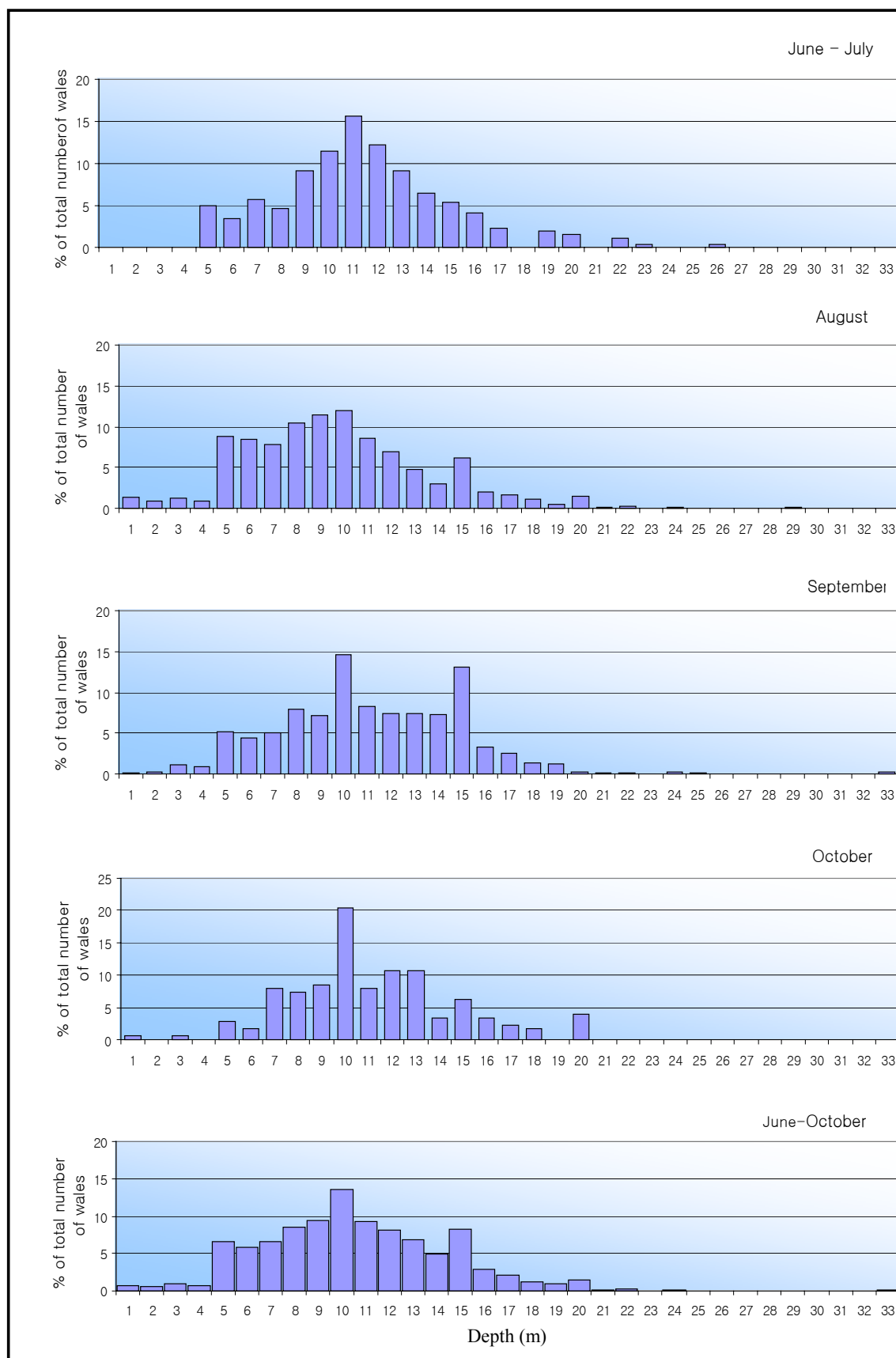


Figure 13. Seasonal variations in gray whale location in the Piltun area in June-October 2007 in terms of water depth (based on onshore survey data)

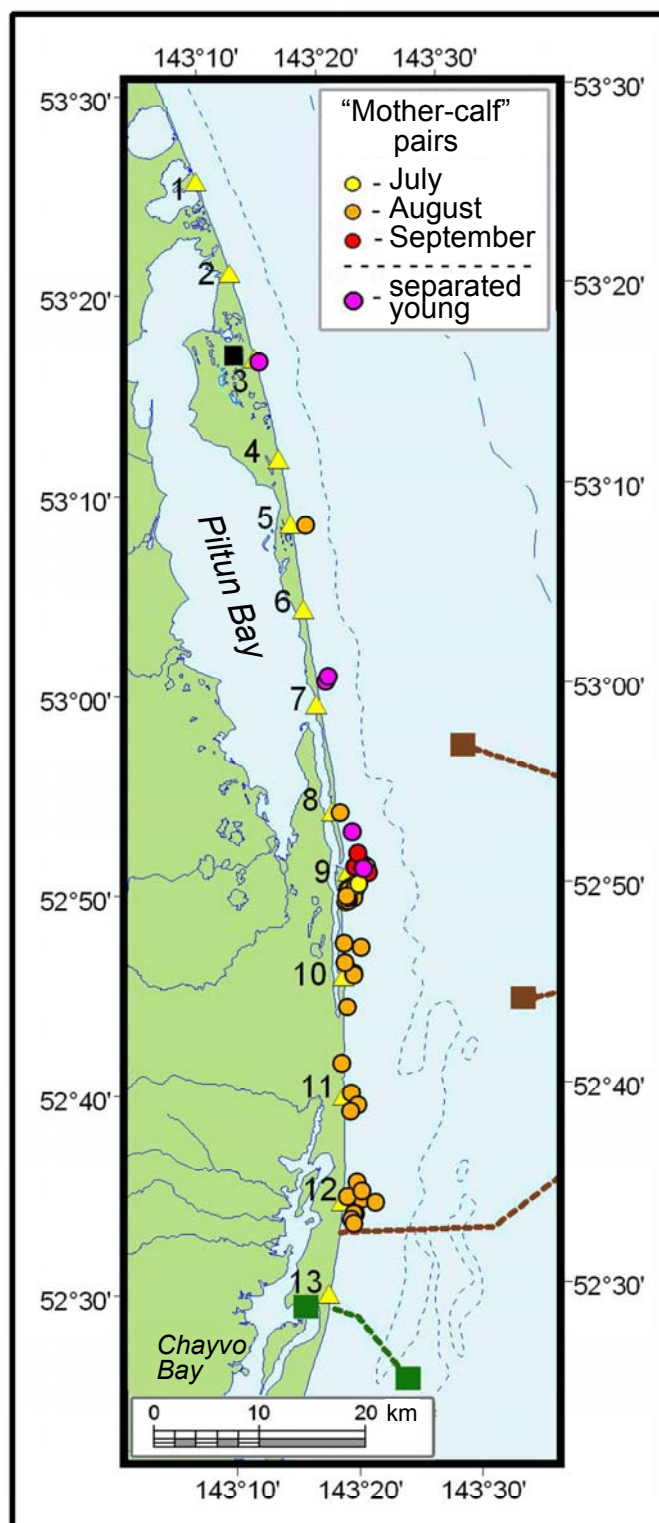
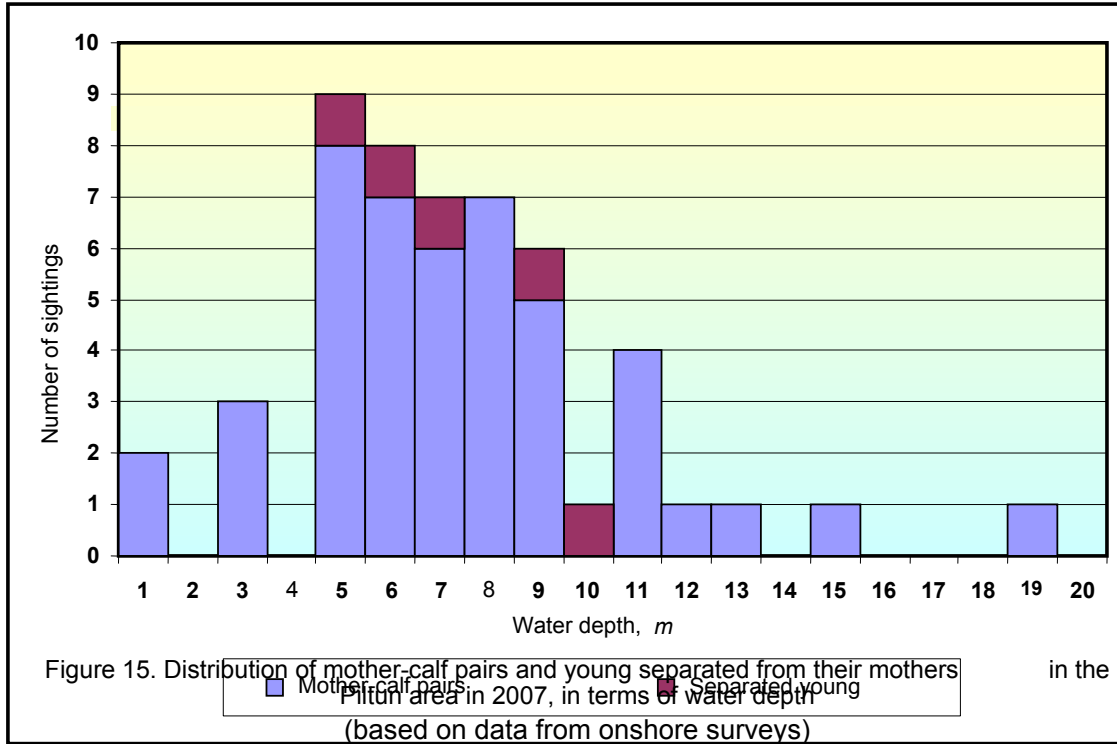


Figure 14. Distribution of mother-calf pairs of gray whales and young separated from their mothers in the Piltun area in 2007 (based on data from onshore surveys)



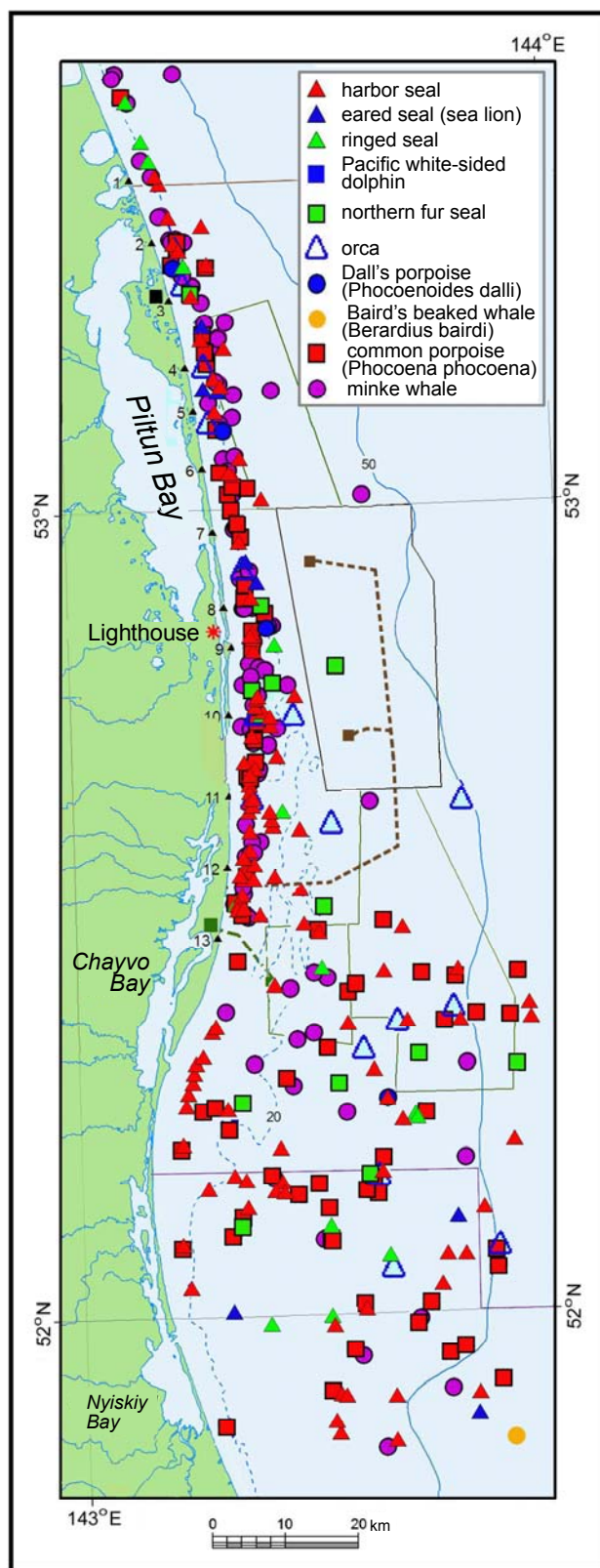


Figure 16. Distribution of marine mammal species (other than gray whales) in near-shore waters of northeastern Sakhalin in July-October 2007 (based on data from vessel-based surveys)

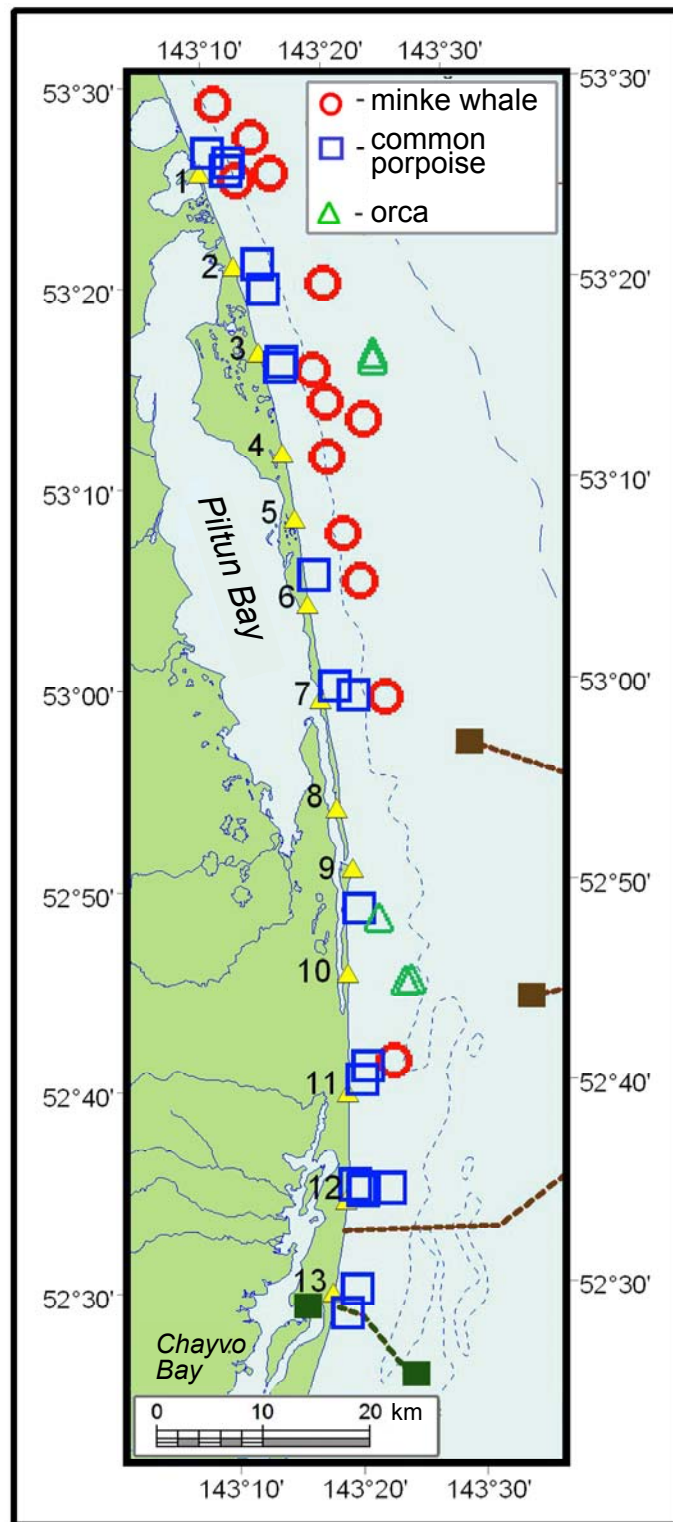


Figure 17. Sightings of other cetacean species (other than gray whales) in the Piltun area in June-October 2007
(based on data from onshore surveys)

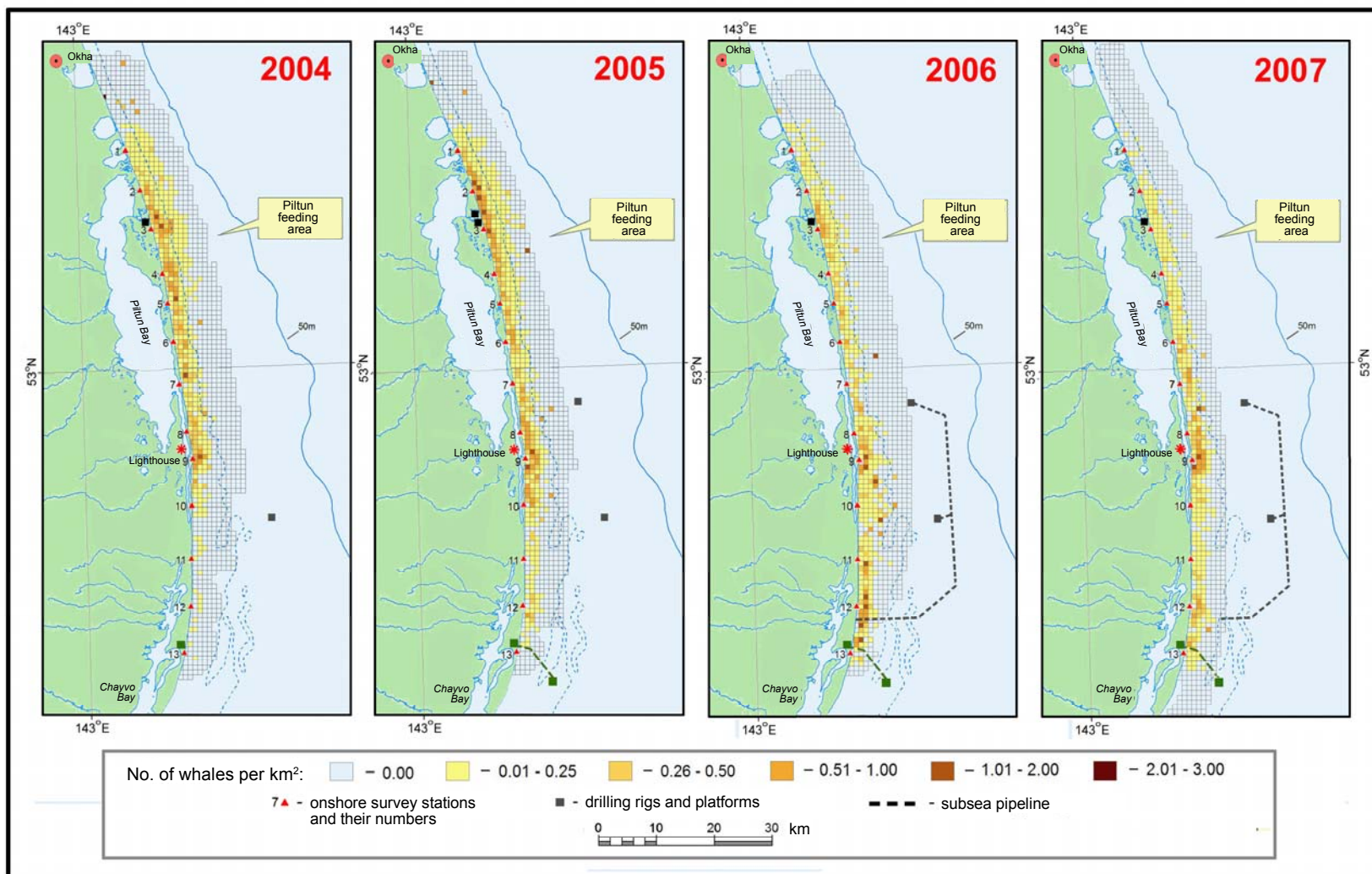


Figure 18. Gray whale distribution in the Piltun area in 2004-2007 based on data from combined onshore and vessel-based surveys (whale population density per km²)

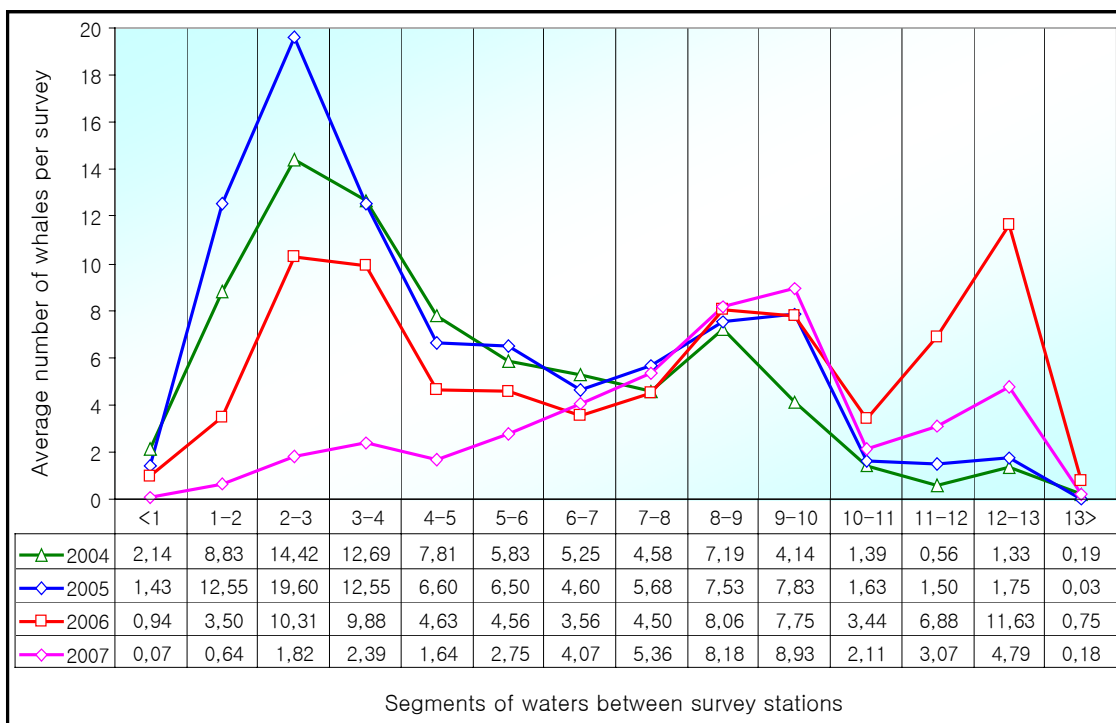


Figure 19. Dynamics of numbers of gray whale in the Piltun feeding area in 2004-2007
(based on data from complete synchronized onshore surveys)

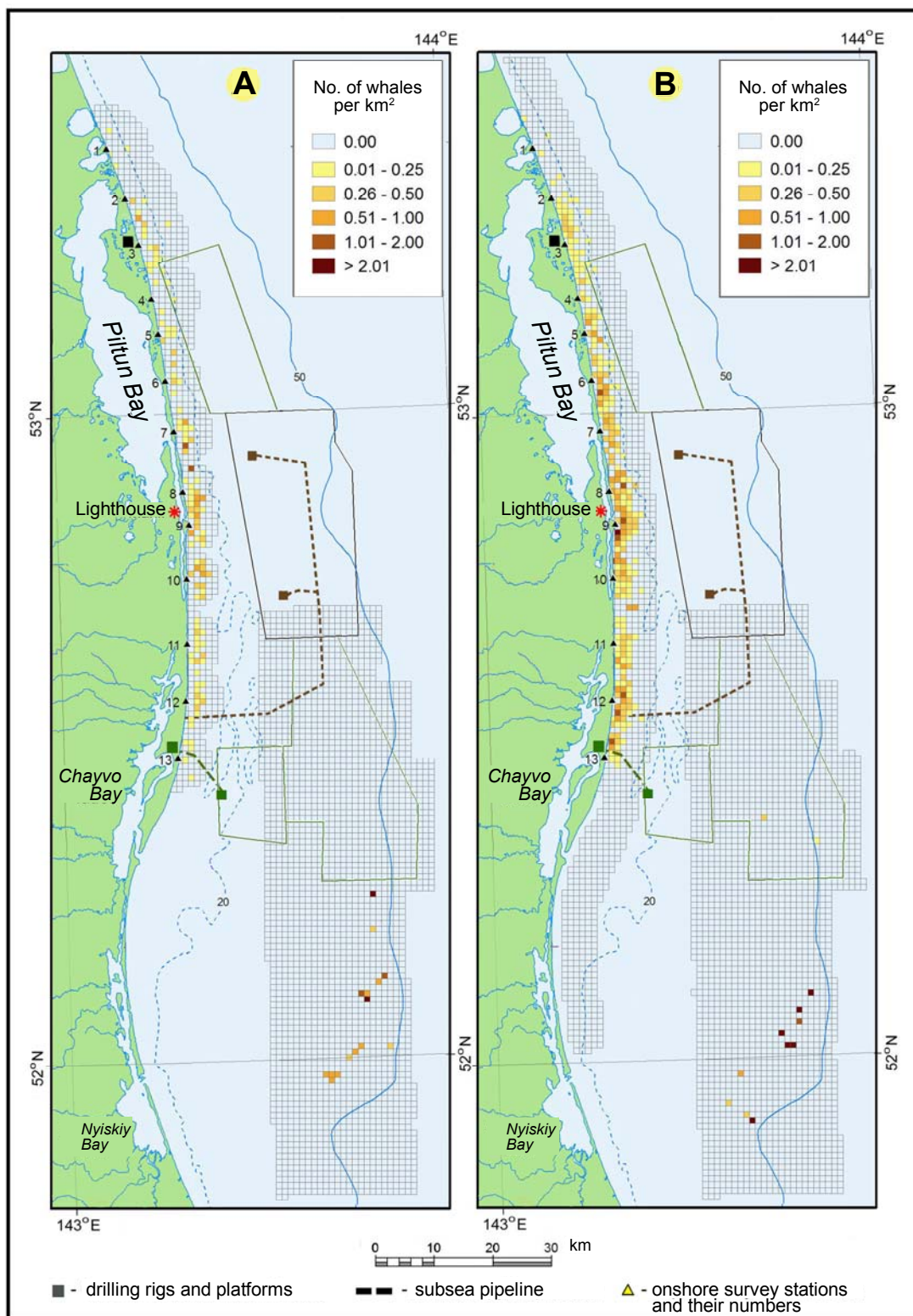


Figure 20. Gray whale distribution in the Piltun and Offshore areas in June-October 2006, based on combined data from vessel-based and onshore surveys (whale population density per km²)

A – June-July, **B** – August, **C** – September, **D** – October, **D** – June-October

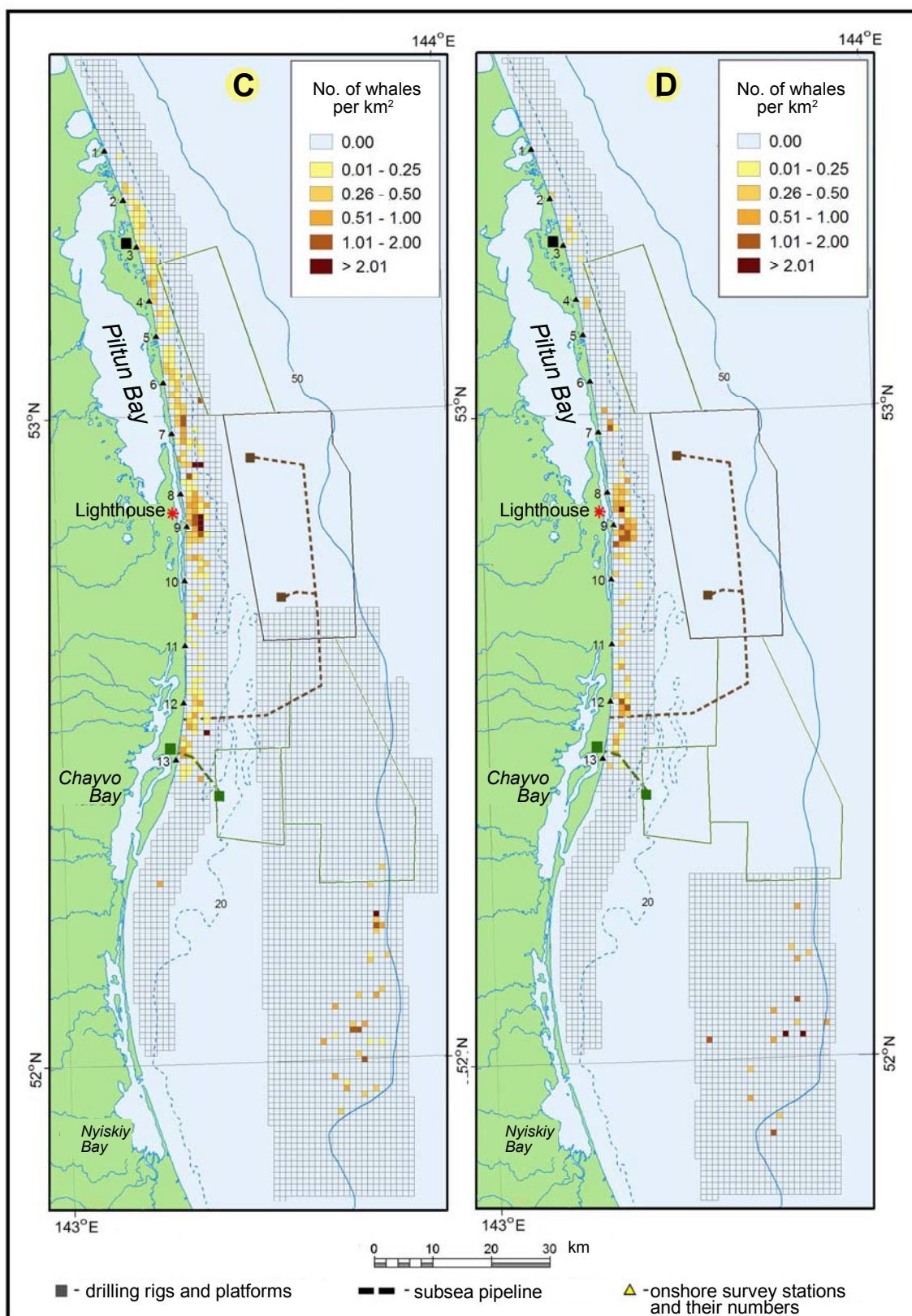


Figure 20. (cont.)

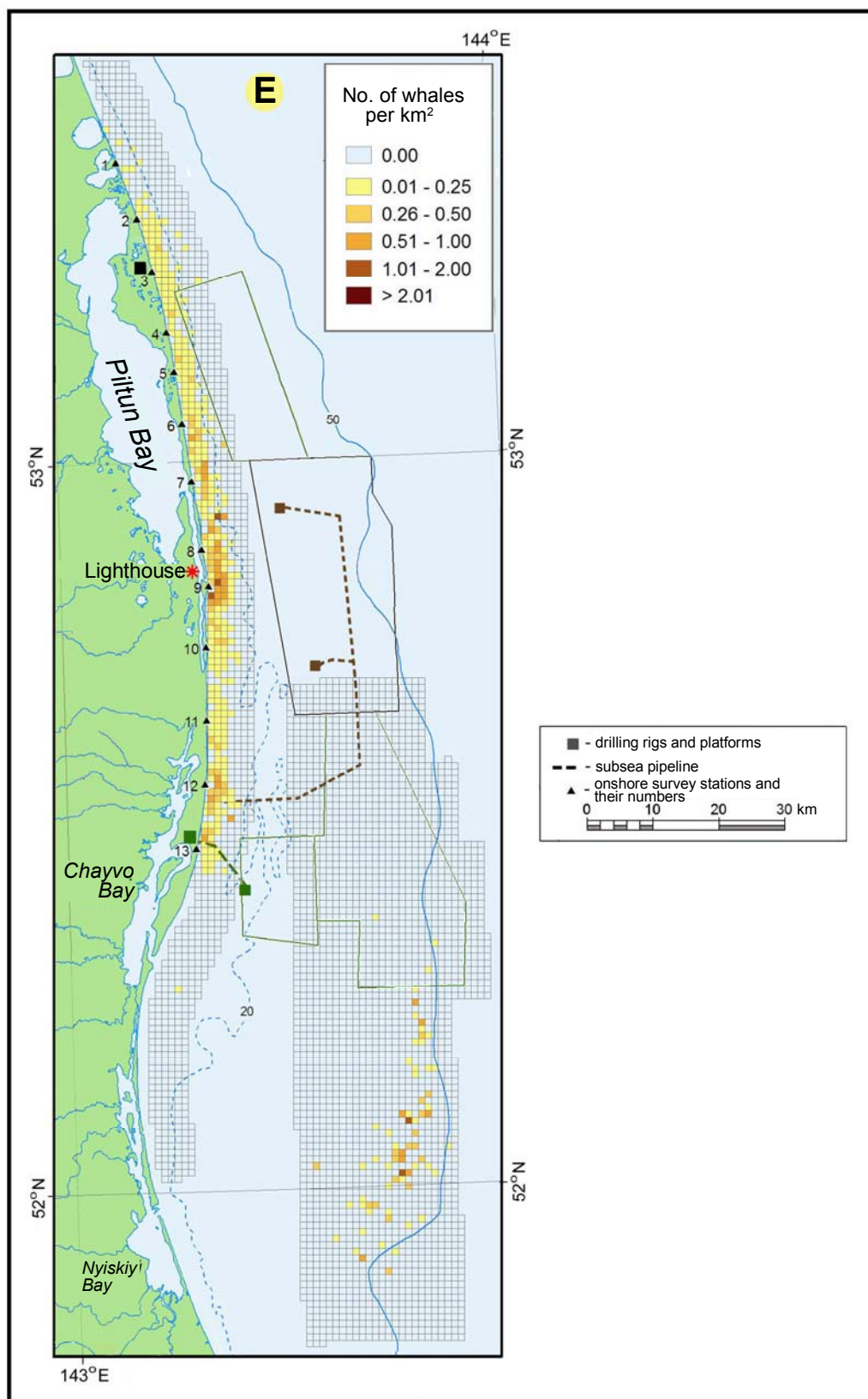


Figure 20. (end)

2.27.1 APPENDICES

APPENDIX 1

Data on Gray Whales and Other Marine Mammals Recorded during Vessel-Based Surveys in July–October 2007

Coding of vessel name: Oparin – Research Vessel *Akademik Oparin*, Bogorov – Research Vessel *Professor Bogorov*.

Coding of observers: AA – Afanasiev-Grigoriev, MK – Kornienko, VS – Stekhov, EP – Pimenova.

Coding of column "LIGHT OR DARK": L – light, D – dark.

Coding of glare amount: NO – none, LI – little, MO – moderate, SE – severe.

Coding of names of animals: GW – gray whale, MW – Minke whale, KW – killer whale, DP – Dall's porpoise, HP – harbor porpoise, NFSS – northern fur seal, BS – bearded seal, SL – sea lion, LS – harbor seal, PWSD – Pacific white-sided dolphin, BBW – Baird's beaked whale, RS – ringed seal; UW – unidentified whale; UMM – unknown marine mammal.

Coding of column "MOVEMENT MM I.R.T. VESSEL": ST – swim toward, SA – swim away, SP – swim parallel, MI – mill, NO – no movement, UN – unknown.

Coding of animals' behavior: SI – sink; FD – front dive; TH – thrash; DI – dive; LO – look (seals); SH – spy hop (whales); SW – swim; BR – breach; FE – feed; FL – fluking; PL – play; RE – rest; OT – other; UN – unknown; NO – not determined.

Coding of column "Binocs or naked eye?": Y, B – with binocs, N, E – naked eye.

Coding of column "SIGHTING CUE": BL – blow, BO – body, HE – head, FL – fluke, SP – splash, SI – sign, FP – flipper, FI – fin.

Coding of column "MOVEMENT PACE": SE – sedate, MO – moderate, VI – vigorous.

	Sighting ID	Vessel (Судно)	Date (Дата)	Observer 1 (Наблюдатель 1)	Observer 2 (Наблюдатель 2)	Latitude DEGREES (Широта ГРАДУСЫ)	Latitude MINUTES (Широта МИНУТЫ)	Latitude hundredth MINUTES (Широта, СОТЫЕ ДОЛИ МИНУТЫ)	Longitude DEGREES (Долгота ГРАДУСЫ)	Longitude MINUTES (Долгота МИНУТЫ)	Longitude hundredth MINUTES (Долгота, СОТЫЕ ДОЛИ МИНУТЫ)	HEADING DEGREE (курс судна, градусы)	TIME HOUR (Время, часы)	TIME MINUTE (Время, минуты)	SEA STATE, Beaufort Scale (Состояние моря, шкала Бофорта)	VISIBILITY, km (Видимость, км)	LIGHT OR DARK (Светло или темно)	GLARE AMOUNT (интенсивность отблеска)	GLARE POSITION (Местоположение отблеска)	SPECIES (Виды)	NUMBER OF MM (Количество особей MM)	MOVEMENT MM I.R.T. VESSEL (Передвижение MM относительно судна)	ACTIVITY 1 (поведение 1)	ACTIVITY 2 (поведение 2)	Direction FROM (Направление появления MM, откуда)	Direction TO (Направление перемещения MM, куда)	Distance, number of reticles (расстояние: визирные метки)	DISTANCE (Расстояние до судна,м)	SHIP, m TO (Расстояние до судна, м)	Azimuth to marine mammal, degrees (Азимут MM, град.)	Binocs or naked eye? (Увидел в бинокль или нет?)	SIGHTING CUE (Характерная черта MM)	MOVEMENT PACE (Интенсивность движения животного)
		Oparin	22.07.07		MK	51	57	13	143	29	76	110	18	50	1	8,000	L	NO		GW	2	NO	FE	FL	2		0,3	3200	160	Y	FL	MO	
		Oparin	22.07.07		MK	51	57	13	143	29	76	130	19	30	1	7,000	L	NO		GW	1	SA	FD		12	2	0,5	2500	145	N	BL	MO	
		Oparin	25.07.07	AA		52	44	53	143	23	33	260	13	18	1	4,000	L	NO		GW	1	NO	FD		2		0,5	2500	310	Y	BL	SE	
		Oparin	25.07.07	AA		52	44	49	143	23	35	235	13	25	1	4,000	L	NO		GW	2	NO	FE		10		0,6	2300	240	Y	BL	SE	
		Oparin	25.07.07		MK	52	43	48	143	21	49	180	14	11	0	3,000	L	NO		GW	1	NO	FD		2		2	850	240	N	BL	SE	
		Oparin	25.07.07		MK	52	42	99	143	21	59	179	14	15	0	2,000	L	NO		GW	2	NO	FD		12		2	850	195	Y	BL	SE	
		Oparin	25.07.07		MK	52	42	6	143	21	89	195	14	25	0	1,000	L	NO		GW	3	NO	BR	FD	9		E	600	230	N	BL	MO	
		Oparin	25.07.07		MK	52	41	74	143	21	83	210	14	27	0	1,000	L	NO		GW	2	NO	FD		2		E	500	240	N	BL	SE	
		Oparin	25.07.07		MK	52	41	74	143	21	83	210	14	27	0	1,000	L	NO		GW	1	NO	FD		11		E	700	180	N	BL	SE	
		Oparin	25.07.07	AA		52	30	6	143	20	13	5	17	46	0	3,000	L	NO		GW	1	SP	FD	FE	7		0,4	2700	190	Y	BL	SE	
		Oparin	26.07.07		MK	52	30	5	143	20	14	0	05	45	1	7,000	L	NO		GW	1	NO	FD		12		0,4	2700	355	Y	BL	SE	

	Oparin	26.07.07		MK	52	30	5	143	20	16	0	06	02	1	8,000	L	NO		GW	1	ST	FL	FD	6	12	2.5	700	220	N	BL	SE
	Oparin	26.07.07		MK	52	30	4	143	20	17	335	06	30	1	8,000	L	LI	3	GW	1	NO	FD		12		1	1500	340	Y	BL	SE
	Oparin	26.07.07		AA	52	37	94	143	22	21	15	09	08	1	10,000	L	NO		GW	4	NO	FD		11		0.5	2500	340	Y	BL	SE
	Oparin	26.07.07		AA	52	40	7	143	22	77	10	09	21	1	9,000	L	NO		GW	1	SP	FD		10		2	850	340	N	BO	MO
	Oparin	26.07.07		AA	52	40	49	143	22	74	10	10	01	1	9,000	L	NO		GW	3	NO	FD	FE	12		0.4	2700	360	Y	BL	SE
	Oparin	26.07.07		AA	52	41	90	143	22	91	10	10	22	0	5,000	L	NO		GW	4	NO	FD		10		0.7	2000	325	Y	BL	SE
	Oparin	26.07.07		MK	52	45	17	143	23	6	275	12	30	1	10,000	L	NO		GW	2	NO	FD		2		0.5	2500	325	Y	BL	SE
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	Oparin	26.07.07		MK	52	46	92	143	23	25	5	13	58	0	10,000	L	NO		GW	2	NO	FD		12		1	1500	0	N	BL	SE
	Oparin	26.07.07		AA	52	48	92	143	23	10	5	14	13	1	8,000	L	NO		GW	1	NO	FD		10		0.5	2500	330	N	BO	SE
	Oparin	26.07.07		AA	52	49	28	143	23	10	5	14	17	1	8,000	L	NO		GW	3	NO	FD		11		0.5	2500	350	N	BL	SE
	Oparin	26.07.07		AA	52	49	45	143	23	0	270	14	20	1	8,000	L	NO		GW	3	NO	FD		3		0.5	2500	340	N	BL	SE
	Oparin	26.07.07		AA	52	50	43	143	23	52	30	15	27	1	9,000	L	NO		GW	2	NO	FD	FE	11		0.3	3200	340	Y	BL	SE
	Oparin	26.07.07		AA	52	50	75	143	23	77	30	15	30	1	10,000	L	NO		GW	1	NO	FD		10		0.4	2700	330	Y	BL	SE
	Oparin	26.07.07		MK	52	52	73	143	24	45	0	15	43	1	10,000	L	NO		GW	1	NO	FL		11		0.1	6000	345	Y	BL	SE
	Oparin	26.07.07		MK	53	7	32	143	20	26	355	17	16	1	3,000	L	NO		GW	1	NO	FD		9		1	1500	270	Y	BL	SE
	Oparin	26.07.07		AA	53	18	26	143	14	69	10	21	30	1	10,000	L	NO		GW	2	ST	FD		11	12	0.9	1650	350	N	BL	SE
	Oparin	27.07.07		AA	53	6	85	143	19	74	185	12	30	2	8,000	L	LI	11	GW	4	NO	FE		2	6	0.8	1800	230	N	FL	SE
	Oparin	27.07.07		AA	53	5	51	143	19	74	75	12	42	2	10,000	L	LI	3	GW	7	NO	FE		7		0.5	2500	175	N	FL	SE
	Oparin	27.07.07		AA	53	5	12	143	19	52	170	13	21	2	10,000	L	LI	1	GW	3	NO	FD		1		0.4	2700	200	N	BL	SE
	Oparin	27.07.07		AA	52	54	85	143	20	75	175	17	00	1	0,500	L	NO		GW	6	NO	FE		1		E	500	210	N	FL	SE
	Oparin	27.07.07		AA	52	53	60	143	20	90	170	17	07	1	1,500	L	LI	3	GW	2	NO	FD		1		1.5	1000	205	Y	BL	SE
	Oparin	27.07.07		AA	52	45	86	143	23	21	210	18	22	1	10,000	L	SE	2	GW	5	NO	FE		12		0.5	2500	215	N	FL	SE
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	Oparin	27.07.07		AA	52	42	51	143	22	70	200	18	50	1	10,000	L	LI	3	GW	2	NO	FE		12		0.5	2500	220	Y	FL	SE
	Oparin	27.07.07		AA	52	41	37	143	22	14	210	18	56	1	10,000	L	MO	3	GW	2	NO	FE		12		0.5	2500	210	Y	FL	SE
	Oparin	27.07.07		AA	52	40	26	143	21	61	170	19	08	1	10,000	L	NO		GW	1	NO	FD		1		0.8	1800	230	Y	BL	SE
	Oparin	29.07.07		AA	52	39	34	143	22	36	190	11	01	0	7,000	L	NO		GW	2	NO	FD		4		E	2000	320	N	BL	SE
	Oparin	29.07.07		AA	52	40	78	143	22	33	5	11	41	0	10,000	L	LI	4	GW	5	NO	FD		11		0.4	2700	340	Y	BL	SE
	Oparin	29.07.07		AA	52	42	70	143	22	79	10	12	00	0	10,000	L	LI	4	GW	2	NO	FD		11		0.3	3200	355	Y	BL	SE
	Oparin	29.07.07		AA	52	43	20	143	22	87	10	12	05	0	10,000	L	LI	4	GW	4	NO	FE		11		0.3	3200	350	Y	FL	SE
	Oparin	29.07.07		AA	52	46	30	143	23	6	360	12	45	0	10,000	L	NO		GW	5	NO	FE		11		0.4	2700	350	N	FL	SE
	Oparin	29.07.07		AA	52	48	4	143	23	11	360	13	10	0	10,000	L	NO		GW	1	NO	FD		11		0.5	2500	340	Y	BL	SE
	Oparin	29.07.07		AA	52	50	10	143	23	6	360	13	39	0	10,000	L	NO		GW	3	NO	FD		11		1	1500	330	N	BL	SE
	Oparin	29.07.07		AA	52	50	10	143	23	6	360	13	39	0	10,000	L	NO		GW	3	NO	FD		11		0.4	2700	320	Y	BL	SE
	Oparin	29.07.07		AA	52	50	10	143	23	6	360	13	39	0	10,000	L	NO		GW	1	NO	FD		11		1	1500	335	N	BL	SE
	Oparin	29.07.07		AA	52	50	51	143	23	8	35	13	46	1	10,000	L	LI	4	GW	1	NO	FD		11		0.3	3200	340	Y	BL	SE
	Oparin	29.07.07		MK	52	50	33	143	23	78	180	14	12	1	10,000	L	LI	12/1	GW	2	NO	FD		11		0.5	2500	155	N	BL	SE
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	Oparin	29.07.07		MK	52	45	89	143	24	25	185	14	47	1	10,000	L	LI	1/2	GW	1	NO	FD		2		0.5	2500	235	N	BL	SE
	Oparin	29.07.07		MK	52	44	46	143	24	28	185	14	58	1	10,000	L	LI	1/2	GW	2	NO	FD		3		0.7	2000	265	N	BL	SE

	Oparin	29.07.07		MK	52	41	42	143	24	54	185	15	22	1	10,000	L	MO	1/2	GW	2	NO	FD		2		0,7	2000	250	Y	BL	SE
	Oparin	29.07.07	AA		52	28	86	143	21	49	175	18	00	1	10,000	L	SE	3	GW	2	NO	FD		2		0,3	3200	215	Y	BL	SE
1	Oparin	30.07.07		MK	52	14	52	143	47	28	270	17	54	1	6,000	L	NO		GW	2	NO	FD		1		0,7	2000	295	N	BL	MO
2	Oparin	30.07.07		MK	52	14	52	143	45	80	270	18	00	1	6,000	L	NO		GW	2	NO	FD		3		2	850	0	N	BL	MO
3	Oparin	30.07.07	AA		52	11	0	143	45	71	100	20	07	1	4,000	L	NO		GW	1	NO	FD		9		0,7	2000	5	Y	BL	SE
4	Oparin	30.07.07	AA		52	7	51	143	46	80	270	20	54	1	5,000	L	NO		GW	1	SP	FD		9		E	500	180	N	BL	MO
1	Oparin	31.07.07	AA		52	4	2	143	38	48	90	07	23	1	8,000	L	NO		GW	3	NO	FD	FE	11		0,2	4000	80	Y	BL	SE
2	Oparin	31.07.07		MK	52	3	97	143	47	6	90	07	57	1	5,000	L	NO		GW	3	NO	FD		7		0,3	3200	300	Y	BL	SE
3	Oparin	31.07.07		MK	52	0	47	143	48	53	280	08	27	1	8,000	L	NO		GW	1	NO	FD		1		0,8	1800	305	N	BL	SE
4	Oparin	31.07.07		MK	52	0	47	143	45	79	280	08	35	1	8,000	L	NO		GW	2	NO	FD		12		0,3	3200	285	N	BL	SE
5	Oparin	31.07.07		MK	52	0	50	143	42	8	280	08	47	1	8,000	L	NO		GW	2	NO	FD		3		5	370	20	N	BL	SE
6	Oparin	31.07.07		MK	52	0	50	143	41	9	280	08	51	1	8,000	L	NO		GW	1	NO	FD		9		2	850	190	N	BO	SE
7	Oparin	31.07.07		MK	51	57	2	143	35	99	90	10	09	1	10,000	L	NO		GW	3	NO	FD		11		0,3	3200	60	N	BL	SE
8	Oparin	31.07.07		MK	51	56	99	143	39	0	90	10	19	1	10,000	L	NO		GW	3	NO	FD		9		0,5	2500	0	Y	BL	SE
1	Oparin	31.07.07		MK	51	57	3	143	39	24	270	15	13	1	6,000	L	NO		GW	3	NO	FD		2		0,3	3200	340	N	BL	SE
2	Oparin	31.07.07		MK	51	57	1	143	37	89	270	15	18	1	6,000	L	NO		GW	3	NO	FD	FL	3		0,4	2700	0	N	BL	SE
3	Oparin	31.07.07	AA		52	3	98	143	44	4	270	17	55	1	6,000	L	NO		GW	5	NO	FD		9		0,4	2700	360	Y	BL	SE
4	Oparin	31.07.07		MK	52	7	46	143	44	1	100	19	48	1	6,000	L	NO		GW	5	NO	FD		3		0,5	2500	185	N	BL	MO
5	Oparin	31.07.07		MK	52	7	47	143	45	84	100	19	54	1	6,000	L	NO		GW	2	NO	FD	FL	3		1,7	950	175	N	BL	SE
	Oparin	01.08.07		MK	52	4	72	143	46	78	220	18	43	1	2,000	L	NO		GW	3	NO	FD	FL	2		E	800	300	N	BO	SE
	Oparin	02.08.07		MK	52	49	3	143	22	62	90	16	49	1	0,050	L	NO		GW	1	SA	FD		11		E	50	60	N	BO	SE
	Oparin	03.08.07	AA		52	51	6	143	23	17	320	09	56	1	4,000	L	NO		GW	2	NO	FD		7		0,3	3200	160	Y	BL	SE
	Oparin	03.08.07	AA		52	51	43	143	23	8	290	10	08	1	4,000	L	NO		GW	4	NO	FE	FD	12	1	0,4	2700	310	N	FL	SE
	Oparin	03.08.07	AA		52	51	68	143	22	88	290	10	17	1	6,000	L	NO		GW	4	NO	FD		1		0,5	2500	340	N	BL	SE
	Oparin	03.08.07	AA		52	52	18	143	21	70	305	10	38	1	8,000	L	NO		GW	2	NO	FD		3		0,5	2500	210	Y	BL	SE
	Oparin	03.08.07		MK	52	56	51	143	22	49	300	13	37	1	10,000	L	LI	7/8	GW	3	NO	FD		1		0,1	6000	340	Y	BL	SE
	Oparin	03.08.07		MK	52	56	68	143	22	57	300	13	44	1	10,000	L	LI	7/8	GW	2	NO	FD		1		0,1	6000	330	Y	BL	SE
	Oparin	03.08.07	AA		52	59	74	143	21	68	350	14	18	1	9,000	L	LI	7/8	GW	1	NO	RE		11		0,3	3200	320	Y	BL	SE
	Oparin	03.08.07	AA		53	0	18	143	21	58	350	14	21	1	9,000	L	LI	7/8	GW	2	SA	FD	FE	1		1	1500	30	N	BO	MO
	Oparin	03.08.07	AA		53	4	5	143	21	17	350	16	15	1	9,000	L	LI	8/9	GW	3	NO	FD		11		0,3	3200	320	Y	BL	SE
	Oparin	03.08.07	AA		53	6	27	143	20	44	355	16	30	1	9,000	L	LI	8/9	GW	2	NO	FD		12	11	E	800	360	N	BL	SE
	Oparin	03.08.07	AA		53	6	90	143	20	56	15	16	35	1	9,000	L	LI	8/9	GW	1	NO	FD		1	3	0,8	1800	50	N	BL	SE
	Oparin	03.08.07	AA		53	9	23	143	20	76	330	16	49	1	9,000	L	LI	9	GW	1	NO	FD		11		1	1500	310	N	BL	SE
	Oparin	03.08.07		MK	53	12	9	143	18	78	350	17	13	2	9,000	L	SE	9	GW	2	NO	FD	FL	11		0,2	4000	320	Y	BL	SE
	Oparin	03.08.07		MK	53	12	58	143	18	46	350	17	17	2	9,000	L	SE	9	GW	1	NO	FD		10		0,5	2500	300	N	BL	SE
	Oparin	03.08.07		MK	53	14	10	143	17	58	350	17	28	2	9,000	L	SE	9	GW	1	NO	FD		10		0,3	3200	300	Y	BL	SE
	Oparin	03.08.07		MK	53	14	46	143	17	39	350	17	31	2	9,000	L	SE	9	GW	1	NO	FD		11		0,2	4000	320	Y	BL	SE
	Oparin	03.08.07		MK	53	14	89	143	17	19	350	17	34	2	9,000	L	SE	9	GW	2	NO	FD		11		0,7	2000	305	N	BL	SE
	Oparin	03.08.07		MK	53	15	16	143	17	6	350	17	36	2	9,000	L	SE	9	GW	2	NO	FD		11		0,5	2500	310	N	BL	SE
	Oparin	03.08.07		MK	53	16	60	143	16	39	350	17	47	2	9,000	L	SE	9	GW	3	NO	FD		11		0,2	4000	330	Y	BL	SE
	Oparin	03.08.07		MK	53	16	92	143	16	23	350	17	50	2	9,000	L	SE	9	GW	1	NO	FD		11		0,3	3200	320	Y	BL	SE
	Oparin	03.08.07		MK	53	17	70	143	15	86	350	17	56	2	9,000	L	SE	9	GW	1	NO	FD		11		0,5	2500	315	N	BL	SE
	Oparin	04.08.07	AA		53	19	85	143	14	84	205	06	39	1	10,000	L	SE	7	GW	2	NO	FD		10		0,2	4000	160	Y	BL	SE
	Oparin	04.08.07	AA		53	19	86	143	14	85	180	06	43	1	10,000	L	SE	8	GW	3	NO	FD		11		0,2	4000	170	Y	BL	SE

	Oparin	04.08.07	AA		53	19	86	143	14	85	180	06	43	1	10,000	L	SE	8	GW	1	NO	FD		11		0,1	6000	170	Y	BL	SE
	Oparin	04.08.07	AA		53	19	86	143	14	85	185	06	49	1	10,000	L	SE	8	GW	1	NO	FD		12		0,1	6000	175	Y	BL	SE
	Oparin	04.08.07	AA		53	19	86	143	14	85	185	06	49	1	10,000	L	SE	8	GW	1	NO	FD		12		0,2	4000	175	Y	BL	SE
	Oparin	04.08.07		MK	53	15	80	143	17	60	200	09	11	1	10,000	L	SE	9	GW	3	NO	FD		2		0,5	2500	245	N	BL	SE
	Oparin	04.08.07		MK	53	15	38	143	17	42	195	09	15	1	10,000	L	SE	9	GW	2	NO	FD		11		0,4	2700	180	N	BL	SE
	Oparin	04.08.07		MK	53	14	97	143	17	17	75	09	23	1	10,000	L	MO	1	GW	3	NO	FD		3		0,6	2300	165	N	BL	SE
	Oparin	04.08.07		MK	53	15	1	143	17	17	40	09	26	1	10,000	L	MO	2	GW	1	NO	FD		3		1	1500	130	N	BL	SE
	Oparin	04.08.07		MK	53	15	53	143	19	68	110	10	15	1	10,000	L	MO	12	GW	1	NO	FD	FL	9		1	1500	20	N	BL	SE
	Oparin	04.08.07	AA		53	13	82	143	18	0	185	11	39	1	10,000	L	LI	11	GW	4	NO	FD		12		0,2	4000	200	Y	BL	SE
	Oparin	04.08.07	AA		53	11	56	143	19	58	165	12	28	1	10,000	L	LI	12	GW	3	NO	FD		12		0,3	3200	165	Y	BL	SE
	Oparin	04.08.07		MK	53	6	72	143	20	35	180	21	00	1	10,000	L	SE	4	GW	1	NO	FD		1		0,5	2500	225	N	BL	SE
1	Oparin	05.08.07	AA		52	33	88	143	22	5	5	09	27	0	10,000	L	NO		GW	2	NO	FD		11	10	0,5	2500	340	Y	BL	SE
2	Oparin	05.08.07	AA		52	34	23	143	22	5	5	09	30	0	10,000	L	NO		GW	2	NO	FE		9		E	1000	280	N	FL	SE
3	Oparin	05.08.07	AA		52	41	25	143	22	56	10	10	09	1	9,000	L	LI	3	GW	1	NO	FD	FE	11		1	1500	340	N	BL	SE
4	Oparin	05.08.07	AA		52	41	79	143	22	59	10	10	12	1	9,000	L	LI	3/4	GW	1	NO	FD		12		0,3	3200	10	Y	BL	SE
5	Oparin	05.08.07	AA		52	42	27	143	22	62	10	10	15	1	9,000	L	LI	3/4	GW	1	NO	FD		12		0,5	2500	345	Y	BL	SE
6	Oparin	05.08.07	AA		52	42	87	143	22	66	5	10	18	1	10,000	L	LI	4	GW	1	SP	FD		8		1	1500	210	N	BL	SE
7	Oparin	05.08.07	AA		52	44	97	143	22	72	5	10	30	1	9,000	L	LI	4	GW	1	NO	FD		9		0,8	1800	290	Y	BL	SE
8	Oparin	05.08.07	AA		52	45	70	143	22	74	5	10	34	1	9,000	L	LI	4	GW	1	NO	FE		1		2	850	20	N	FL	SE
9	Oparin	05.08.07	AA		52	48	61	143	22	83	5	10	50	1	9,000	L	LI	4	GW	1	NO	FD		12		0,2	4000	360	Y	BL	SE
10	Oparin	05.08.07	AA		52	49	5	143	22	85	5	10	52	1	9,000	L	LI	4	GW	1	NO	FD		11		0,4	2700	330	Y	BL	SE
11	Oparin	05.08.07		MK	52	50	59	143	22	92	5	11	01	1	8,000	L	LI	4	GW	1	NO	FD		9		0,4	2700	275	Y	BL	SE
12	Oparin	05.08.07		MK	52	51	71	143	22	80	5	11	07	1	8,000	L	LI	4	GW	1	NO	FD		10		1,5	1000	315	N	BL	SE
13	Oparin	05.08.07		MK	52	52	20	143	22	74	5	11	10	1	8,000	L	LI	4	GW	4	NO	FD		11		0,5	2500	330	Y	BL	SE
14	Oparin	05.08.07		MK	52	52	49	143	22	71	5	11	11	1	8,000	L	LI	4	GW	1	NO	FD		11		0,3	3200	340	Y	BL	SE
15	Oparin	05.08.07		MK	52	54	27	143	22	43	5	11	21	1	8,000	L	LI	4	GW	4	NO	FD		9		1	1500	270	N	BL	SE
16	Oparin	05.08.07		MK	52	55	52	143	22	20	5	11	30	1	10,000	L	LI	4	GW	1	NO	FD		11		0,3	3200	320	Y	BL	SE
17	Oparin	05.08.07	AA		52	56	46	143	22	3	360	11	33	1	10,000	L	LI	5	GW	2	NO	FD		11		0,7	2000	315	Y	BL	SE
18	Oparin	05.08.07	AA		52	57	34	143	21	87	360	11	38	1	10,000	L	LI	5	GW	1	NO	FD		9		1	1500	270	Y	BL	SE
19	Oparin	05.08.07		MK	53	0	42	143	21	29	0	11	56	1	10,000	L	LI	5	GW	2	NO	FD		12		0,2	4000	355	Y	BL	SE
20	Oparin	05.08.07		MK	53	0	91	143	21	21	0	11	58	1	10,000	L	LI	5	GW	1	NO	FD		10		0,5	2500	310	Y	BL	SE
21	Oparin	05.08.07		MK	53	2	19	143	21	4	0	12	05	1	10,000	L	LI	5	GW	2	NO	FD		10		0,3	3200	325	Y	BL	SE
22	Oparin	05.08.07		MK	53	3	19	143	20	94	0	12	11	1	9,000	L	LI	5	GW	2	NO	FD		9		0,5	2500	280	Y	BL	SE
23	Oparin	05.08.07		MK	53	3	76	143	20	85	0	12	14	1	9,000	L	LI	5	GW	1	NO	FD		10		1,5	1000	300	N	BL	SE
24	Oparin	05.08.07		MK	53	5	32	143	20	45	0	12	24	1	9,000	L	LI	5	GW	2	NO	FD		11		0,5	2500	320	Y	BL	SE
25	Oparin	05.08.07		MK	53	12	88	143	18	13	355	13	05	1	10,000	L	LI	6	GW	1	NO	FD	FL	9		1	1500	270	N	BL	SE
26	Oparin	05.08.07		MK	53	13	78	143	17	81	355	13	11	1	10,000	L	LI	6	GW	3	NO	FD		12		0,2	4000	345	Y	BL	SE
27	Oparin	05.08.07		MK	53	16	54	143	16	74	350	13	27	1	10,000	L	LI	6	GW	2	NO	FD		11		1	1500	320	Y	BL	SE
28	Oparin	05.08.07		MK	53	17	26	143	16	45	350	13	31	1	10,000	L	LI	6/7	GW	2	NO	FD		9		1	1500	260	N	BL	SE
	Oparin	06.08.07		MK	53	16	95	143	15	82	120	07	54	1	7,000	L	SE	11	GW	1	NO	FD	FL	1		3	600	140	N	BL	SE
	Oparin	06.08.07		MK	53	13	48	143	17	38	160	09	00	1	10,000	L	SE	10	GW	1	NO	FD	FL	12		0,1	6000	180	Y	BL	SE
	Oparin	06.08.07		MK	53	12	97	143	17	86	300	09	38	1	10,000	L	MO	6	GW	1	ST	FD		12	10	1	1500	310	N	BL	MO
	Oparin	06.08.07	AA		53	13	66	143	18	5	20	13	58	1	10,000	L	MO	5/6	GW	1	NO	FE		11		1	1500	320	N	FL	SE
	Oparin	07.08.07		MK	53	13	67	143	18	3	170	06	00	1	10,000	L	LI	9	GW	1	NO	FD		5		1	1500	305	Y	BL	MO

	Oparin	07.08.07		MK	53	13	66	143	18	3	170	06	33	1	10,000	L	LI	9	GW	3	NO	FD	FL	5		0,3	3200	330	Y	BL	SE
	Oparin	07.08.07		MK	53	13	66	143	18	3	170	06	37	1	10,000	L	LI	9	GW	4	NO	FD	FL	5		0,2	4000	335	Y	BL	SE
	Oparin	07.08.07		MK	53	13	66	143	18	3	180	06	40	1	10,000	L	LI	9	GW	3	NO	FD		6		0,2	4000	350	Y	BL	SE
	Oparin	07.08.07		MK	53	13	67	143	18	5	190	07	10	1	10,000	L	NO		GW	3	NO	FD		5		0,2	4000	340	Y	BL	SE
	Oparin	07.08.07		MK	53	8	39	143	19	92	175	12	27	1	10,000	L	NO		GW	1	NO	FD		12		0,3	3200	185	N	BL	SE
	Oparin	07.08.07		MK	53	7	70	143	20	6	180	12	33	1	10,000	L	NO		GW	1	NO	FD		1		0,7	2000	230	N	BL	SE
	Oparin	07.08.07		MK	53	7	27	143	20	14	180	12	36	1	10,000	L	NO		GW	1	NO	FD		1		0,3	3200	220	N	BL	SE
	Oparin	07.08.07		MK	53	7	27	143	20	14	180	12	36	1	10,000	L	NO		GW	2	NO	FD		1		0,2	4000	220	Y	BL	SE
	Oparin	07.08.07	AA		53	2	42	143	21	10	171	14	05	1	10,000	L	NO		GW	1	NO	FD		5		0,5	2500	330	Y	BL	SE
	Oparin	07.08.07	AA		53	1	53	143	21	24	172	14	10	1	10,000	L	NO		GW	1	NO	FD		1		0,5	2500	200	Y	BL	SE
	Oparin	07.08.07	AA		52	59	84	143	21	54	175	14	19	1	10,000	L	NO		GW	1	NO	FD		2		0,3	3200	220	Y	BL	SE
	Oparin	07.08.07	AA		52	56	87	143	21	99	173	14	36	1	10,000	L	LI	1	GW	1	NO	FD		10		1	1500	145	N	BL	SE
	Oparin	07.08.07	AA		52	53	91	143	22	50	176	14	53	1	10,000	L	LI	1	GW	2	NO	FD		1		0,5	2500	200	Y	BL	SE
	Oparin	07.08.07	AA		52	51	46	143	22	96	177	15	10	1	10,000	L	MO	1	GW	3	NO	FD		3		0,9	1650	260	N	BL	SE
	Oparin	07.08.07	AA		52	50	94	143	22	98	200	15	16	1	10,000	L	NO		GW	4	NO	FE	FD	12		0,4	2700	195	Y	FL	SE
	Oparin	07.08.07	AA		52	50	78	143	22	87	200	15	21	1	10,000	L	NO		GW	1	NO	FD		12		0,1	6000	195	Y	BL	SE
	Oparin	07.08.07	AA		52	50	78	143	22	87	200	15	21	1	10,000	L	NO		GW	1	NO	FD		12		0,2	4000	195	Y	BL	SE
	Oparin	07.08.07	AA		52	51	33	143	22	59	360	16	25	1	10,000	L	MO	9	GW	1	NO	FD		11		0,3	3200	330	Y	BL	SE
	Oparin	07.08.07	AA		52	51	86	143	22	23	230	16	44	1	10,000	L	MO	1	GW	2	NO	FD		11		0,3	3200	200	Y	BL	SE
	Oparin	07.08.07		MK	52	51	54	143	22	15	190	17	13	1	10,000	L	SE	3	GW	3	NO	FD		1		0,2	4000	210	N	BL	SE
	Oparin	07.08.07		MK	52	50	74	143	22	46	165	17	25	1	10,000	L	SE	3	GW	1	ST	FD		12	1	3	600	155	N	BL	MO
	Oparin	07.08.07		MK	52	48	82	143	23	6	175	18	30	2	10,000	L	SE	3/4	GW	1	NO	FD		2		0,2	4000	220	N	BL	SE
	Oparin	07.08.07		MK	52	48	82	143	23	6	175	18	30	2	10,000	L	SE	3/4	GW	1	NO	FD		1		0,4	2700	200	N	BL	SE
	Oparin	07.08.07		MK	52	48	82	143	23	6	175	18	30	2	10,000	L	SE	3/4	GW	1	NO	FL		2		1	1500	220	N	BL	SE
	Oparin	07.08.07		MK	52	48	82	143	23	6	175	18	30	2	10,000	L	SE	3/4	GW	1	NO	FD		2		1	1500	210	N	BL	SE
	Oparin	07.08.07		MK	52	48	82	143	23	6	175	18	30	2	10,000	L	SE	3/4	GW	2	NO	FD	FL	2		0,5	2500	210	Y	BL	SE
	Oparin	07.08.07		MK	52	47	38	143	23	83	200	19	28	2	10,000	L	NO		GW	3	NO	FD		12		0,2	4000	195	Y	BL	SE
	Oparin	07.08.07		MK	52	47	22	143	23	76	200	19	30	2	10,000	L	NO		GW	2	NO	FD		12		0,3	3200	200	Y	BL	SE
	Oparin	07.08.07		MK	52	46	48	143	23	53	195	19	35	2	10,000	L	NO		GW	2	NO	FD		1		1	1	220	N	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	21	185	05	57	1	9,000	L	NO		GW	1	NO	FD		1		1	1500	220	N	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	21	185	06	00	1	9,000	L	NO		GW	3	NO	FD	FE	1		0,8	1800	225	N	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	21	190	06	30	1	10,000	L	NO		GW	2	NO	FD		1		0,6	2300	220	N	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	22	190	07	00	1	9,000	L	NO		GW	1	NO	FD		5		0,4	2700	345	Y	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	22	190	07	00	1	9,000	L	NO		GW	1	NO	FD		5		0,3	3200	345	Y	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	22	190	07	00	1	9,000	L	NO		GW	2	NO	FD		5		0,2	4000	345	Y	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	21	190	07	05	1	9,000	L	NO		GW	1	NO	FD		5		0,2	4000	335	Y	BL	SE
	Oparin	08.08.07	AA		52	44	17	143	23	21	190	07	15	1	9,000	L	NO		GW	1	NO	FD		6		0,2	4000	345	Y	BO	SE
	Oparin	08.08.07	AA		52	44	17	143	23	21	185	07	22	1	9,000	L	NO		GW	1	NO	FD		6		0,2	4000	10	Y	BO	SE
	Oparin	08.08.07	AA		52	44	17	143	23	21	190	07	30	1	9,000	L	NO		GW	2	NO	FD		5		0,2	4000	330	Y	BL	SE
	Oparin	08.08.07		MK	52	44	16	143	23	21	190	07	51	1	9,000	L	NO		GW	2	NO	FD		12		0,2	4000	195	Y	BL	SE
	Oparin	08.08.07		MK	52	42	64	143	22	20	100	09	48	1	3,000	L	NO		GW	1	NO	FD		3		1	1500	200	N	BL	SE
	Oparin	08.08.07		MK	52	42	76	143	22	19	60	09	53	1	4,000	L	NO		GW	1	NO	FD		6		2	850	230	N	BL	SE
	Oparin	08.08.07		MK	52	41	84	143	21	5	40	10	32	1	7,000	L	NO		GW	2	NO	FD		5		0,2	4000	175	Y	BL	SE
	Oparin	08.08.07	AA		52	44	68	143	22	90	5	13	33	1	10,000	L	NO		GW	1	NO	FE		11		0,8	1800	340	Y	BO	SE

	Oparin	08.08.07	AA		52	45	31	143	22	91	5	13	37	1	10,000	L	NO		GW	1	NO	FD		11		2	850	345	N	BL	SE
	Oparin	08.08.07	AA		52	46	77	143	22	94	5	13	45	1	10,000	L	NO		GW	1	NO	FD		11		0,5	2500	330	Y	BL	SE
	Oparin	08.08.07	AA		52	47	41	143	22	97	5	13	48	1	10,000	L	NO		GW	1	NO	FD		11		0,3	3200	350	Y	BL	SE
	Oparin	08.08.07	AA		52	47	89	143	22	98	5	13	54	1	10,000	L	NO		GW	1	NO	FE		12		1	1500	355	N	FL	SE
	Oparin	08.08.07	AA		52	48	15	143	22	87	305	13	59	1	10,000	L	NO		GW	1	NO	FD		1		0,3	3200	355	N	BL	SE
	Oparin	14.08.07		MK	53	3	39	143	23	11	345	13	57	0	8,000	L	NO		GW	2	NO	FD	FL	11		0,2	4000	290	Y	BL	SE
	Oparin	14.08.07		MK	53	3	50	143	22	91	290	14	00	0	8,000	L	NO		GW	3	NO	FD		12		0,2	4000	280	Y	BL	SE
	Oparin	14.08.07		MK	53	4	54	143	20	42	90	15	41	1	99	L	NO		GW	1	NO	FD		12		0,3	3200	80	N	BL	SE
	Oparin	14.08.07		MK	52	59	86	143	21	0	180	16	41	1	8,000	L	NO		GW	1	NO	FD		2		0,3	3200	230	Y	BL	SE
	Oparin	14.08.07	AA		52	53	66	143	22	52	180	17	18	1	6,000	L	NO		GW	1	NO	FD		1		0,3	3200	235	Y	BO	SE
	Oparin	14.08.07	AA		52	51	99	143	22	83	180	17	28	1	6,000	L	NO		GW	4	NO	FD		1		0,3	3200	220	Y	BL	SE
	Oparin	14.08.07	AA		52	50	76	143	23	0	180	17	35	1	6,000	L	NO		GW	1	NO	FD		1		0,8	1800	205	Y	BL	SE
	Oparin	14.08.07	AA		52	49	9	143	23	50	250	18	30	1	9,000	L	NO		GW	1	NO	FD		11		0,7	2000	225	Y	BL	SE
1	Oparin	15.08.07	AA		52	8	81	143	50	1	180	10	41	1	10,000	L	LI	10	GW	8	NO	FD		1		0,3	3200	220	Y	FL	SE
2	Oparin	15.08.07	AA		52	7	47	143	48	36	280	10	55	1	10,000	L	NO		GW	8	NO	FD		9		0,3	3200	220	Y	BL	SE
3	Oparin	15.08.07		MK	52	3	99	143	41	11	95	12	56	1	10,000	L	NO		GW	3	NO	FD	FL	3		0,2	4000	160	N	BL	SE
4	Oparin	15.08.07		MK	52	3	99	143	43	47	95	13	04	1	10,000	L	NO		GW	2	NO	FD	FL	1		0,7	2000	125	N	BL	SE
5	Oparin	15.08.07		MK	52	3	98	143	44	78	95	13	09	1	10,000	L	NO		GW	3	NO	FD	FL	9		E	500	10	N	BO	SE
6	Oparin	15.08.07		MK	52	3	98	143	44	78	95	13	09	1	10,000	L	NO		GW	2	NO	FD	FL	3		1,5	1000	170	N	BL	SE
7	Oparin	15.08.07		MK	52	0	48	143	47	76	280	13	56	1	10,000	L	LI	9	GW	5	NO	FD	FL	12		0,2	4000	280	Y	BL	SE
8	Oparin	15.08.07	AA		52	0	53	143	42	67	275	14	12	1	10,000	L	NO		GW	5	SP	FD		3	4	E	700	10	N	BL	SE
9	Oparin	15.08.07	AA		52	0	50	143	35	55	275	14	35	1	10,000	L	NO		GW	1	NO	FE		9		0,2	4000	180	Y	FL	SE
10	Oparin	15.08.07	AA		51	57	1	143	32	42	95	15	24	1	10,000	L	NO		GW	1	NO	FE		1		0,4	2700	135	Y	FL	SE
11	Oparin	15.08.07		MK	51	53	53	143	40	3	270	17	21	1	10,000	L	MO	11	GW	3	NO	FD	FL	12		0,3	3200	285	N	BL	SE
12	Oparin	15.08.07		MK	51	53	53	143	38	76	270	17	25	1	10,000	L	MO	11	GW	1	SA	FD		2	3	0,5	2500	310	N	BL	SE
13	Oparin	15.08.07		MK	51	53	53	143	36	94	270	17	30	1	10,000	L	MO	11	GW	1	SA	FD		3	3	0,5	2500	355	N	BL	SE
	Oparin	15.08.07	AA		51	56	30	143	37	81	315	20	22	1	10,000	L	SE	11	GW	3	NO	FD	FE	1		1	1500	335	N	FL	SE
	Oparin	16.08.07	AA		52	0	6	143	34	58	90	07	16	1	10,000	L	SE	12	GW	6	NO	FD		1		0,1	6000	120	Y	BL	SE
	Oparin	16.08.07	AA		51	59	79	143	36	74	110	07	24	2	10,000	L	SE	11	GW	3	NO	FD		11		0,1	6000	95	Y	BL	SE
	Oparin	16.08.07		MK	52	5	98	143	42	95	35	10	13	2	10,000	L	LI	3	GW	1	NO	FD		12		0,4	2700	45	Y	BL	SE
1	Oparin	16.08.07		MK	52	27	65	143	30	1	10	16	54	2	10,000	L	SE	8/9	GW	2	NO	FD		9		0,1	6000	280	Y	BL	SE
	Oparin	17.08.07		MK	51	59	69	143	35	68	95	07	21	1	10,000	L	SE	12	GW	4	NO	FD	FL	12		0,2	4000	90	Y	BL	SE
	Oparin	17.08.07		MK	51	59	69	143	35	68	95	07	21	1	10,000	L	SE	12	GW	5	NO	FD	FL	12		0,2	4000	95	Y	BL	SE
	Oparin	17.08.07		MK	51	59	69	143	35	68	95	07	21	1	10,000	L	SE	12	GW	3	NO	FD	FL	12		0,2	4000	100	Y	BL	SE
	Oparin	17.08.07		MK	51	59	65	143	39	6	90	07	36	1	10,000	L	SE	12	GW	4	NO	FD	FL	11		0,7	2000	70	N	BL	SE
	Oparin	17.08.07		MK	52	4	98	143	42	10	15	17	04	2	10,000	L	SE	8	GW	2	NO	FD		2		0,5	2500	70	N	BL	SE
	Oparin	17.08.07		MK	52	5	52	143	42	11	330	17	10	2	10,000	L	SE	9	GW	3	NO	FD	FL	12		1	1500	335	N	BL	MO
	Oparin	17.08.07		MK	51	59	12	143	33	0	225	18	14	2	10,000	L	SE	1	GW	1	NO	FD		10		2	850	180	N	BL	SE
	Oparin	18.08.07		MK	52	13	8	143	43	4	30	09	09	1	10,000	L	SE	2	GW	1	NO	FD		2		0,2	4000	90	E	BL	SE
	Oparin	18.08.07		MK	52	15	62	143	45	4	30	09	28	1	10,000	L	SE	3	GW	2	NO	FD		12		0,2	4000	30	E	BL	SE
	Oparin	18.08.07		MK	52	15	62	143	45	4	30	09	28	1	10,000	L	SE	3	GW	1	NO	FD		11		0,2	4000	15	E	BL	SE
	Oparin	19.08.07		MK	51	58	79	143	40	78	30	12	32	1	8,000	L	NO		GW	4	NO	FD	FL	12		0,4	2700	40	B	BO	SE
	Oparin	19.08.07		MK	51	59	77	143	43	3	215	13	13	0	10,000	L	NO		GW	1	NO	FD		5		0,5	2500	0	E	BO	SE
	Oparin	19.08.07		MK	52	0	41	143	43	6	10	13	51	0	8,000	L	NO		GW	1	NO	FD	FE	12		0,5	2500	10	B	BO	SE

	Oparin	19.08.07	AA		52	0	82	143	43	41	60	14	02	0	6,000	L	NO		GW	1	ST	FD	FE	12	1	E	800	65	E	BO	MO
	Oparin	19.08.07	AA		52	0	81	143	43	16	360	14	21	0	8,000	L	NO		GW	2	NO	FD	FE	1		E	900	20	E	BL	SE
	Oparin	19.08.07	AA		52	2	62	143	43	84	30	15	45	0	8,000	L	NO		GW	6	NO	FD	FE	12	11		2500	5	B	BL	SE
	Oparin	19.08.07	AA		52	3	40	143	44	31	25	15	56	0	8,000	L	NO		GW	1	NO	FE		10		0,4	2700	335	B	FL	SE
	Oparin	19.08.07	AA		52	3	46	143	44	35	40	16	00	0	8,000	L	NO		GW	1	NO	FD		10		0,3	3200	10	B	BL	SE
	Oparin	19.08.07	AA		52	3	50	143	44	32	5	16	08	0	8,000	L	NO		GW	1	NO	FD		11		0,1	6000	350	B	BL	SE
	Oparin	19.08.07	AA		52	5	61	143	43	48	20	16	47	0	8,000	L	MO	8	GW	1	NO	FE		1		0,1	6000	60	B	FL	SE
	Oparin	20.08.07		MK	53	20	3	143	14	93	190	08	42	3	8,000	L	NO		GW	1	NO	FD		12		0,2	4000	195	B	BL	SE
	Oparin	20.08.07	AA		53	20	3	143	14	92	165	12	08	2	5,000	L	NO		GW	2	NO	FD		2	1	0,9	1650	225	E	BL	SE
	Oparin	20.08.07	AA		53	20	1	143	14	98	240	17	25	1	99	L	NO		GW	1	NO	FD	FE	1	2	0,8	1800	270	E	BO	SE
	Oparin	20.08.07	AA		53	20	1	143	14	98	235	17	30	1	99	L	NO		GW	1	NO	FD	FE	11		0,8	1800	220	B	BL	SE
	Oparin	20.08.07		MK	53	19	96	143	15	0	30	20	17	0	10,000	L	SE	9	GW	1	NO	FD		6		0,5	2500	195	B	BO	SE
	Oparin	21.08.07		MK	53	20	3	143	14	97	205	06	15	0	10,000	L	NO		GW	4	NO	FD	FL	12		0,3	3200	210	B	BL	SE
	Oparin	21.08.07		MK	53	18	18	143	15	34	180	07	41	0	10,000	L	NO		GW	1	NO	FD		12		1	1500	190	E	BL	SE
	Oparin	21.08.07	AA		53	8	98	143	19	61	175	10	26	0	8,000	L	NO		GW	1	NO	FD		1		0,7	2000	230	B	BO	SE
	Oparin	21.08.07	AA		53	7	76	143	19	97	180	10	30	0	8,000	L	NO		GW	1	NO	FD		1		0,6	2300	220	B	BO	SE
	Oparin	21.08.07		MK	52	57	20	143	21	98	180	11	33	0	8,000	L	NO		GW	1	NO	FD		2		1,5	1000	245	B	BO	SE
	Oparin	21.08.07		MK	52	56	22	143	22	13	180	11	39	0	8,000	L	NO		GW	3	NO	FD		1		0,3	3200	225	B	BO	SE
	Oparin	21.08.07	AA	MK	52	55	39	143	22	26	180	11	43	0	8,000	L	NO		GW	1	NO	FD		1		0,6	2300	205	B	BL	SE
	Oparin	21.08.07		MK	52	54	75	143	22	36	100	11	56	0	8,000	L	NO		GW	2	NO	FD		4		0,3	3200	215	B	BL	SE
	Oparin	21.08.07		MK	52	55	3	143	22	30	300	12	28	0	10,000	L	NO		GW	1	NO	FD		9		0,5	2500	195	B	BL	SE
	Oparin	21.08.07		MK	52	53	17	143	22	59	180	13	10	0	8,000	L	NO		GW	2	NO	FD		1		0,5	2500	210	B	BO	SE
	Oparin	21.08.07		MK	52	52	88	143	22	62	180	13	17	0	8,000	L	NO		GW	1	NO	FD		2		0,4	2700	235	B	BL	SE
	Oparin	21.08.07		MK	52	52	36	143	22	67	180	13	30	0	8,000	L	NO		GW	1	NO	FD		2		0,3	3200	220	B	BL	SE
	Oparin	21.08.07		MK	52	51	59	143	22	78	180	13	49	0	6,000	L	NO		GW	2	NO	FD		1		0,5	2500	200	B	BO	SE
	Oparin	21.08.07		MK	52	50	41	143	22	95	180	13	59	0	6,000	L	NO		GW	1	NO	FD	FE	1		2	850	215	E	BO	SE
	Oparin	24.08.07	AA		53	36	85	143	5	60	190	06	30	1	10,000	L	NO		GW	1	ST	FD	FE	11		0,9	1650	155	E	BL	SE
1	Oparin	25.08.07	AA		52	21	50	143	51	13	275	14	22	0	7,000	L	NO		GW	1	NO	FE		10		0,2	4000	230	B	FL	SE
2	Oparin	25.08.07	AA		52	21	53	143	42	17	270	14	53	0	6,000	L	NO		GW	1	NO	FE		1	2	0,8	1800	295	B	FL	SE
	Oparin	26.08.07	AA		52	51	96	143	23	70	185	06	45	0	5,000	L	NO		GW	2	NO	FE		3	1	1	1500	290	E	FL	SE
	Oparin	26.08.07	AA		52	51	96	143	23	70	190	06	49	0	5,000	L	NO		GW	1	NO	FD		1		0,5	2500	220	B	BL	SE
	Oparin	26.08.07	AA		52	51	96	143	23	71	195	06	57	1	5,000	L	NO		GW	1	NO	FD		4		1	1500	310	B	BL	SE
	Oparin	26.08.07	AA		52	51	96	143	23	71	195	06	57	1	5,000	L	NO		GW	1	NO	FD		3		0,5	2500	280	B	BL	SE
	Oparin	26.08.07	AA		52	51	96	143	23	71	185	07	00	1	5,000	L	NO		GW	2	NO	FD		2		0,5	2500	260	B	BL	SE
	Oparin	26.08.07	AA		52	51	96	143	23	71	185	07	00	1	5,000	L	NO		GW	1	NO	FD		2		1	1500	240	E	BL	SE
	Oparin	26.08.07		MK	52	50	66	143	24	66	190	08	41	1	8,000	L	NO		GW	3	NO	FD	FL	2		0,2	4000	235	B	BO	SE
	Oparin	26.08.07		MK	52	49	23	143	23	76	200	09	00	1	8,000	L	NO		GW	1	NO	FD	FL	2		0,7	2000	265	B	BO	SE
	Oparin	26.08.07		MK	52	48	81	143	23	59	195	09	14	1	8,000	L	NO		GW	2	NO	FD	FL	5		0,7	2000	330	E	BL	SE
	Oparin	26.08.07		MK	52	48	65	143	23	52	195	09	22	1	8,000	L	NO		GW	1	NO	FD		4		0,2	4000	315	B	BL	SE
	Oparin	26.08.07		MK	52	48	98	143	23	25	215	10	00	1	8,000	L	NO		GW	1	SP	FD		4	2	1,5	1000	320	E	BL	SE
	Oparin	26.08.07	AA		52	49	99	143	22	91	160	13	12	1	8,000	L	NO		GW	1	NO	FE		1		0,4	2700	200	B	FL	SE
	Oparin	26.08.07	AA		52	48	16	143	23	65	190	13	38	1	5,000	L	NO		GW	1	NO	FD		1		0,4	2700	210	B	BL	SE
	Oparin	26.08.07	AA		52	48	16	143	23	65	190	13	38	1	5,000	L	NO		GW	1	NO	FD		1		0,4	2700	220	B	BL	SE
	Oparin	26.08.07	AA		52	48	16	143	23	65	190	13	38	1	5,000	L	NO		GW	2	NO	FD		1		0,5	2500	230	B	BL	SE

	Oparin	26.08.07	AA		52	47	71	143	23	57	200	13	50	1	4,000	L	NO		GW	1	NO	FD		3		0,5	2500	275	B	BL	SE
	Oparin	26.08.07	AA		52	54	50	143	22	36	360	17	04	1	5,000	L	NO		GW	5	NO	FE	FD	11		0,4	2700	330	B	BL	SE
	Oparin	26.08.07	AA		52	55	90	143	22	11	360	17	13	1	5,000	L	NO		GW	2	SA	FD		11	10	2	850	340	E	BL	SE
	Oparin	28.08.07		MK	53	23	84	143	13	92	165	08	10	1	10,000	L	NO		GW	1	NO	FD		12		0,7	2000	170	E	BL	SE
	Oparin	28.08.07		MK	53	17	30	143	16	59	175	09	12	1	10,000	L	NO		GW	1	NO	FD		1		0,3	3200	195	E	BL	SE
	Oparin	28.08.07		MK	53	17	30	143	16	59	175	09	12	1	10,000	L	NO		GW	1	NO	FD		1		0,3	3200	190	E	BL	SE
	Oparin	28.08.07		MK	53	17	30	143	16	59	175	09	12	1	10,000	L	NO		GW	1	NO	FD		1		0,1	6000	190	B	BL	SE
	Oparin	28.08.07	AA		53	13	89	143	18	24	150	11	52	1	10,000	L	LI	12	GW	1	NO	FL		1		0,3	3200	180	B	FL	SE
	Oparin	28.08.07	AA		53	8	84	143	21	3	200	13	26	1	10,000	L	LI	12	GW	3	NO	FD		1		0,5	2500	230	B	BL	SE
	Oparin	28.08.07	AA		53	8	28	143	20	78	200	13	30	1	10,000	L	LI	12	GW	3	NO	FD		1		0,5	2500	225	B	BL	SE
	Oparin	28.08.07	AA		53	17	43	143	15	19	275	18	15	1	10,000	L	SE	9	GW	4	ST	FD		12	3	E	700	280	E	BL	MO
	Oparin	29.08.07		MK	53	18	47	143	15	79	175	06	41	1	10,000	L	NO		GW	3	NO	FD	FL	1		0,4	2700	205	B	BO	SE
	Oparin	29.08.07		MK	53	18	47	143	15	79	180	06	50	1	10,000	L	SE	9	GW	1	SP	FD	FL	4	6	0,3	3200	305	B	BO	SE
	Oparin	29.08.07		MK	53	11	99	143	18	42	180	12	25	1	10,000	L	NO		GW	1	NO	FD		12		0,2	4000	185	B	BL	SE
	Oparin	29.08.07		MK	53	11	99	143	18	42	180	12	25	1	10,000	L	NO		GW	1	NO	FD		12		0,2	4000	190	B	BL	SE
	Oparin	29.08.07		MK	53	9	85	143	19	29	175	12	46	2	10,000	L	NO		GW	2	NO	FD		1		0,2	4000	225	B	BL	SE
	Oparin	29.08.07		MK	53	5	94	143	20	30	185	13	28	2	10,000	L	NO		GW	1	NO	FD		2		0,2	4000	210	B	BL	SE
	Oparin	29.08.07	AA		52	56	52	143	22	2	180	15	07	2	5,000	L	NO		GW	1	NO	FD		1		2	850	210	E	BL	SE
	Oparin	29.08.07	AA		52	56	52	143	22	2	180	15	07	2	5,000	L	NO		GW	1	NO	FD		1		1	1500	210	E	BL	SE
	Oparin	29.08.07	AA		52	52	47	143	22	77	180	15	48	2	5,000	L	NO		GW	1	NO	FD		2		0,5	2500	230	B	BL	SE
	Oparin	29.08.07	AA		52	52	2	143	22	83	180	15	53	2	5,000	L	NO		GW	2	NO	FD		1		0,4	2700	200	B	BL	SE
	Oparin	29.08.07	AA		52	52	2	143	22	83	180	15	53	2	5,000	L	NO		GW	2	NO	FD		2		0,5	2500	250	B	BL	SE
	Oparin	29.08.07	AA		52	52	2	143	22	83	180	15	53	2	5,000	L	NO		GW	1	NO	FD		4		0,5	2500	290	B	BL	SE
	Oparin	29.08.07	AA		52	49	79	143	22	92	190	16	16	2	5,000	L	NO		GW	3	NO	FD		2		0,5	2500	230	B	BL	SE
	Oparin	29.08.07	AA		52	49	79	143	22	92	190	16	16	2	5,000	L	NO		GW	1	NO	FD		2		1	1500	230	B	BL	SE
	Oparin	29.08.07		MK	52	42	44	143	23	92	270	18	38	0	10,000	L	NO		GW	1	SA	FD		12	10	0,7	2000	270	E	BL	MO
	Oparin	29.08.07		MK	52	46	30	143	23	85	90	19	22	0	10,000	L	NO		GW	3	NO	FD		7		0,2	4000	320	B	BL	SE
	Oparin	29.08.07		MK	52	46	30	143	23	85	90	19	22	0	10,000	L	NO		GW	4	NO	FD		7		0,1	6000	330	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	93	310	06	47	1	10,000	L	NO		GW	3	NO	FD		11		0,2	4000	295	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	92	320	06	59	1	10,000	L	NO		GW	2	NO	FD		12		0,2	4000	315	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	92	310	07	05	1	10,000	L	NO		GW	2	NO	FD		12		0,1	6000	325	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	92	310	07	05	1	10,000	L	NO		GW	1	NO	FD		12		0,1	6000	330	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	92	295	07	11	1	10,000	L	NO		GW	1	NO	FD	FL	1		0,2	4000	335	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	92	295	07	11	1	10,000	L	NO		GW	1	NO	FD		1		0,1	6000	335	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	93	290	07	15	1	10,000	L	NO		GW	1	NO	FD		1		0,1	6000	340	B	BL	SE
	Oparin	30.08.07	AA		52	46	25	143	23	93	290	07	15	1	10,000	L	NO		GW	4	NO	FD		1		0,1	6000	345	B	BL	SE
	Oparin	30.08.07	AA		52	46	24	143	23	93	290	07	18	1	10,000	L	NO		GW	3	NO	FD		1		0,1	6000	350	B	BL	SE
	Oparin	30.08.07		MK	52	51	12	143	23	4	20	09	00	1	10,000	L	SE	3	GW	4	NO	FD	FL	9		0,5	2500	270	E	BL	SE
	Oparin	30.08.07		MK	52	51	12	143	23	4	20	09	00	1	10,000	L	SE	3	GW	3	NO	FD	FL	10		0,4	2700	305	E	BL	SE
	Oparin	30.08.07		MK	52	51	35	143	23	19	60	09	28	1	10,000	L	SE	1	GW	3	NO	FD	FL	9		0,5	2500	325	E	BL	SE
	Oparin	30.08.07		MK	52	51	36	143	23	19	60	09	30	1	10,000	L	SE	1	GW	1	NO	FD		9		0,2	4000	320	B	BL	SE
	Oparin	30.08.07		MK	52	51	63	143	23	7	55	10	11	1	10,000	L	SE	2	GW	2	NO	FD		10		0,2	4000	350	E	BL	SE
	Oparin	30.08.07		MK	52	51	79	143	23	2	60	10	34	1	10,000	L	SE	2	GW	3	NO	FD		9		0,3	3200	310	E	BL	SE
	Oparin	30.08.07	AA		52	54	0	143	22	85	330	12	30	1	10,000	L	NO		GW	6	NO	FD		12		0,1	6000	340	B	BL	SE

	Oparin	30.08.07	AA		52	56	42	143	22	2	350	12	49	1	10,000	L	NO		GW	3	NO	FD		12		0.1	6000	355	B	BL	SE
	Oparin	30.08.07	AA		53	2	35	143	21	2	345	13	30	2	9,000	L	NO		GW	3	NO	FD		11		0.2	4000	330	B	BL	SE
	Oparin	30.08.07	AA		53	2	35	143	21	2	345	13	30	2	9,000	L	NO		GW	2	NO	FD		12		0.3	3200	335	B	BL	SE
	Oparin	31.08.07		MK	53	2	69	143	19	75	255	06	30	1	10,000	L	NO		GW	6	NO	FD	FL	11		0.6	2300	230	B	BL	SE
	Oparin	31.08.07		MK	53	2	70	143	19	75	220	07	25	1	10,000	L	SE	7	GW	1	NO	FD		3	6	0.7	2000	315	E	BL	SE
	Oparin	31.08.07	AA		53	2	72	143	19	75	200	09	33	1	10,000	L	SE	9	GW	1	NO	FD		11		0.1	6000	170	B	BL	SE
	Oparin	31.08.07		MK	52	59	97	143	21	36	170	12	10	1	10,000	L	LI	11\12	GW	2	NO	FD	FL	1		0.2	4000	190	E	BL	SE
	Oparin	31.08.07		MK	52	59	97	143	21	36	170	12	10	1	10,000	L	LI	11\12	GW	2	NO	FD	FL	1		0.1	6000	190	B	BL	SE
	Oparin	31.08.07		MK	52	57	68	143	21	69	240	12	30	1	10,000	L	MO	9	GW	1	NO	FD		10		0.2	4000	195	B	BL	SE
	Oparin	31.08.07		MK	52	56	1	143	22	5	170	12	57	1	10,000	L	LI	12	GW	2	NO	FD	FL	1		0.3	3200	200	E	BL	SE
	Oparin	31.08.07		MK	52	54	75	143	22	15	170	13	04	1	10,000	L	LI	12	GW	1	NO	FD	FL	1		0.2	4000	195	E	BL	SE
	Oparin	31.08.07		MK	52	53	59	143	22	26	170	13	12	1	10,000	L	LI	12	GW	1	NO	FD		1		0.7	2000	195	E	BL	SE
	Oparin	31.08.07		MK	52	53	59	143	22	26	170	13	12	1	10,000	L	LI	12	GW	2	NO	FD		1		0.2	4000	195	B	BL	SE
	Oparin	31.08.07		MK	52	52	62	143	22	37	170	13	18	1	10,000	L	LI	12	GW	3	NO	FD		2		0.4	2700	210	E	BL	SE
	Oparin	31.08.07		MK	52	52	72	143	22	52	140	13	46	1	10,000	L	LI	1\2	GW	1	NO	FD	FL	2		1	1500	195	E	BL	SE
	Oparin	31.08.07		MK	52	52	72	143	22	52	140	13	46	1	10,000	L	LI	1\2	GW	1	NO	FD		2		0.5	2500	200	B	BL	SE
	Oparin	31.08.07	AA		52	53	25	143	22	99	180	14	14	1	10,000	L	NO		GW	4	NO	FD		12		0.3	3200	175	B	BL	SE
	Oparin	31.08.07	AA		52	50	58	143	22	97	180	15	42	1	10,000	L	NO		GW	2	NO	FD		1		0.3	3200	195	B	BL	SE
	Oparin	31.08.07	AA		52	45	14	143	22	58	180	16	16	1	10,000	L	LI	2	GW	1	NO	FD		1		0.4	2700	215	B	BL	SE
	Oparin	31.08.07		MK	52	35	48	143	22	19	180	17	17	1	10,000	L	SE	2	GW	1	NO	FD	FL	12		0.2	4000	180	E	BL	SE
	Oparin	31.08.07		MK	52	34	65	143	22	13	180	17	25	1	10,000	L	SE	2	GW	3	NO	FD	FL	1		0.2	4000	195	E	BL	SE
	Oparin	31.08.07		MK	52	33	99	143	22	7	185	17	30	1	10,000	L	SE	2	GW	4	NO	FD	FL	1		0.2	4000	200	E	BL	SE
	Oparin	31.08.07		MK	52	31	61	143	21	15	190	18	43	1	10,000	L	SE	3	GW	1	SP	FD	BR	1		1	1500	225	E	BL	VI
	Oparin	01.09.07	AA		51	52	2	143	38	52	95	06	59	1	10,000	L	SE	11	GW	1	NO	FD	FL	12		0.3	3200	90	E	BL	SE
1	Oparin	01.09.07		MK	51	53	50	143	35	74	80	09	37	1	10,000	L	SE	1	GW	1	NO	FD	FL	10		0.1	6000	20	B	BL	SE
2	Oparin	01.09.07		MK	51	53	49	143	37	95	80	09	45	1	10,000	L	SE	1	GW	1	NO	FD		10		0.2	4000	40	B	BL	SE
3	Oparin	01.09.07		MK	51	56	99	143	48	62	270	10	52	1	10,000	L	LI	7	GW	1	NO	FD		12		0.1	6000	270	E	BL	SE
4	Oparin	01.09.07	AA		51	57	0	143	46	32	270	11	00	1	10,000	L	LI	7	GW	1	NO	FD		1	2	1	1500	295	E	BL	SE
3	Oparin	01.09.07	AA		51	56	99	143	44	0	270	11	08	1	10,000	L	LI	8	GW	1	NO	FD		1		0.3	3200	295	B	BL	SE
5	Oparin	01.09.07	AA		51	56	99	143	42	58	270	11	12	1	10,000	L	LI	8	GW	6	NO	FD	FL	3		0.1	6000	355	B	BL	SE
6	Oparin	01.09.07	AA		52	0	50	143	33	81	80	12	30	1	10,000	L	LI	3	GW	3	NO	FD	FL	12		0.1	6000	70	B	BL	SE
7	Oparin	01.09.07	AA		52	0	49	143	35	70	80	12	36	1	10,000	L	NO		GW	1	NO	FD		12		0.1	6000	60	B	BL	SE
8	Oparin	01.09.07	AA		52	0	48	143	39	88	80	12	50	1	10,000	L	NO		GW	1	NO	FD		10		0.1	6000	40	B	BL	SE
9	Oparin	01.09.07	AA		52	0	48	143	39	88	80	12	50	1	10,000	L	NO		GW	1	NO	FD		10		0.1	6000	35	B	BL	SE
10	Oparin	01.09.07	AA		52	0	48	143	39	88	80	12	50	1	10,000	L	NO		GW	1	NO	FD		10		0.1	6000	30	B	BL	SE
11	Oparin	01.09.07	AA		52	1	22	143	50	8	350	13	30	1	10,000	L	LI	6	GW	1	NO	FD		12		0.1	6000	330	B	BL	SE
12	Oparin	01.09.07	AA		52	7	48	143	45	35	85	18	13	1	10,000	L	SE	6	GW	2	NO	FD	FL	2	3	0.5	2500	135	B	BL	SE
13	Oparin	01.09.07	AA		52	7	50	143	49	25	85	18	26	1	10,000	L	SE	6	GW	1	NO	FD	FL	9		0.2	4000	340	B	BL	SE
14	Oparin	01.09.07	AA		52	9	97	143	50	1	355	18	43	1	10,000	L	SE	9	GW	2	NO	FD		10		0.2	4000	320	B	BL	SE
15	Oparin	01.09.07	AA		52	11	2	143	47	32	260	18	58	1	10,000	L	SE	12	GW	1	NO	FD		3		0.1	6000	350	B	BL	SE
16	Oparin	01.09.07	AA		52	11	2	143	47	32	260	18	58	1	10,000	L	SE	12	GW	2	NO	FD		3		0.2	4000	350	B	BL	SE
17	Oparin	01.09.07			52	11	1	143	46	82	260	19	00	1	10,000	L	SE	12	GW	1	NO	FD	FL	3		0.3	3200	350	B	BL	SE
	Oparin	03.09.07		MK	51	55	21	143	40	63	105	08	27	2	8,000	L	SE	11	GW	1	NO	FD		1		0.3	3200	155	E	BL	SE
	Oparin	03.09.07		MK	52	0	16	143	42	97	315	09	27	2	8,000	L	MO	5	GW	1	NO	FD		12		0.8	1800	325	B	BL	SE

	Oparin	03.09.07		MK	52	0	94	143	42	35	40	09	33	2	8,000	L	MO	2	GW	2	NO	FD		12		0,5	2500	40	B	BL	SE
	Oparin	03.09.07		MK	52	1	46	143	43	12	45	09	38	2	8,000	L	MO	2	GW	3	NO	FD	FE	12		0,3	3200	45	E	BL	SE
	Oparin	03.09.07		MK	52	1	66	143	43	50	50	09	40	2	8,000	L	MO	2	GW	2	NO	FD		11		0,4	2700	20	E	BL	SE
	Oparin	03.09.07		MK	52	2	37	143	44	35	70	09	48	2	8,000	L	MO	1	GW	2	NO	FD		1		0,5	2500	90	E	BL	SE
	Oparin	03.09.07		MK	52	2	48	143	45	23	85	09	52	2	8,000	L	MO	1	GW	2	NO	FD		10		0,7	2000	30	E	BL	SE
	Oparin	03.09.07	AA		52	7	68	143	43	13	345	13	30	3	7,000	L	MO	6/7	GW	1	SP	FD		3	4	2	850	70	E	BL	SE
	Oparin	04.09.07	AA		53	12	34	143	18	32	170	10	54	1	3,000	L	MO	11	GW	1	NO	FD		2	3	E	800	225	E	BO	SE
	Oparin	04.09.07		MK	53	10	91	143	18	64	170	11	06	1	6,000	L	MO	11	GW	5	NO	FD	FL	1		0,5	2500	215	E	BL	SE
	Oparin	04.09.07		MK	53	10	75	143	18	54	70	11	30	1	6,000	L	MO	2	GW	2	NO	FD		5		0,5	2500	205	E	BL	SE
	Oparin	04.09.07		MK	53	13	61	143	17	49	0	13	52	2	7,000	L	NO		GW	1	NO	BR	FD	10		0,3	3200	315	E	BL	VI
1	Oparin	06.09.07	AA		52	32	17	143	29	67	190	09	42	2	10,000	L	SE	11	GW	1	NO	FD		11		0,2	4000	170	B	BL	SE
	Oparin	06.09.07		MK	52	9	36	143	48	80	225	19	13	3	10,000	L	SE	2	GW	1	NO	FD		12		0,2	4000	220	B	BL	SE
	Oparin	06.09.07		MK	52	8	73	143	48	14	225	19	17	3	10,000	L	SE	2	GW	3	NO	FD		12		0,2	4000	235	E	BL	SE
	Oparin	06.09.07		MK	52	8	40	143	47	77	225	19	19	3	10,000	L	SE	2	GW	3	NO	FD		12		0,1	6000	225	B	BL	SE
	Oparin	06.09.07		MK	52	6	36	143	45	48	225	19	33	3	10,000	L	SE	2	GW	1	NO	FD		12		0,2	4000	235	B	BL	SE
1	Oparin	07.09.07		MK	52	16	10	143	13	13	30	08	33	1	10,000	L	SE	3	GW	1	NO	FD		12		1,5	1000	40	E	BL	SE
2	Oparin	07.09.07		MK	52	29	52	143	21	1	20	09	45	1	10,000	L	SE	3	GW	3	NO	FD		12		0,7	2000	25	E	BL	SE
3	Oparin	07.09.07		MK	52	30	44	143	21	34	20	09	50	1	10,000	L	SE	3	GW	2	NO	FL	FD	12		0,3	3200	15	B	FL	SE
4	Oparin	07.09.07		MK	52	33	52	143	22	6	10	10	05	1	10,000	L	LI	4	GW	1	NO	FL	FD	11		1	1500	335	E	FL	SE
5	Oparin	07.09.07	AA		52	42	79	143	22	54	5	10	51	1	10,000	L	LI	4	GW	2	NO	FE	FL	11		2	850	320	E	BL	SE
6	Oparin	07.09.07	AA		52	45	80	143	22	68	5	11	07	1	10,000	L	MO	4	GW	2	NO	FD		10		0,5	2500	310	B	BL	SE
7	Oparin	07.09.07	AA		52	47	32	143	22	76	5	11	15	1	10,000	L	MO	5	GW	5	NO	FD	FL	11		0,4	2700	345	B	BL	SE
8	Oparin	07.09.07	AA		52	48	15	143	22	81	5	11	20	1	10,000	L	MO	5	GW	1	NO	FD		11		0,5	2500	340	B	BL	SE
9	Oparin	07.09.07	AA		52	48	15	143	22	81	5	11	20	1	10,000	L	MO	5	GW	1	NO	FD		11		0,4	2700	340	B	BL	SE
10	Oparin	07.09.07	AA		52	48	15	143	22	81	5	11	20	1	10,000	L	MO	5	GW	1	NO	FD		11		0,4	2700	335	B	BL	SE
11	Oparin	07.09.07	AA		52	48	67	143	22	84	5	11	22	1	10,000	L	MO	5	GW	1	NO	FD		10		0,9	1650	310	E	BL	SE
12	Oparin	07.09.07	AA		52	49	73	143	22	90	5	11	29	1	10,000	L	LI	5	GW	1	NO	FD		11		0,2	4000	345	B	BL	SE
13	Oparin	07.09.07	AA		52	53	76	143	22	47	360	11	51	1	10,000	L	LI	5	GW	2	NO	FD		11		0,8	1800	335	E	BL	SE
14	Oparin	07.09.07	AA		52	54	46	143	22	35	360	11	55	1	10,000	L	LI	5	GW	1	NO	FD	FL	11		0,5	2500	335	E	BL	SE
15	Oparin	07.09.07	AA		52	54	46	143	22	35	360	11	55	1	10,000	L	LI	5	GW	2	NO	FD	FL	11		0,5	2500	340	E	BL	SE
16	Oparin	07.09.07	AA		52	54	46	143	22	35	360	11	55	1	10,000	L	LI	5	GW	2	NO	FD		11		0,6	2300	340	E	BL	SE
17	Oparin	07.09.07	AA		52	54	76	143	22	30	360	11	57	1	10,000	L	MO	5	GW	3	NO	FD		11		1,5	1000	345	E	BL	SE
18	Oparin	07.09.07	AA		52	55	93	143	22	12	15	12	03	1	10,000	L	MO	5	GW	2	NO	FD		12		1,5	1000	360	E	BL	SE
19	Oparin	07.09.07	AA		52	56	61	143	22	29	350	12	08	1	10,000	L	MO	6	GW	2	NO	FD		12		2	850	10	E	BL	SE
20	Oparin	07.09.07	AA		52	58	20	143	21	75	360	12	17	1	10,000	L	MO	6	GW	1	NO	FD		11		1,2	1200	340	E	BL	SE
21	Oparin	07.09.07	AA		52	59	6	143	21	59	360	12	22	1	10,000	L	MO	6	GW	2	NO	FD	FL	11		0,2	4000	330	B	BL	SE
22	Oparin	07.09.07	AA		52	59	6	143	21	59	360	12	22	1	10,000	L	MO	6	GW	1	NO	FD		11		0,2	4000	335	B	BL	SE
23	Oparin	07.09.07	AA		53	0	32	143	21	36	360	12	30	1	10,000	L	MO	6	GW	2	NO	FD		1	4	0,5	2500	25	E	BL	SE
24	Oparin	07.09.07	AA		53	5	3	143	20	50	360	12	59	1	10,000	L	MO	6	GW	1	NO	FD		10		0,5	2500	310	E	BL	SE
25	Oparin	07.09.07	AA		53	12	67	143	18	28	350	13	50	1	10,000	L	MO	6/7	GW	1	NO	FD		11		0,1	6000	335	B	BL	SE
26	Oparin	07.09.07		MK	53	18	70	143	16	0	350	14	33	2	10,000	L	MO	6/8	GW	2	NO	FD	FL	9		1	1500	280	E	BL	SE
	Oparin	07.09.07		AA	53	19	74	143	15	3	165	18	09	3	10,000	L	SE	3	GW	2	NO	FD		1		0,5	2500	200	E	BL	SE
	Oparin	08.09.07		MK	53	17	97	143	15	95	195	06	39	1	10,000	L	NO		GW	2	NO	FD	FL	3		0,7	2000	295	B	BL	SE
	Oparin	08.09.07		MK	53	17	97	143	15	95	200	06	47	1	10,000	L	NO		GW	1	NO	FD		1		0,4	2700	245	B	BL	SE

	Oparin	08.09.07	AA		53	16	57	143	16	86	170	10	00	1	10,000	L	SE	10	GW	1	NO	FD		12		0,2	4000	160	E	BL	SE
	Oparin	08.09.07	AA		53	13	49	143	18	8	175	10	35	1	10,000	L	SE	10	GW	1	NO	FD		1		1	1500	230	B	BL	SE
	Oparin	08.09.07	AA		53	12	96	143	18	24	180	10	40	1	10,000	L	SE	10	GW	3	NO	FD		3		0,5	2500	240	B	BL	SE
	Oparin	08.09.07	AA		53	12	77	143	18	36	160	10	53	1	10,000	L	MO	11	GW	1	NO	FD		1		0,1	6000	205	B	BL	SE
	Oparin	08.09.07	AA		53	3	65	143	20	20	175	14	00	1	10,000	L	MO	12/1	GW	1	NO	FD		12		0,3	3200	195	E	BL	SE
	Oparin	08.09.07	AA		53	2	19	143	20	55	175	14	07	1	10,000	L	MO	12/1	GW	2	NO	FD	FL	1		1	1500	230	E	BL	SE
	Oparin	08.09.07	AA		53	1	69	143	20	31	270	14	27	1	10,000	L	MO	10	GW	8	NO	FD	FL	10		0,5	2500	220	B	BL	SE
	Oparin	08.09.07	AA		52	59	48	143	20	52	160	15	14	1	10,000	L	MO	2	GW	4	NO	FD		1		0,3	3200	195	B	BL	SE
	Oparin	08.09.07	AA		52	59	3	143	20	72	165	15	21	1	10,000	L	MO	2	GW	1	NO	FD		1		0,1	6000	180	B	BL	SE
	Oparin	08.09.07	AA		52	55	9	143	21	2	175	16	33	1	10,000	L	SE	2	GW	3	NO	FD		12		0,2	4000	170	B	BL	SE
	Oparin	08.09.07	AA		52	55	9	143	21	2	175	16	33	1	10,000	L	SE	2	GW	4	NO	FD		12		0,4	2700	170	B	BL	SE
	Oparin	08.09.07		MK	52	52	65	143	21	53	165	17	05	2	8,000	L	SE	3	GW	2	NO	FD		1		0,5	2500	210	E	BL	SE
	Oparin	08.09.07		MK	52	52	22	143	21	74	165	17	08	2	8,000	L	SE	3	GW	1	NO	FD		12		0,3	3200	175	B	BL	SE
	Oparin	08.09.07		MK	52	51	88	143	21	90	165	17	10	2	8,000	L	SE	3	GW	1	NO	FD		1		0,4	2700	195	B	BL	SE
	Oparin	08.09.07		MK	52	51	88	143	21	90	165	17	10	2	8,000	L	SE	3	GW	2	NO	FD		1		0,2	4000	195	B	BL	SE
	Oparin	08.09.07		MK	52	50	90	143	22	68	160	17	35	2	8,000	L	SE	3	GW	1	NO	FD		1		0,4	2700	210	B	BL	SE
	Oparin	08.09.07		MK	52	47	90	143	24	60	345	19	00	2	8,000	L	SE	10	GW	1	SA	FD		9	10	1,5	1000	235	E	BL	SE
	Oparin	09.09.07	AA		52	47	96	143	24	68	155	07	14	1	10,000	L	LI	10	GW	3	NO	FD		4		0,3	3200	270	B	BL	SE
	Oparin	09.09.07	AA		52	47	96	143	24	68	165	07	19	1	10,000	L	NO		GW	1	NO	FD		4		0,3	3200	280	B	BL	SE
	Oparin	09.09.07	AA		52	47	97	143	24	66	165	07	27	1	10,000	L	LI	10	GW	1	NO	FD		5		0,3	3200	320	B	BL	SE
	Oparin	09.09.07	AA		52	47	97	143	24	66	165	07	27	1	10,000	L	LI	10	GW	2	NO	FD		5		0,3	3200	330	B	BL	SE
	Oparin	09.09.07	AA		52	47	98	143	24	65	145	07	33	1	10,000	L	LI	10	GW	3	NO	FD		6		0,3	3200	335	B	BL	SE
	Oparin	09.09.07		MK	52	49	98	143	22	93	0	10	12	1	10,000	L	SE	4	GW	2	NO	FD		11		0,2	3200	325	E	BL	SE
	Oparin	09.09.07		MK	52	49	98	143	22	93	0	10	12	1	10,000	L	SE	4	GW	2	NO	FD		11		0,4	2700	330	E	BL	SE
	Oparin	09.09.07		MK	52	49	98	143	22	93	0	10	12	1	10,000	L	SE	4	GW	4	NO	FD		11		0,3	3200	335	E	BL	SE
	Oparin	09.09.07		MK	52	50	33	143	22	93	0	10	15	1	10,000	L	SE	4	GW	2	NO	FD		12		0,3	3200	350	E	BL	SE
	Oparin	09.09.07		MK	52	51	34	143	23	22	30	10	30	1	10,000	L	SE	3	GW	3	NO	FD	FL	10		0,1	6000	345	B	BL	SE
	Oparin	09.09.07		MK	52	51	39	143	23	26	50	10	34	1	10,000	L	SE	3	GW	1	NO	FD	FL	10		0,1	6000	340	B	BL	SE
	Oparin	09.09.07		MK	52	51	45	143	23	31	30	10	36	1	10,000	L	SE	4	GW	1	NO	FD		10		0,3	3200	330	B	BL	SE
	Oparin	09.09.07		MK	52	51	75	143	23	28	355	10	40	1	10,000	L	SE	5	GW	1	NO	FD		12		0,2	4000	345	B	BL	SE
	Oparin	09.09.07		MK	52	52	54	143	23	5	350	10	47	1	10,000	L	SE	5	GW	2	NO	FD		12		0,3	3200	350	B	BL	SE
	Oparin	09.09.07		MK	52	52	54	143	23	5	350	10	47	1	10,000	L	SE	5	GW	2	NO	FD		12		0,1	6000	345	B	BL	SE
	Oparin	09.09.07		MK	52	53	28	143	22	84	350	10	53	1	10,000	L	SE	5	GW	1	NO	FD		12		0,1	6000	340	B	BL	SE
	Oparin	09.09.07	AA		52	54	82	143	23	4	340	11	26	1	10,000	L	NO		GW	4	NO	FD		12		0,3	3200	330	B	BL	SE
	Oparin	09.09.07	AA		52	55	28	143	22	89	350	13	08	1	10,000	L	NO		GW	5	NO	FD	FL	12		0,2	4000	335	B	BL	SE
	Oparin	09.09.07	AA		52	56	27	143	22	46	350	13	15	0	10,000	L	NO		GW	2	NO	FD		12		0,2	4000	350	B	BL	SE
	Oparin	09.09.07		MK	53	3	21	143	21	19	340	14	15	1	10,000	L	MO	7	GW	1	NO	FD		11		0,2	4000	310	B	BL	SE
	Oparin	09.09.07		MK	53	5	95	143	20	32	0	14	33	1	10,000	L	MO	7	GW	1	NO	FD		10		0,2	4000	310	B	BL	SE
	Oparin	09.09.07		MK	53	10	24	143	19	14	355	16	00	1	10,000	L	MO	8	GW	1	NO	FD		10		0,2	4000	305	B	BL	SE
	Oparin	09.09.07		MK	53	15	8	143	16	94	340	16	50	1	10,000	L	SE	9	GW	2	NO	FD		12		0,2	4000	335	B	BL	SE
	Oparin	09.09.07		MK	53	15	35	143	16	66	340	16	52	1	10,000	L	SE	9	GW	2	NO	FD	FL	12		0,1	6000	340	B	BL	SE
	Oparin	10.09.07		MK	52	39	95	143	22	30	140	7	13	1	10	L	MO	10	GW	2	NO	FD	FL	2		0,2	4000	205	B	BL	SE
	Oparin	10.09.07	AA		52	30	43	143	20	87	235	8	47	1	10	L	SE	8	GW	1	NO	FD		11	1	1	1500	260	E	BL	SE
	Oparin	10.09.07	AA		52	28	69	143	19	84	350	10	16	1	10	L	MO	4	GW	3	NO	FD		9		1	1500	250	E	BL	SE

	Oparin	11.09.07	MK	EP	52	19	16	143	40	87	100	09	04	2	10,000	L	NO		GW	1	NO	FD		3		0,3	3200	165	B	BL	SE
	Oparin	11.09.07	MK	EP	52	19	12	143	42	11	95	09	08	2	10,000	L	NO		GW	2	NO	FD		2		0,1	6000	150	B	BL	SE
	Oparin	11.09.07	MK	EP	52	17	62	143	47	29	30	10	17	2	10,000	L	NO		GW	1	NO	FD	FL	5		0,5	2500	180	B	BL	SE
	Oparin	11.09.07	AA	VS	52	16	53	143	46	76	75	11	12	2	10,000	L	NO		GW	1	NO	FD	FL	3		0,8	1800	170	B	BL	SE
	Oparin	11.09.07	AA	VS	52	15	10	143	46	44	200	12	00	3	10,000	L	LI	11	GW	1	NO	FD	FL	11		0,2	4000	165	B	BL	SE
	Oparin	11.09.07	AA	VS	52	14	64	143	46	24	185	12	03	3	10,000	L	LI	11	GW	1	NO	FD		11		0,3	3200	170	B	BL	SE
	Oparin	11.09.07	AA	VS	52	14	24	143	46	22	140	12	06	3	10,000	L	LI	11	GW	1	NO	FD	FL	12		0,3	3200	205	B	BL	SE
	Oparin	11.09.07	AA	VS	52	11	64	143	45	93	200	12	30	3	10,000	L	MO	1	GW	3	NO	FD	FL	12		0,5	2500	140	B	BL	SE
	Oparin	11.09.07	AA	VS	52	5	27	143	45	9	60	13	53	3	10,000	L	NO		GW	3	NO	FD		12		0,2	4000	200	B	BL	SE
	Oparin	11.09.07	MK	EP	52	4	83	143	44	68	55	13	56	3	10,000	L	LI	5	GW	1	NO	FD		4		0,7	2000	160	E	BL	SE
	Oparin	11.09.07	MK	EP	52	4	11	143	44	34	197	14	13	3	10,000	L	LI	12	GW	2	NO	FD		11		0,4	2700	170	B	BL	SE
	Oparin	11.09.07	MK	EP	52	4	11	143	44	34	110	14	13	3	10,000	L	LI	12	GW	4	NO	FD		11		0,2	4000	170	B	BL	SE
	Oparin	11.09.07	MK	EP	52	3	52	143	44	34	20	14	21	3	10,000	L	MO	3	GW	4	NO	FD		2		0,3	3200	160	E	BL	SE
	Oparin	11.09.07	MK	EP	52	3	16	143	44	72	215	14	58	3	10,000	L	SE	12	GW	1	NO	FD		1		0,7	2000	260	E	BL	SE
	Oparin	11.09.07	MK	EP	52	3	16	143	44	72	225	14	58	3	10,000	L	SE	12	GW	1	NO	FD		1		0,5	2500	250	B	BL	SE
	Oparin	11.09.07	MK	EP	52	2	99	143	44	45	225	15	00	3	10,000	L	SE	12	GW	1	NO	FL		1		1	1500	245	E	FL	SE
	Oparin	11.09.07	MK	EP	52	2	46	143	43	26	52	15	20	3	10,000	L	SE	12	GW	1	NO	FL		7		0,3	3200	265	B	BL	SE
	Oparin	11.09.07	MK	EP	52	1	85	143	44	44	66	15	55	3	10,000	L	SE	3	GW	1	NO	FD		3		0,3	3200	200	B	BL	SE
	Oparin	11.09.07	MK	EP	52	1	22	143	42	96	144	16	14	3	10,000	L	LI	3	GW	1	NO	FD		2		0,1	6000	210	B	BL	SE
	Oparin	11.09.07	AA	VS	51	59	74	143	44	46	190	17	39	3	10,000	L	SE	1	GW	3	NO	FD		1		0,2	4000	225	E	BL	SE
	Oparin	12.09.07	AA	VS	51	59	68	143	35	14	105	10	31	3	10,000	L	NO		GW	3	NO	FD		11		0,1	6000	75	B	BL	SE
	Oparin	12.09.07	AA	VS	51	59	56	143	36	47	105	10	39	3	10,000	L	NO		GW	1	NO	FD		12		0,2	4000	130	B	BL	SE
	Oparin	12.09.07	AA	VS	51	59	44	143	38	6	100	10	48	3	10,000	L	NO		GW	1	NO	FD		9		0,5	2500	30	E	BL	SE
	Oparin	12.09.07	MK	EP	51	59	32	143	39	97	94	11	00	3	10,000	L	NO		GW	1	NO	FD		10		1	1500	50	B	BL	SE
	Oparin	12.09.07	MK	EP	51	59	32	143	39	97	94	11	01	3	10,000	L	NO		GW	1	NO	FD		1		2	850	145	B	BL	SE
	Oparin	12.09.07	MK	EP	51	59	84	143	40	43	4	11	28	3	10,000	L	NO		GW	2	NO	FD		10		0,5	2500	340	B	BL	SE
	Oparin	12.09.07	MK	EP	52	0	73	143	38	75	150	12	07	3	10,000	L	NO		GW	1	NO	FD		10		0,2	4000	100	B	BL	SE
	Oparin	12.09.07	MK	EP	52	0	75	143	43	0	55	13	07	2	10,000	L	NO		GW	5	NO	FD	FL	12		0,3	3200	45	E	BL	SE
	Oparin	12.09.07	MK	EP	52	0	75	143	43	0	55	13	07	2	10,000	L	NO		GW	1	NO	FD		12		0,3	3200	50	E	BL	SE
	Oparin	12.09.07	MK	EP	52	2	26	143	43	25	342	13	24	2	10,000	L	NO		GW	2	NO	FD	FL	11		1,5	1000	320	E	BL	SE
	Oparin	12.09.07	AA	VS	52	2	30	143	44	0	140	14	03	2	10,000	L	NO		GW	4	NO	FD		12		0,4	2700	140	B	BL	SE
	Oparin	13.09.07	MK	EP	52	0	1	143	35	76	90	07	53	2	10,000	L	NO		GW	1	NO	FD		12		0,2	4000	80	B	BL	SE
	Oparin	13.09.07	MK	EP	52	0	0	143	36	50	92	07	55	2	10,000	L	NO		GW	1	NO	FD		12		0,3	3200	115	B	BL	SE
	Oparin	13.09.07	MK	EP	51	59	96	143	40	23	85	08	11	2	10,000	L	NO		GW	4	NO	FD	FL	11		0,2	4000	45	B	BL	SE
	Oparin	13.09.07	MK	EP	52	0	41	143	40	99	45	08	15	2	10,000	L	NO		GW	5	NO	FD	FL	1		0,1	6000	70	B	BL	SE
	Oparin	13.09.07	MK	EP	52	1	8	143	41	98	45	08	21	2	10,000	L	NO		GW	2	NO	FD		1		2	850	90	E	BL	SE
	Oparin	13.09.07	MK	EP	52	1	21	143	44	43	60	09	34	2	10,000	L	SE	2	GW	2	NO	FD		11		0,2	4000	30	B	BL	SE
	Oparin	13.09.07	MK	EP	52	1	19	143	44	38	40	09	38	2	10,000	L	SE	3	GW	1	NO	FD		9		0,1	6000	330	B	BL	SE
	Oparin	13.09.07	MK	EP	52	1	19	143	44	38	40	09	38	2	10,000	L	SE	3	GW	1	NO	FD		11		0,2	4000	15	B	BL	SE
	Oparin	13.09.07	MK	EP	52	1	19	143	44	38	40	09	38	2	10,000	L	SE	3	GW	1	NO	FD		11		0,1	6000	10	B	BL	SE
	Oparin	13.09.07	MK	EP	52	1	35	143	44	39	350	10	39	2	10,000	L	NO		GW	5	NO	FD	FL	12		0,1	6000	350	B	BL	SE
	Oparin	13.09.07	AA	VS	52	2	76	143	44	98	320	13	47	2	10,000	L	MO	8	GW	1	NO	FD		3		0,2	4000	40	B	BL	SE
	Oparin	13.09.07	AA	VS	52	2	76	143	44	98	320	13	47	2	10,000	L	MO	8	GW	1	NO	FD		3		0,3	3200	45	B	BL	SE
	Oparin	14.09.07	MK	EP	52	16	17	143	42	24	90	07	30	1	10,000	L	NO		GW	1	NO	FD		11		0,2	4000	65	B	BL	SE

	Oparin	14.09.07	MK	EP	52	16	17	143	42	24	90	07	30	1	10,000	L	NO		GW	1	NO	FD		1		0,2	4000	130	B	BL	SE
	Oparin	14.09.07	MK	EP	52	16	19	143	43	12	90	07	34	1	10,000	L	NO		GW	1	NO	FD		1		0,2	4000	140	B	BL	SE
1	Oparin	14.09.07	AA		52	18	0	143	51	6	275	08	36	1	10,000	L	SE	6	GW	1	NO	FD	FE	12		0,2	4000	255	B	BL	SE
1	Oparin	14.09.07		MK	52	21	49	143	45	55	95	11	04	1	10,000	L	SE	1	GW	1	NO	FD		3		0,1	6000	175	B	BL	SE
2	Oparin	14.09.07	AA		52	33	82	143	29	98	5	16	52	3	9,000	L	NO		GW	1	NO	FD		12		0,2	4000	355	B	BL	SE
1	Oparin	15.09.07	AA		52	14	51	143	47	99	280	07	28	1	10,000	L	MO	6	GW	2	NO	FD		9		0,2	4000	205	B	BL	SE
2	Oparin	15.09.07	AA		52	14	52	143	46	53	280	07	33	1	10,000	L	MO	6	GW	1	NO	FD		3		0,3	3200	345	B	BL	SE
3	Oparin	15.09.07		MK	52	10	97	143	43	17	90	09	36	1	10,000	L	SE	1	GW	1	NO	FD		1		0,3	3200	140	E	BL	SE
4	Oparin	15.09.07		MK	52	10	97	143	43	52	90	09	37	1	10,000	L	SE	1	GW	1	NO	FD	FL	11		0,2	4000	65	E	BL	SE
1	Oparin	15.09.07		MK	52	10	98	143	44	37	90	09	40	1	10,000	L	SE	1	GW	2	NO	FD		11		0,2	4000	50	B	BL	SE
5	Oparin	15.09.07		MK	52	10	97	143	45	33	90	09	43	1	10,000	L	SE	1	GW	1	NO	FD		3		0,3	3200	175	E	BL	SE
6	Oparin	15.09.07		MK	52	7	45	143	48	13	280	10	26	1	10,000	L	SE	7	GW	3	NO	FD		9		0,2	4000	215	E	BL	SE
7	Oparin	15.09.07		MK	52	7	47	143	47	7	275	10	30	1	10,000	L	SE	7	GW	1	NO	FD		10		0,1	6000	235	B	BL	SE
6	Oparin	15.09.07	AA		52	3	99	143	36	82	90	12	09	1	10,000	L	SE	2/3	GW	3	NO	FD		11		0,2	4000	70	B	BL	SE
8	Oparin	15.09.07	AA		52	4	1	143	40	17	90	12	20	2	10,000	L	SE	2/3	GW	3	NO	FD		1		0,2	4000	130	B	BL	SE
9	Oparin	15.09.07	AA		52	4	1	143	40	17	90	12	20	2	10,000	L	SE	2/3	GW	1	NO	FD		1		0,3	3200	125	B	BL	SE
10	Oparin	15.09.07	AA		52	4	1	143	40	17	90	12	20	2	10,000	L	SE	2/3	GW	2	NO	FD		1		0,2	4000	120	B	BL	SE
11	Oparin	15.09.07	AA		52	4	1	143	41	77	90	12	25	2	10,000	L	SE	2/3	GW	3	NO	FD	FL	1		0,4	2700	115	B	BL	SE
12	Oparin	15.09.07	AA		52	3	9	143	50	1	185	13	00	2	10,000	L	SE	12	GW	1	NO	FD		1		0,2	4000	225	B	BL	SE
13	Oparin	15.09.07	AA		52	0	50	143	47	92	275	13	22	2	10,000	L	SE	9	GW	1	NO	FD		1		0,5	2500	310	B	BL	SE
14	Oparin	15.09.07	AA		52	0	50	143	47	92	275	13	22	2	10,000	L	SE	9	GW	1	NO	FD		1		0,2	4000	300	B	BL	SE
15	Oparin	15.09.07	AA		52	0	52	143	46	49	275	13	27	2	10,000	L	SE	9	GW	1	NO	FD		12		0,2	4000	270	B	BL	SE
16	Oparin	15.09.07	AA		52	0	53	143	45	61	275	13	30	2	10,000	L	SE	9	GW	3	NO	FD	FL	12		0,5	2500	250	B	BL	SE
17	Oparin	15.09.07	AA		52	0	45	143	39	63	280	13	50	2	10,000	L	SE	9	GW	1	NO	FD		9		0,2	4000	185	B	BL	SE
18	Oparin	15.09.07		MK	51	56	95	143	38	19	90	15	14	1	10,000	L	SE	4	GW	2	NO	FD	FL	12		0,3	3200	80	E	BL	SE
	Oparin	16.09.07	MK	EP	51	59	93	143	35	78	90	07	19	2	10,000	L	MO	12	GW	1	NO	FD		1		0,1	6000	120	B	BL	SE
	Oparin	16.09.07	MK	EP	51	59	93	143	35	48	90	07	19	2	10,000	L	MO	12	GW	1	NO	FD		1		0,2	4000	130	B	BL	SE
	Oparin	16.09.07	MK	EP	51	59	99	143	38	28	90	07	30	2	10,000	L	SE	12	GW	2	NO	FD		1		0,1	6000	140	B	BL	SE
	Oparin	16.09.07	MK	EP	52	0	9	143	40	44	84	07	40	2	10,000	L	SE	12	GW	7	NO	FD		11		0,7	2000	55	E	BL	SE
	Oparin	16.09.07	MK	EP	52	0	9	143	40	44	84	07	40	2	10,000	L	SE	12	GW	2	NO	FD		11		0,7	2000	60	E	BL	SE
	Oparin	16.09.07	AA	VS	52	0	46	143	41	53	80	07	48	2	10,000	L	SE	1	GW	3	NO	FD		12		0,2	4000	80	B	BL	SE
	Oparin	16.09.07	AA	VS	52	1	44	143	42	45	50	08	06	3	10,000	L	SE	1	GW	1	NO	FD		12		0,2	4000	75	B	BL	SE
	Oparin	16.09.07	AA	VS	52	1	44	143	42	45	50	08	06	3	10,000	L	SE	1	GW	1	NO	FD		12		0,2	4000	60	B	BL	SE
	Oparin	16.09.07	AA	VS	52	1	44	143	42	45	50	08	06	3	10,000	L	SE	1	GW	1	NO	FD		12		0,2	4000	50	B	BL	SE
	Oparin	16.09.07	AA	VS	52	1	44	143	42	45	50	08	06	3	10,000	L	SE	1	GW	1	NO	FD		12		0,2	4000	45	B	BL	SE
	Oparin	16.09.07	AA	VS	52	5	38	143	43	97	340	10	33	3	10,000	L	SE	5	GW	1	NO	FD		11		E	900	320	E	BL	SE
	Oparin	16.09.07	AA	VS	52	5	57	143	43	69	110	10	52	3	10,000	L	SE	12/1	GW	3	NO	FD	FL	12		0,4	2700	110	E	BL	SE
	Oparin	16.09.07	MK	EP	52	5	7	143	45	20	120	11	00	3	10,000	L	SE	12/1	GW	1	NO	FD		11		0,5	2500	90	E	BL	SE
	Oparin	16.09.07	MK	EP	52	4	84	143	46	10	239	11	05	3	10,000	L	SE	9	GW	1	NO	FD		8		0,1	6000	115	B	BL	SE
	Oparin	16.09.07	MK	EP	52	4	77	143	45	79	280	11	17	3	10,000	L	SE	8	GW	4	NO	FD		3		0,1	6000	20	B	BL	SE
	Oparin	16.09.07	MK	EP	52	5	55	143	45	99	15	11	30	3	10,000	L	SE	4	GW	1	NO	FD		12		0,2	4000	15	B	BL	SE
	Oparin	16.09.07	MK	EP	52	7	90	143	47	15	0	12	04	3	10,000	L	SE	5	GW	1	NO	FD		12		0,4	2700	0	B	BL	SE
	Oparin	16.09.07	MK	EP	52	8	41	143	47	9	0	12	09	3	10,000	L	SE	5	GW	1	NO	FD		12		0,3	3200	355	B	BL	SE
	Oparin	16.09.07	MK	EP	52	8	41	143	47	9	0	12	09	3	10,000	L	SE	5	GW	2	NO	FD	FL	12		0,1	6000	350	B	BL	SE

	Oparin	16.09.07	MK	EP	52	11	20	143	47	12	0	13	21	3	10,000	L	SE	6	GW	1	NO	FD		12		0,2	4000	10	B	BL	SE
	Oparin	16.09.07	AA	VS	52	16	75	143	47	60	5	14	15	2	10,000	L	SE	6	GW	2	NO	FD		2		0,3	3200	50	E	BL	SE
	Oparin	16.09.07	MK	EP	52	28	60	143	22	81	220	16	57	2	10,000	L	SE	1	GW	2	NO	FD		3		0,3	3200	325	B	BL	SE
	Oparin	16.09.07	MK	EP	52	27	0	143	20	13	240	17	10	2	10,000	L	SE	12	GW	1	NO	FD		3		0,5	2500	330	B	BL	SE
	Oparin	16.09.07	MK	EP	52	28	44	143	19	31	10	17	54	2	10,000	L	SE	8	GW	2	NO	FD		12		0,5	2500	15	E	BL	SE
	Oparin	16.09.07	MK	EP	52	28	83	143	19	38	20	17	57	2	10,000	L	SE	8	GW	3	NO	FD		12		0,2	4000	10	B	BL	SE
	Oparin	16.09.07	AA	VS	52	35	67	143	21	14	10	19	52	2	8,000	L	NO		GW	1	NO	FD		11		0,1	6000	340	B	BL	SE
	Oparin	17.09.07	AA	VS	52	47	57	143	24	11	325	06	55	2	10,000	L	NO		GW	4	NO	FD		9		0,2	4000	225	E	BL	SE
	Oparin	17.09.07	AA	VS	52	47	57	143	24	11	325	07	00	2	10,000	L	NO		GW	2	NO	FD		9		1	1500	245	E	BL	SE
	Oparin	17.09.07	AA	VS	52	47	56	143	24	11	325	07	07	2	10,000	L	NO		GW	1	NO	FD		10		0,3	3200	300	E	BL	SE
	Oparin	17.09.07	AA	VS	52	47	56	143	24	11	320	07	16	2	10,000	L	NO		GW	3	NO	FD		12		0,3	3200	310	E	BL	SE
	Oparin	17.09.07	AA	VS	52	47	56	143	24	11	325	07	21	2	10,000	L	LI	4	GW	2	NO	FD		12		0,2	4000	330	E	BL	SE
	Oparin	17.09.07	AA	VS	52	47	57	143	24	9	320	07	33	2	10,000	L	LI	4	GW	2	NO	FD		12		0,3	3200	340	B	BL	SE
	Oparin	17.09.07	MK	EP	52	47	16	143	23	95	0	08	42	2	10,000	L	SE	3	GW	2	NO	FD		2		0,6	2300	55	E	BL	SE
	Oparin	17.09.07	MK	EP	52	47	69	143	23	81	354	09	38	2	10,000	L	SE	4	GW	4	NO	FD	FL	1		0,1	6000	40	B	BL	MO
	Oparin	17.09.07	MK	EP	52	49	58	143	23	57	0	09	52	2	10,000	L	SE	4	GW	1	NO	FD		11		0,5	2500	320	E	BL	SE
	Oparin	17.09.07	MK	EP	52	49	84	143	23	53	0	10	06	2	10,000	L	SE	4	GW	1	NO	FD		10		0,7	2000	310	E	BL	SE
	Oparin	17.09.07	MK	EP	52	49	84	143	23	53	0	10	06	2	10,000	L	SE	4	GW	1	NO	FD		10		0,3	3200	310	B	BL	SE
	Oparin	17.09.07	MK	EP	52	50	12	143	23	51	0	10	15	2	10,000	L	SE	4	GW	1	NO	SH	FD	9		0,3	3200	285	B	BL	SE
	Oparin	17.09.07	MK	EP	52	50	16	143	23	50	0	10	17	2	10,000	L	SE	4	GW	1	NO	FD		9		0,3	3200	280	B	BL	SE
	Oparin	17.09.07	MK	EP	52	50	41	143	23	48	0	10	30	2	10,000	L	SE	4	GW	3	NO	FD		11		0,2	4000	315	E	BL	SE
	Oparin	17.09.07	MK	EP	52	50	41	143	23	48	0	10	30	2	10,000	L	SE	4	GW	2	NO	FD		10		0,2	4000	305	B	BL	SE
	Oparin	17.09.07	MK	EP	52	50	58	143	23	50	0	10	44	2	10,000	L	SE	4	GW	2	NO	FD		9		1	1500	70	E	BL	SE
	Oparin	17.09.07	MK	EP	52	50	72	143	23	49	0	10	47	2	10,000	L	SE	4	GW	1	NO	FD		10		0,5	2500	295	B	BL	SE
	Oparin	17.09.07	AA	VS	52	50	89	143	23	49	360	11	00	2	10,000	L	SE	4	GW	2	NO	FD	FL	12		0,4	2700	15	E	BL	SE
	Oparin	17.09.07	AA	VS	52	51	7	143	23	51	360	11	21	2	10,000	L	SE	4/5	GW	3	NO	FD	FL	11		0,3	3200	320	E	FL	SE
	Oparin	17.09.07	AA	VS	52	50	48	143	22	77	355	12	48	2	10,000	L	NO		GW	1	NO	FD		12		0,3	3200	350	E	BL	SE
	Oparin	17.09.07	MK	EP	52	53	97	143	21	97	0	14	26	1	10,000	L	LI	6/7	GW	1	NO	FD		10		0,7	2000	315	B	BL	SE
	Oparin	17.09.07	MK	EP	52	54	22	143	21	91	0	14	30	1	10,000	L	LI	6/7	GW	2	NO	FD		11		0,7	2000	320	B	BL	SE
	Oparin	17.09.07	MK	EP	52	58	87	143	21	7	0	15	49	1	10,000	L	SE	8	GW	1	NO	FD		11		0,2	4000	330	B	BL	SE
	Oparin	17.09.07	MK	EP	53	2	54	143	20	41	0	16	13	1	10,000	L	SE	8	GW	1	NO	FD	FL	11		0,2	4000	330	B	BL	SE
	Oparin	17.09.07	MK	EP	53	4	3	143	19	98	355	16	23	1	10,000	L	SE	8	GW	1	NO	FD		11		0,3	3200	325	B	BL	SE
	Oparin	17.09.07	MK	EP	53	9	38	143	18	41	355	16	55	1	10,000	L	SE	8/9	GW	5	NO	FD		12		0,2	4000	335	B	BL	SE
	Oparin	18.09.07	MK	EP	52	54	20	143	22	52	205	06	58	2	10,000	L	NO		GW	6	NO	FD		12		0,2	4000	205	B	BL	SE
	Oparin	18.09.07	MK	EP	52	54	20	143	22	55	233	07	19	2	10,000	L	LI	7	GW	1	NO	FD		12		0,7	2000	230	B	BL	SE
	Oparin	18.09.07	MK	EP	52	54	20	143	22	54	205	07	30	2	10,000	L	SE	9	GW	1	SP	FD		3	1	0,5	2500	300	B	BL	SE
	Oparin	18.09.07	MK	EP	52	54	20	143	22	54	205	07	30	2	10,000	L	SE	9	GW	1	NO	FD		4		0,2	4000	345	B	BL	SE
	Oparin	18.09.07	MK	EP	52	54	20	143	22	54	225	07	42	2	10,000	L	SE	9	GW	1	NO	FD	FL	12		0,7	2000	225	B	BL	SE
	Oparin	18.09.07	AA	VS	52	52	54	143	22	75	180	10	07	2	10,000	L	SE	10	GW	2	NO	FD		12		0,2	4000	165	B	BL	SE
	Oparin	18.09.07	AA	VS	52	51	88	143	22	89	175	10	12	2	10,000	L	SE	10	GW	2	NO	FD		1		0,2	4000	205	B	BL	SE
	Oparin	18.09.07	AA	VS	52	51	88	143	22	89	175	10	12	2	10,000	L	SE	10	GW	1	NO	FD		12		0,3	3200	165	B	BL	SE
	Oparin	18.09.07	AA	VS	52	51	38	143	22	94	185	10	21	2	10,000	L	SE	10	GW	1	NO	FD		1		0,2	4000	215	B	BL	SE
	Oparin	18.09.07	AA	VS	52	50	79	143	23	0	180	10	26	2	10,000	L	SE	10	GW	1	NO	FD		2		0,8	1800	240	E	BL	SE
	Oparin	18.09.07	AA	VS	52	50	55	143	23	3	185	10	27	2	10,000	L	SE	10	GW	1	NO	FD		12		0,4	2700	185	E	BL	SE

	Oparin	18.09.07	MK	EP	52	50	13	143	23	55	350	11	19	2	10,000	L	SE	5	GW	2	NO	FD		7		0,1	6000	195	B	BL	SE
	Oparin	18.09.07	MK	EP	52	50	13	143	23	55	350	11	19	2	10,000	L	SE	5	GW	2	NO	FD		7		0,1	6000	190	B	BL	SE
	Oparin	19.09.07	AA	VS	52	50	13	143	23	68	215	07	05	2	8,000	L	NO		GW	2	NO	FD		4		0,5	2500	335	B	BL	SE
	Oparin	19.09.07	AA	VS	52	50	14	143	23	68	210	07	10	2	8,000	L	NO		GW	2	NO	FD		3		0,5	2500	285	B	BL	SE
	Oparin	19.09.07	AA	VS	52	50	14	143	23	68	210	07	14	2	8,000	L	NO		GW	1	NO	FD		2		0,5	2500	270	B	BL	SE
	Oparin	19.09.07	MK	EP	52	50	12	143	23	69	205	07	54	2	8,000	L	NO		GW	1	NO	FD		3		0,7	2000	310	E	BL	SE
	Oparin	19.09.07	MK	EP	52	50	12	143	23	69	205	07	54	2	8,000	L	NO		GW	1	NO	FD		3		0,4	2700	310	B	BL	SE
	Oparin	19.09.07	MK	EP	52	50	12	143	23	69	205	07	54	2	8,000	L	NO		GW	1	NO	FD		4		0,2	4000	340	B	BL	SE
	Oparin	19.09.07	MK	EP	52	50	12	143	23	69	225	08	08	2	8,000	L	NO		GW	1	NO	FD		4		1,5	1000	330	E	BL	SE
	Oparin	19.09.07	MK	EP	52	50	6	143	23	56	260	09	08	2	10,000	L	SE	7	GW	1	NO	FD		12		0,3	3200	260	B	BL	SE
	Oparin	19.09.07	MK	EP	52	51	4	143	22	50	300	09	24	2	10,000	L	NO		GW	4	NO	FD		2		0,2	4000	0	B	BL	SE
	Oparin	19.09.07	MK	EP	52	51	4	143	22	50	300	09	24	2	10,000	L	NO		GW	1	NO	FD		2		0,2	4000	355	B	BL	SE
	Oparin	19.09.07	MK	EP	52	52	88	143	22	10	290	10	05	3	8,000	L	NO		GW	1	NO	FD		2		0,2	4000	350	B	BL	SE
	Oparin	20.09.07	MK	EP	52	53	23	143	22	85	230	07	08	2	10,000	L	NO		GW	1	NO	FD		3		0,2	4000	330	B	BL	SE
	Oparin	20.09.07	MK	EP	52	53	23	143	22	85	235	07	21	2	10,000	L	LI	7	GW	4	NO	FD		3		0,3	3200	310	B	BL	SE
	Oparin	20.09.07	AA	VS	52	53	26	143	22	78	340	09	30	2	10,000	L	SE	4	GW	2	NO	FD		12		0,2	4000	350	B	BL	SE
	Oparin	20.09.07	AA	VS	52	53	72	143	22	42	330	09	37	2	10,000	L	SE	4	GW	1	NO	FD		12		0,1	6000	330	B	BL	SE
	Oparin	20.09.07	AA	VS	52	55	87	143	21	31	355	09	58	2	10,000	L	SE	4	GW	1	NO	FD		11		0,5	2500	330	B	BL	SE
	Oparin	20.09.07	AA	VS	52	56	16	143	21	24	355	10	00	2	10,000	L	SE	4	GW	1	NO	FD		12		0,2	4000	345	B	BL	SE
	Oparin	20.09.07	AA	VS	52	56	81	143	21	10	355	10	05	2	10,000	L	SE	4	GW	2	NO	FD		11		0,2	4000	330	B	BL	SE
	Oparin	20.09.07	AA	VS	52	56	81	143	21	10	355	10	05	2	10,000	L	SE	4	GW	3	NO	FD		11		0,2	4000	325	B	BL	SE
	Oparin	20.09.07	MK	EP	53	2	26	143	21	25	355	11	43	2	10,000	L	SE	5	GW	1	NO	FD	FL	9		0,3	3200	295	B	BL	SE
	Oparin	20.09.07	AA	VS	52	52	10	143	22	85	175	14	43	1	10,000	L	LI	1	GW	2	NO	FD		1		0,2	4000	195	B	BL	SE
	Oparin	20.09.07	AA	VS	52	51	5	143	23	16	170	14	49	1	10,000	L	MO	1	GW	2	NO	FD		2		0,4	2700	240	B	BL	SE
	Oparin	20.09.07	AA	VS	52	50	75	143	23	4	250	14	52	1	10,000	L	MO	11	GW	4	NO	FD		12		0,7	2000	190	B	BL	SE
	Oparin	21.09.07	AA	VS	52	50	84	143	22	95	215	07	07	3	9,000	L	NO		GW	1	NO	FD		4		0,1	6000	350	B	BL	SE
	Oparin	21.09.07	AA	VS	52	50	84	143	22	95	215	07	07	3	9,000	L	NO		GW	1	NO	FD		2		1	1500	285	B	BL	SE
	Oparin	21.09.07	AA	VS	52	50	84	143	22	95	215	07	14	3	9,000	L	NO		GW	1	NO	FD		3		0,8	1800	300	B	BL	MO
	Oparin	21.09.07	AA	VS	52	50	84	143	22	94	175	07	19	3	9,000	L	NO		GW	1	NO	FD		3		0,7	2000	305	B	BL	SE
	Oparin	21.09.07	AA	VS	52	50	84	143	22	95	190	07	20	3	9,000	L	NO		GW	1	NO	FD		1		0,1	6000	215	B	BL	SE
	Oparin	21.09.07	AA	VS	52	50	84	143	22	95	190	07	26	3	9,000	L	NO		GW	2	NO	FD		3		0,2	4000	225	B	BL	SE
	Oparin	21.09.07	AA	VS	52	50	84	143	22	93	210	07	37	3	9,000	L	LI	9	GW	1	NO	FD		1		1	1500	250	B	BL	SE
	Oparin	22.09.07	MK	EP	52	50	68	143	22	97	300	07	11	3	99	L	NO		GW	1	NO	FD		9		0,7	2000	225	B	BL	SE
	Oparin	22.09.07	MK	EP	52	50	68	143	22	97	300	07	13	3	99	L	NO		GW	1	NO	FD		10		0,5	2500	240	B	BL	SE
	Oparin	22.09.07	MK	EP	52	50	68	143	22	95	310	07	21	3	99	L	NO		GW	1	NO	FD		11		0,5	2500	280	B	BL	SE
	Oparin	24.09.07	MK	EP	53	0	31	143	21	8	195	10	57	2	10,000	L	SE	10	GW	1	NO	FD		12		0,2	4000	190	B	BL	SE
	Oparin	24.09.07	MK	EP	52	59	8	143	20	29	185	12	10	2	10,000	L	SE	11	GW	1	NO	FD		12		0,5	2500	195	B	BL	SE
	Oparin	24.09.07	MK	EP	52	57	5	143	21	27	175	12	38	2	10,000	L	NO		GW	2	NO	FD		12		0,2	4000	195	B	BL	SE
	Oparin	24.09.07	MK	EP	52	57	77	143	21	91	180	12	52	2	10,000	L	SE	12	GW	2	NO	FD		4		E	700	290	E	BL	SE
	Oparin	24.09.07	MK	EP	52	57	77	143	21	91	180	12	52	2	10,000	L	SE	12	GW	1	NO	FD		3		2	850	250	E	BL	SE
	Oparin	24.09.07	MK	EP	52	57	77	143	21	91	180	12	52	2	10,000	L	SE	12	GW	2	NO	FD		11		3	600	130	E	BL	SE
	Oparin	24.09.07	MK	EP	52	53	68	143	22	16	180	13	01	2	10,000	L	SE	12	GW	3	NO	FD		2		0,6	2300	230	E	BL	SE
	Oparin	24.09.07	MK	EP	52	52	35	143	22	60	180	13	11	2	10,000	L	SE	12	GW	1	NO	FD		2		0,5	2500	230	E	BL	SE
	Oparin	24.09.07	MK	EP	52	52	2	143	22	67	180	13	13	2	10,000	L	SE	12	GW	2	NO	FD		12		0,1	6000	195	B	BL	SE

	Oparin	24.09.07	MK	EP	52	50	32	143	22	70	340	17	30	3	10,000	L	SE	9	GW	2	NO	FD		6		0,1	6000	200	B	BL	SE
	Oparin	25.09.07	AA	VS	52	50	40	143	22	67	210	07	14	2	10,000	L	NO		GW	1	NO	FD		4		0,3	3200	340	B	BL	SE
	Oparin	25.09.07	AA	VS	52	50	40	143	22	67	215	07	24	2	10,000	L	NO		GW	3	NO	FD		12		0,2	4000	240	B	BL	SE
	Oparin	25.09.07	AA	VS	52	50	40	143	22	67	210	07	34	2	10,000	L	NO		GW	1	NO	FD		3		0,5	2500	320	E	BL	SE
	Oparin	25.09.07	AA	VS	52	50	40	143	22	67	210	07	38	2	10,000	L	LI	9	GW	2	NO	FD		3		0,5	2500	310	E	BL	SE
	Oparin	25.09.07	MK	EP	52	50	39	143	22	67	220	07	55	2	10,000	L	SE	9	GW	2	NO	FD		2		0,5	2500	265	B	BL	SE
	Oparin	25.09.07	MK	EP	52	50	39	143	22	67	225	08	09	2	10,000	L	SE	9	GW	1	NO	FD		12		0,5	2500	225	B	BL	SE
	Oparin	25.09.07	MK	EP	52	50	39	143	22	67	220	08	17	2	10,000	L	SE	9	GW	2	NO	FD		3		0,7	2000	295	E	BL	SE
	Oparin	25.09.07	MK	EP	52	50	39	143	22	67	220	08	25	2	10,000	L	SE	9	GW	1	NO	FD		4		1	1500	330	E	BL	SE
	Oparin	25.09.07	MK	EP	52	50	39	143	22	67	220	08	25	2	10,000	L	SE	9	GW	2	NO	FD		4		0,4	2700	330	E	BL	SE
	Oparin	25.09.07	MK	EP	52	50	39	143	22	67	220	09	17	2	10,000	L	NO		GW	1	NO	FD		11		0,5	2500	180	B	BL	SE
	Oparin	25.09.07	MK	EP	52	50	32	143	22	69	355	16	50	3	10,000	L	SE	9	GW	1	NO	FD		6		0,2	4000	190	B	BL	SE
	Oparin	26.09.07	MK	EP	52	50	39	143	22	64	215	07	00	2	5,000	L	NO		GW	3	NO	FD		12		1	1500	220	E	BL	SE
	Oparin	26.09.07	MK	EP	52	50	39	143	22	64	215	07	00	2	5,000	L	NO		GW	1	NO	FD		12		0,7	2000	220	B	BL	SE
	Oparin	26.09.07	MK	EP	52	50	39	143	22	64	215	07	00	2	5,000	L	NO		GW	2	NO	FD		12		0,7	2000	225	B	BL	SE
	Oparin	26.09.07	MK	EP	52	50	39	143	22	63	210	07	23	2	10,000	L	NO		GW	1	SP	FD		3	5	1	1500	315	E	BL	MO
	Oparin	26.09.07	MK	EP	52	50	39	143	22	64	210	07	30	2	10,000	L	LI	8	GW	1	NO	FD		12		0,4	2700	225	B	BL	SE
	Oparin	26.09.07	AA	VS	52	50	39	143	22	65	210	07	52	2	10,000	L	MO	9	GW	1	NO	FD		3		0,5	2500	290	B	BL	SE
	Oparin	26.09.07	AA	VS	52	50	39	143	22	65	215	08	00	2	10,000	L	NO		GW	1	NO	FD		3		0,6	2300	295	B	BL	SE
	Oparin	26.09.07	AA	VS	52	50	39	143	22	65	215	08	05	2	10,000	L	MO	9	GW	1	NO	FD		1		1	1500	240	B	BL	SE
	Oparin	26.09.07	AA	VS	52	50	39	143	22	65	215	08	39	2	10,000	L	NO		GW	1	NO	FD		3		1	1500	310	B	BL	SE
	Oparin	26.09.07	AA	VS	52	50	39	143	22	65	215	09	00	2	10,000	L	MO	9	GW	1	NO	FD		4		0,3	3200	330	B	BL	SE
	Oparin	26.09.07	MK	EP	52	50	39	143	22	64	260	12	17	2	10,000	L	SE	9	GW	2	NO	FD		10		0,2	4000	210	B	BL	SE
	Oparin	26.09.07	AA	VS	52	41	91	143	21	98	140	16	05	2	10,000	L	NO		GW	3	NO	FD		2		0,1	6000	190	B	BL	SE
	Oparin	26.09.07	MK	EP	52	36	21	143	21	18	101	17	30	2	10,000	L	NO		GW	1	NO	FD		3		0,2	4000	190	B	BL	SE
	Oparin	26.09.07	MK	EP	52	33	65	143	22	1	190	18	17	3	99	L	MO	3	GW	2	NO	FD		1		0,2	4000	235	B	BL	SE
	Oparin	27.09.07	AA	VS	52	50	33	143	22	68	200	07	09	1	10,000	L	NO		GW	1	NO	FD		1		2	850	230	E	BL	SE
	Oparin	27.09.07	AA	VS	52	50	33	143	22	68	190	07	12	1	10,000	L	NO		GW	1	NO	FD		1		1	1500	220	E	BL	SE
	Oparin	27.09.07	AA	VS	52	50	33	143	22	68	200	07	17	1	10,000	L	NO		GW	1	NO	FD		2		0,8	1800	250	E	BL	SE
	Oparin	27.09.07	AA	VS	52	50	33	143	22	68	195	07	21	1	10,000	L	NO		GW	2	NO	FD		2		0,8	1800	265	E	BL	SE
	Oparin	27.09.07	MK	EP	52	50	35	143	22	69	190	09	54	1	10,000	L	SE	10	GW	2	NO	FD		1		0,2	4000	220	B	BL	SE
	Oparin	27.09.07	AA	VS	52	52	86	143	22	51	355	12	42	2	10,000	L	SE	6	GW	2	NO	FD		11		0,3	3200	320	B	BL	SE
	Oparin	27.09.07	AA	VS	52	53	76	143	22	37	360	12	50	2	10,000	L	SE	6	GW	1	NO	FD		12		0,2	4000	340	B	BL	SE
	Oparin	27.09.07	AA	VS	52	54	85	143	22	17	355	12	58	2	10,000	L	SE	6	GW	1	NO	FD		12		0,8	1800	350	E	BL	SE
	Oparin	27.09.07	AA	VS	52	56	23	143	21	94	355	13	09	2	10,000	L	SE	6	GW	2	NO	FD		11		0,2	4000	330	B	BL	SE
	Oparin	27.09.07	AA	VS	52	57	39	143	21	74	360	13	19	2	10,000	L	SE	6	GW	1	NO	FD		11		0,3	3200	335	B	BL	SE
1	Oparin	01.10.07	VS		52	14	52	143	43	32	273	07	30	2	10,000	L	SE	6	GW	1	NO	FD		7		0,5	2500	120	B	BL	SE
2	Oparin	01.10.07		MK	52	10	99	143	43	64	100	09	30	2	10,000	L	MO	12	GW	1	NO	FD		2		0,2	4000	150	B	BL	SE
3	Oparin	01.10.07		MK	52	10	97	143	44	47	100	09	32	2	10,000	L	MO	12	GW	1	NO	FD		3		1	1500	180	B	BL	SE
4	Oparin	01.10.07		MK	52	10	96	143	46	51	100	09	39	2	10,000	L	SE	12	GW	1	NO	FD		2		0,5	2500	155	E	BL	SE
5	Oparin	01.10.07		MK	52	9	8	143	49	99	185	10	04	2	10,000	L	MO	10	GW	1	NO	FD		12		0,1	6000	200	B	BL	SE
6	Oparin	01.10.07		MK	52	7	49	143	47	19	270	10	25	2	10,000	L	MO	7/8	GW	2	NO	FD		10		0,2	4000	210	B	BL	SE
7	Oparin	01.10.07	AA		52	4	0	143	38	2	95	12	16	2	10,000	L	NO		GW	1	NO	FD		12		0,2	4000	75	B	BL	SE
8	Oparin	01.10.07	AA		52	4	1	143	39	85	95	12	22	2	10,000	L	NO		GW	10	NO	FD	FL	2		0,1	6000	130	B	BL	SE

9	Oparin	01.10.07	AA		52	3	99	143	43	67	100	12	33	2	10,000	L	NO		GW	1	NO	FE		2		0,5	2500	135	B	FL	SE
10	Oparin	01.10.07	AA		52	3	99	143	44	24	95	12	36	2	10,000	L	NO		GW	2	NO	FD		3		0,2	4000	160	B	BL	SE
11	Oparin	01.10.07	AA		52	3	99	143	44	24	95	12	36	2	10,000	L	NO		GW	2	NO	FD		3		0,2	4000	155	B	BL	SE
12	Oparin	01.10.07	AA		52	4	0	143	47	99	95	12	48	2	10,000	L	NO		GW	1	NO	FD		2		0,5	2500	130	B	BL	SE
13	Oparin	01.10.07	AA		52	4	0	143	47	99	95	12	48	2	10,000	L	NO		GW	1	NO	FD		2		0,4	2700	135	B	BL	SE
14	Oparin	01.10.07	AA		52	0	54	143	44	71	275	13	36	2	10,000	L	MO	9	GW	2	NO	FD		1		0,2	4000	305	B	BL	SE
15	Oparin	01.10.07		EP	52	0	51	143	37	27	274	14	02	2	10,000	L	MO	9/10	GW	1	NO	FD		9		0,5	2500	170	B	BL	SE
16	Oparin	01.10.07		EP	52	0	54	143	34	17	274	14	12	2	10,000	L	LI	10	GW	4	NO	FD		1		0,3	3200	310	B	BL	SE
17	Oparin	01.10.07		EP	51	56	99	143	32	53	98	15	00	2	10,000	L	SE	4	GW	1	NO	FD		12		0,1	6000	100	B	BL	SE
18	Oparin	01.10.07		EP	51	53	50	143	46	48	271	16	31	3	10,000	L	SE	11	GW	1	NO	FD		12		0,1	6000	295	B	BL	SE
19	Oparin	01.10.07		EP	51	53	49	143	44	55	272	16	41	3	10,000	L	SE	11	GW	2	NO	FD		12		0,2	4000	260	B	BL	SE
	Oparin	02.10.07	MK	EP	52	33	93	143	21	14	337	18	30	2	10,000	L	LI	9	GW	1	NO	FD		12		0,3	3200	350	B	BL	SE
	Oparin	02.10.07	MK	EP	52	33	93	143	21	14	332	18	40	2	10,000	L	LI	9	GW	1	NO	FD		8		0,2	4000	180	B	BL	SE
	Oparin	02.10.07	MK	EP	52	33	93	143	21	14	332	18	55	2	10,000	L	NO		GW	2	NO	FD		7		0,1	6000	170	B	BL	SE
1	Oparin	03.10.07		MK	52	28	95	143	20	88	15	09	33	1	10,000	L	SE	3	GW	2	NO	FD		11		0,2	4000	350	B	BL	SE
2	Oparin	03.10.07		MK	52	29	68	143	21	16	15	09	37	1	10,000	L	SE	3	GW	1	NO	FD		9		1	1500	315	E	BL	SE
3	Oparin	03.10.07		MK	52	30	91	143	21	61	15	09	43	1	10,000	L	SE	3	GW	1	NO	FD		10		0,3	3200	330	E	BL	SE
4	Oparin	03.10.07		MK	52	31	15	143	21	71	15	09	45	1	10,000	L	SE	3	GW	1	NO	FD		11		0,5	2500	345	E	BL	SE
5	Oparin	03.10.07	AA		52	44	62	143	22	67	5	11	07	1	10,000	L	SE	4/5	GW	1	NO	FD		12		0,3	3200	350	E	BL	SE
6	Oparin	03.10.07	AA		52	44	62	143	22	67	5	11	07	1	10,000	L	SE	4/5	GW	1	NO	FD		12		0,2	4000	350	E	BL	SE
7	Oparin	03.10.07	AA		52	45	78	143	22	70	5	11	15	1	10,000	L	SE	4/5	GW	1	NO	FD		11		0,2	4000	335	B	BL	SE
8	Oparin	03.10.07	AA		52	46	28	143	22	71	5	11	18	1	10,000	L	SE	4/5	GW	1	NO	FD		11		0,2	4000	340	B	BL	SE
9	Oparin	03.10.07	AA		52	46	28	143	22	71	5	11	18	1	10,000	L	SE	4/5	GW	1	NO	FD		11		0,2	4000	345	B	BL	SE
10	Oparin	03.10.07	AA		52	46	87	143	22	75	10	11	22	1	10,000	L	SE	4/5	GW	1	NO	FD		11		0,3	3200	345	B	BL	SE
11	Oparin	03.10.07	AA		52	47	48	143	22	80	5	11	26	1	10,000	L	SE	4/5	GW	1	NO	FD		11		0,3	3200	335	B	BL	SE
12	Oparin	03.10.07	AA		52	47	48	143	22	80	5	11	26	1	10,000	L	SE	4/5	GW	2	NO	FD		11		0,2	4000	340	B	BL	SE
13	Oparin	03.10.07	AA		52	47	48	143	22	80	5	11	26	1	10,000	L	SE	4/5	GW	3	NO	FD		12		0,2	4000	350	B	BL	SE
15	Oparin	03.10.07	AA		52	49	59	143	22	95	5	11	41	1	10,000	L	SE	5	GW	1	NO	FD		10		0,2	4000	325	B	BL	SE
16	Oparin	03.10.07	AA		52	54	56	143	22	35	360	12	14	2	10,000	L	SE	6	GW	1	NO	FD		10		0,8	1800	330	E	BL	SE
17	Oparin	03.10.07	AA		52	57	65	143	21	82	360	12	35	2	10,000	L	SE	6	GW	1	NO	FD		10		0,5	2500	330	B	BL	SE
18	Oparin	03.10.07		EP	53	12	11	143	18	49	351	14	12	2	10,000	L	SE	7	GW	1	NO	FD		11		0,5	2500	330	B	BL	SE
19	Oparin	03.10.07		EP	53	25	43	143	12	53	345	15	39	1	10,000	L	SE	8	GW	1	NO	FD		8		0,2	4000	215	E	BL	SE
	Oparin	03.10.07	AA	VS	53	23	39	143	13	77	165	18	10	1	10,000	L	SE	3	GW	1	NO	FD		12		0,3	3200	170	B	BL	SE
1	Oparin	04.10.07		VS	52	29	81	143	21	24	17	10	06	2	10,000	L	SE	3	GW	1	NO	FD		10		0,7	2000	310	E	BL	SE
2	Oparin	04.10.07		VS	52	30	51	143	21	49	15	10	12	2	10,000	L	SE	3	GW	1	NO	FD		11		0,2	4000	355	B	BL	SE
3	Oparin	04.10.07		VS	52	31	67	143	21	91	16	10	17	2	10,000	L	SE	4	GW	1	NO	FD		11		0,5	2500	340	B	BL	SE
4	Oparin	04.10.07		VS	52	32	98	143	22	7	4	10	26	2	10,000	L	SE	4	GW	2	NO	FD		11		0,2	4000	340	B	BL	SE
5	Oparin	04.10.07	MK		52	40	80	143	22	46	5	11	15	1	10,000	L	SE	5	GW	1	NO	FD	FL	11		0,2	4000	345	B	BL	SE
6	Oparin	04.10.07	MK		52	44	4	143	22	67	5	11	37	1	10,000	L	SE	5	GW	1	NO	FD		3		2	850	100	E	BL	SE
7	Oparin	04.10.07	MK		52	46	42	143	22	76	5	11	53	1	10,000	L	SE	5	GW	1	NO	FD		12		0,2	4000	340	B	BL	SE
8	Oparin	04.10.07	MK		52	46	42	143	22	76	5	11	53	1	10,000	L	SE	5	GW	7	NO	FD	BR	12		0,2	4000	355	B	BL	VI
9	Oparin	04.10.07	MK		52	46	96	143	22	78	5	11	56	1	10,000	L	SE	5	GW	1	NO	FD		11		0,2	4000	330	E	BL	SE
10	Oparin	04.10.07	MK		52	47	24	143	22	78	5	11	58	1	10,000	L	SE	5	GW	3	NO	FD	BR	11		0,2	4000	335	B	BL	VI
11	Oparin	04.10.07	MK		52	51	35	143	22	93	0	12	26	1	10,000	L	SE	6	GW	3	NO	FD		11		0,4	2700	325	B	BL	SE

12	Oparin	04.10.07	MK		52	51	35	143	22	93	0	12	26	1	10,000	L	SE	6	GW	3	NO	FD		11		0,2	4000	330	B	BL	SE
13	Oparin	04.10.07	MK		52	52	91	143	22	72	0	12	37	1	10,000	L	SE	6	GW	1	NO	FD		11		0,3	3200	335	B	BL	SE
14	Oparin	04.10.07	MK		52	57	76	143	21	76	0	13	11	1	10,000	L	SE	6	GW	2	NO	FD	FL	10		0,4	2700	320	B	BL	SE
15	Oparin	04.10.07	MK		53	2	99	143	20	84	0	13	46	0	10,000	L	SE	6	GW	1	NO	FD		12		0,2	4000	350	B	BL	SE
16	Oparin	04.10.07	AA		53	15	86	143	17	4	350	15	11	1	10,000	L	MO	8	GW	1	NO	FD		10		0,3	3200	305	B	BL	SE
	Oparin	05.10.07	AA	VS	52	7	22	143	42	55	160	07	36	2	10,000	L	NO		GW	1	NO	FD		12		0,3	3200	160	B	BL	SE
	Oparin	05.10.07	AA	VS	52	7	22	143	42	55	160	07	36	2	10,000	L	NO		GW	1	NO	FD		12		0,1	6000	180	B	BL	SE
	Oparin	05.10.07	MK	EP	52	6	65	143	43	97	160	07	41	2	10,000	L	LI	10	GW	1	NO	FD		12		0,2	4000	160	B	BL	SE
	Oparin	05.10.07	MK	EP	52	6	65	143	43	97	160	07	41	2	10,000	L	LI	10	GW	1	NO	FD		12		0,2	4000	170	B	BL	SE
	Oparin	05.10.07	MK	EP	52	4	22	143	45	26	100	08	30	2	10,000	L	SE	12	GW	1	NO	FD		6		0,5	2500	270	B	BL	SE
	Oparin	05.10.07	MK	EP	52	4	8	143	45	28	10	09	00	2	10,000	L	SE	3	GW	1	NO	FD		9		0,2	4000	265	B	BL	SE
	Oparin	05.10.07	MK	EP	52	3	93	143	44	92	243	09	30	2	10,000	L	SE	8	GW	2	NO	FD		10		0,2	4000	190	E	BL	SE
	Oparin	05.10.07	MK	EP	52	3	28	143	43	59	204	10	30	2	10,000	L	SE	10	GW	2	NO	FD		1		0,2	4000	230	B	BL	SE
	Oparin	05.10.07	MK	EP	52	3	8	143	43	49	200	10	31	2	10,000	L	SE	10	GW	1	NO	FD		12		0,3	3200	185	B	BL	SE
	Oparin	05.10.07	MK	EP	52	2	88	143	43	40	200	10	34	2	10,000	L	SE	10	GW	3	NO	FD		10		0,3	3200	150	B	BL	SE
	Oparin	05.10.07	MK	EP	52	2	88	143	43	40	200	10	34	2	10,000	L	SE	10	GW	1	NO	FL		9		0,3	3200	130	E	FL	SE
	Oparin	05.10.07	MK	EP	52	2	44	143	43	19	200	10	40	2	10,000	L	SE	10	GW	4	NO	FD		9		0,2	4000	120	E	BL	SE
	Oparin	05.10.07	MK	EP	52	1	96	143	42	96	200	10	48	2	10,000	L	SE	10	GW	1	NO	FD		9		0,4	2700	110	E	BL	SE
	Oparin	05.10.07	MK	EP	52	1	96	143	42	96	200	10	48	2	10,000	L	SE	10	GW	4	NO	FD		9		0,1	6000	115	B	BL	SE
	Oparin	05.10.07	MK	EP	52	2	89	143	50	2	200	15	05	2	9,000	L	SE	1	GW	2	NO	FD		12		0,4	2700	195	E	BL	SE
	Oparin	05.10.07	MK	EP	52	2	89	143	50	2	200	15	05	2	9,000	L	SE	1	GW	3	NO	FD		12		0,4	2700	200	E	BL	SE
	Oparin	05.10.07	MK	EP	52	2	46	143	50	0	195	15	09	2	9,000	L	SE	1	GW	12	NO	FD		2		0,3	3200	235	E	BL	SE
	Oparin	05.10.07	MK	EP	52	1	96	143	44	84	140	16	36	2	9,000	L	SE	9	GW	3	NO	FD		3		0,2	4000	220	B	BL	SE
	Oparin	05.10.07	AA	VS	52	0	86	143	43	17	235	17	30	2	10,000	L	SE	12	GW	1	NO	FD		11		0,2	4000	210	B	BL	SE
	Oparin	05.10.07	AA	VS	52	0	86	143	43	17	235	17	30	2	10,000	L	SE	12	GW	1	NO	FD		11		0,5	2500	180	E	BL	SE
	Oparin	05.10.07	AA	VS	51	58	32	143	43	65	195	18	30	2	10,000	L	LI	2	GW	1	NO	FD	FL	3		0,5	2500	260	E	BL	SE
	Bogorov	09.07.07	AA		52	32	95	143	24	12	318	19	41	1	8,000	L	NO		GW	1	NO	FE		11		0,3	3200	270	Y	BL	SE
	Bogorov	10.07.07	AA		52	45	66	143	27	18	231	08	18	1	10,000	L	NO		GW	3	NO	FE		9		0,2	4000	280	Y	BL	SE
	Bogorov	10.07.07	AA		52	47	87	143	25	46	339	09	10	1	10,000	L	NO		GW	1	NO	FD		10		0,4	2700	270	Y	BL	SE
	Bogorov	10.07.07	AA		52	51	66	143	24	25	350	10	25	1	10,000	L	NO		GW	2	NO	FE		10		0,3	3200	300	Y	BL	SE
	Bogorov	10.07.07	AA		52	51	66	143	24	25	350	10	25	1	10,000	L	NO		GW	3	NO	FD		10		0,4	2700	310	Y	BL	SE
	Bogorov	10.07.07	AA		52	55	15	143	23	7	339	10	43	1	10,000	L	NO		GW	2	NO	FD		11		0,3	3200	320	Y	BL	SE
	Bogorov	10.07.07		MK	53	0	10	143	21	11	169	11	19	1	10,000	L	LI	7	GW	1	NO	FL		12		1,5	1000	280	N	BL	SE
	Bogorov	10.07.07		MK	52	54	5	143	21	57	81	13	45	2	10,000	L	LI	2/4	GW	4	NO	FD		3		0,3	3200	185	N	BL	SE
	Bogorov	10.07.07		MK	52	54	30	143	22	58	82	14	00	2	10,000	L	LI	2/4	GW	1	NO	FD		12		1	1500	60	N	BL	SE
	Bogorov	10.07.07	AA		52	49	94	143	26	13	351	16	10	1	10,000	L	MO	9	GW	2	NO	FD		9		0,6	2300	260	Y	BL	SE
	Bogorov	10.07.07		MK	52	49	0	143	25	89	170	18	15	2	10,000	L	SE	3/4	GW	1	NO	FD		3		0,4	2700	250	N	BL	SE
	Bogorov	11.07.07	AA		53	20	9	143	15	4	310	06	12	1	10,000	L	NO		GW	1	NO	FD		8		0,8	1800	200	N	BL	SE
	Bogorov	11.07.07	AA		53	20	19	143	15	6	360	06	15	1	10,000	L	NO		GW	1	NO	FD		6		0,4	2700	230	Y	BL	SE
	Bogorov	11.07.07	AA		53	20	60	143	16	61	100	06	25	1	10,000	L	NO		GW	1	NO	FD		3		0,3	3200	180	Y	BL	SE
	Bogorov	11.07.07		MK	53	19	97	143	16	7	254	08	26	2	10,000	L	NO		GW	3	NO	FD	FL	11		1,5	1000	215	N	BL	SE
	Bogorov	11.07.07		MK	53	25	5	143	11	13	333	09	57	1	8,000	L	NO		GW	1	SP	FD		11	12	2	850	300	N	BL	SE
	Bogorov	11.07.07		MK	53	25	20	143	11	57	163	10	21	1	8,000	L	NO		GW	1	NO	FD		12		0,5	2500	140	N	BL	SE
	Bogorov	11.07.07		MK	53	25	20	143	11	57	163	10	21	1	8,000	L	NO		GW	2	NO	FD		12		1	1500	140	N	BL	SE

	Bogorov	11.07.07		MK	53	20	80	143	14	48	149	10	50	1	8,000	L	NO		GW	1	NO	FD		2		2	850	210	N	BL	SE
	Bogorov	11.07.07	AA		53	17	40	143	15	96	170	11	14	1	8,000	L	NO		GW	1	NO	FD		2		1	1500	220	N	BL	SE
	Bogorov	11.07.07	AA		53	17	79	143	15	31	80	12	12	1	8,000	L	NO		GW	1	NO	FD		12		2	850	60	N	BL	SE
	Bogorov	11.07.07	AA		53	16	31	143	17	59	179	12	30	1	8,000	L	NO		GW	1	NO	FD	FE	12		1	1500	160	N	BL	SE
	Bogorov	11.07.07	AA		53	13	12	143	18	12	177	12	50	1	8,000	L	NO		GW	1	NO	FD	FE	9		1	1500	90	N	BL	SE
	Bogorov	11.07.07	AA		53	12	81	143	18	17	174	12	51	1	8,000	L	NO		GW	2	NO	FD	FE	10		1	1500	100	N	FL	SE
	Bogorov	11.07.07	AA		53	12	26	143	18	27	177	12	54	1	8,000	L	NO		GW	1	NO	FD		1		1,2	1300	190	N	BL	SE
	Bogorov	11.07.07	AA		53	11	54	143	18	40	174	12	58	1	8,000	L	NO		GW	1	NO	FE		2		E	400	210	N	FL	SE
	Bogorov	11.07.07		MK	53	3	40	143	18	88	312	16	07	2	8,000	L	LI	9/11	GW	1	NO	FD		2		1,5	1000	330	N	BL	SE
	Bogorov	11.07.07		MK	53	0	6	143	21	60	0	16	51	2	10,000	L	MO	8/9	GW	1	NO	FD		7		1	1500	240	N	BL	SE
	Bogorov	11.07.07		MK	53	0	6	143	21	10	72	17	00	2	10,000	L	SE	2/3	GW	1	NO	FD		2		0,5	2500	220	N	BL	SE
	Bogorov	11.07.07	AA		52	57	71	143	22	72	173	17	14	1	10,000	L	SE	3	GW	2	NO	FD		1		0,6	2300	220	N	BL	SE
	Bogorov	11.07.07	AA		52	56	79	143	22	87	173	17	19	1	10,000	L	SE	3	GW	3	NO	FE		1		0,5	2500	210	N	FL	SE
	Bogorov	11.07.07	AA		52	54	13	143	23	21	30	17	45	1	10,000	L	SE	9	GW	2	NO	FD		6		0,4	2700	220	Y	BL	SE
	Bogorov	11.07.07	AA		53	3	74	143	21	19	352	19	21	1	10,000	L	NO		GW	1	NO	FD		11		0,5	2500	310	Y	BL	SE
	Bogorov	12.07.07		MK	53	7	35	143	19	55	244	06	11	2	8,000	L	NO		GW	2	SA	FD		12	10	1,5	1000	230	N	BL	SE
	Bogorov	14.07.07	AA		53	21	68	143	14	8	160	09	49	1	8,000	L	NO		GW	1	NO	FE		1	2	0,6	2300	200	Y	BL	SE
	Bogorov	14.07.07	AA		53	20	74	143	14	67	158	09	55	1	8,000	L	NO		GW	1	NO	FE		2		3	600	220	N	FL	SE
	Bogorov	14.07.07	AA		53	19	4	143	15	70	160	10	04	1	8,000	L	NO		GW	1	NO	FD		3	4	1,5	1000	240	N	BL	SE
	Bogorov	14.07.07	AA		53	18	41	143	15	99	170	10	07	1	8,000	L	NO		GW	3	NO	FE		12		0,5	2500	150	Y	FL	SE
	Bogorov	14.07.07	AA		53	14	40	143	17	20	169	10	30	1	8,000	L	NO		GW	2	NO	FE		1		0,5	2500	200	Y	FL	SE
	Bogorov	14.07.07	AA		53	13	32	143	17	56	167	10	35	1	8,000	L	NO		GW	2	NO	FE		1	2	1,5	1000	210	N	BL	SE
	Bogorov	14.07.07	AA		53	10	54	143	18	46	168	10	51	1	8,000	L	NO		GW	1	NO	FE		8		0,9	1650	70	Y	BO	SE
	Bogorov	14.07.07		MK	52	59	31	143	21	88	170	11	55	1	7,000	L	NO		GW	3	NO	FD		3		0,7	2000	245	N	BL	SE
	Bogorov	14.07.07		MK	52	56	80	143	22	66	169	12	10	1	8,000	L	LI	11	GW	2	NO	FD		2		0,6	2300	215	N	BL	SE
	Bogorov	14.07.07		MK	52	56	0	143	22	92	169	12	15	1	7,000	L	LI	11/12	GW	3	NO	FD		2		0,7	2000	210	Y	BL	SE
	Bogorov	14.07.07		MK	52	51	17	143	24	43	169	12	41	1	8,000	L	NO		GW	1	NO	FD		2		1	1500	220	N	BO	SE
	Bogorov	16.07.07		MK	52	36	73	143	23	5	185	12	37	1	0,200	L	LI	11	GW	1	NO	BR		2		E	150	250	N	BO	VI
	Bogorov	17.07.07	AA		52	59	53	143	24	91	130	05	52	1	6,000	L	NO		GW	2	NO	FD		3		0,9	1650	220	Y	BL	SE
	Bogorov	17.07.07	AA		52	59	56	143	24	90	159	06	54	1	8,000	L	LI	9	GW	1	NO	FE		2		0,3	3200	200	Y	BL	SE
	Bogorov	17.07.07	AA		52	59	56	143	24	90	139	07	00	1	8,000	L	LI	10	GW	1	NO	FE		4		0,3	3200	230	Y	BL	SE
	Bogorov	17.07.07	AA		52	59	56	143	24	90	173	07	16	1	8,000	L	LI	9	GW	1	NO	FD		5		0,3	3200	335	Y	BL	SE
	Bogorov	17.07.07	AA		52	43	45	143	22	98	254	12	07	1	4,000	L	LI	9	GW	2	NO	FD		11		0,7	2000	235	Y	BL	SE
	Bogorov	17.07.07	AA		52	44	13	143	22	76	333	12	30	1	6,000	L	LI	9	GW	1	NO	FD		12		0,4	2700	340	N	BL	SE
	Bogorov	17.07.07	AA		52	43	23	143	23	90	195	12	54	1	7,000	L	LI	11	GW	1	NO	FE		2		0,6	2300	240	N	BO	SE
	Bogorov	17.07.07	AA		52	42	51	143	23	58	195	12	58	1	7,000	L	LI	11	GW	1	NO	FD		1		0,4	2700	270	Y	BL	SE
	Bogorov	17.07.07	AA		52	40	80	143	22	87	219	13	37	1	7,000	L	LI	11	GW	1	NO	FD		11		0,3	3200	210	Y	BL	SE
	Bogorov	22.07.07		EP	52	54	38	143	23	37	154	13	33	3	6,000	L	NO		GW	1	UN	NO	NO	2	99		3600	185	B	BL	MO
	Bogorov	22.07.07		EP	52	54	42	143	23	33	37	13	44	3	6,000	L	NO		GW	1	UN	NO	NO	1	99		3000	10	B	BL	MO
	Bogorov	22.07.07		VS	52	50	8	143	24	77	175	15	30	3	8,000	L	NO		GW	2	SA	SW	FD	12	11		1500	120	E	BL	SE
	Bogorov	26.07.07		EP	52	41	74	143	25	54	345	13	30	1	8,000	L	NO		GW	1	NO	FD	FE	9	88		4000	280	B	BO	SE
	Bogorov	26.07.07		VS	52	46	2	143	24	23	353	14	00	1	10,000	L	NO		GW	1	NO	FL	FE	9	88		3000	270	B	FL	SE
	Bogorov	26.07.07		VS	52	46	95	143	24	23	355	14	05	1	10,000	L	NO		GW	1	ST	FD	FD	11	6		3000	320	B	BL	SE
	Bogorov	26.07.07		VS	52	47	33	143	24	23	355	14	10	1	10,000	L	NO		GW	1	SA	SW	FD	12	1	0,5	2500	10	E	BO	SE

	Bogorov	26.07.07	VS		52	52	12	143	24	89	348	15	20	1	6,000	L	NO		GW	1	UN	FD	FD	1	99		4000	20	B	BL	SE
	Bogorov	27.07.07		EP	53	13	98	143	17	67	170	12	00	2	8,000	L	NO		GW	2	UN	FD	FE	2	88		2500	210	E	BL	SE
	Bogorov	27.07.07		EP	53	7	84	143	19	4	165	13	20	2	10,000	L	LI	11	GW	2	NO	FD	FE	2	88		1500	210	B	BL	SE
	Bogorov	27.07.07		EP	53	6	38	143	19	63	164	13	25	2	10,000	L	LI	11	GW	2	NO	FL	FE	3	88		3000	200	B	BL	SE
	Bogorov	27.07.07		EP	53	4	82	143	20	45	161	13	30	2	8,000	L	NO		GW	1	UN	NO	NO	10	99	1	1500	120	B	BL	VI
	Bogorov	27.07.07		EP	53	3	73	143	19	98	274	13	46	2	8,000	L	NO		GW	2	NO	FL	FE	2	88		1000	230	B	BO	SE
	Bogorov	27.07.07	VS		53	12	15	143	18	40	348	16	00	2	8,000	L	NO		GW	1	NO	FL	FE	11	88		3000	330	B	FL	SE
	Bogorov	27.07.07	VS		53	13	41	143	17	56	170	17	15	2	8,000	L	NO		GW	2	NO	FD	FD	3	88		1500	250	E	BL	SE
	Bogorov	27.07.07	VS		53	10	36	143	18	42	170	17	30	2	8,000	L	NO		GW	2	NO	FD	FE	1	88		3000	210	B	BL	SE
	Bogorov	27.07.07	VS		53	5	60	143	19	61	173	17	50	2	8,000	L	NO		GW	2	NO	FD	FE	1	88		2500	210	E	BL	SE
	Bogorov	27.07.07		EP	53	2	92	143	20	23	174	18	00	2	10,000	L	NO		GW	1	NO	FD	FE	2	88		3000	220	B	BL	SE
	Bogorov	27.07.07		EP	52	59	92	143	21	5	170	18	10	2	10,000	L	NO		GW	4	NO	FD	FE	2	88		3000	210	B	BL	SE
	Bogorov	27.07.07		EP	52	53	86	143	22	65	170	18	37	2	10,000	L	LI	3	GW	2	NO	FD	FE	2	88		3000	210	B	BL	SE
	Bogorov	28.07.07	VS		52	50	67	143	23	40	32	07	00	2	10,000	L	NO		GW	4	88	FD	FE	9	NO		3500	300	B	BL	SE
	Bogorov	28.07.07	VS		52	50	67	143	23	40	57	07	30	2	8,000	L	NO		GW	1	88	FD	FE	6	NO		4000	230	B	BL	SE
	Bogorov	28.07.07	VS		52	50	69	143	23	38	114	08	30	2	10,000	L	NO		GW	1	9	FD	FD	9	SA	1,25	1200	10	E	BL	SE
	Bogorov	29.07.07		EP	52	50	97	143	21	77	202	10	00	1	8,000	L	NO		GW	1	SP	SW	FD	1	5		200	250	E	BO	MO
	Bogorov	29.07.07		EP	52	50	97	143	21	77	200	10	06	1	8,000	L	NO		GW	2	NO	FD	FE	12	88		1000	200	B	BL	SE
	Bogorov	29.07.07		EP	52	50	97	143	21	77	200	10	18	1	8,000	L	NO		GW	2	NO	FD	FE	3	88		1000	310	E	BL	SE
	Bogorov	29.07.07		EP	52	50	97	143	21	77	200	10	21	1	8,000	L	NO		GW	2	UN	NO	NO	10	99		3500	160	B	BL	MO
	Bogorov	29.07.07		EP	52	50	97	143	21	75	187	10	30	1	8,000	L	NO		GW	1	NO	FD	FE	7	88		2500	40	B	BL	SE
	Bogorov	29.07.07		EP	52	51	8	143	23	41	92	11	00	1	10,000	L	NO		GW	1	NO	FD	FE	11	88		500	70	E	BO	SE
	Bogorov	29.07.07		EP	52	51	15	143	24	26	91	11	30	1	10,000	L	NO		GW	1	UN	NO	NO	2	99	0,25	3600	130	B	BL	MO
	Bogorov	29.07.07		EP	52	53	63	143	24	48	347	12	00	1	10,000	L	LI	5	GW	1	SA	SW	FD	11	1		500	300	E	BO	MO
	Bogorov	29.07.07		EP	53	3	83	143	19	95	355	13	10	1	10,000	L	NO		GW	1	SA	SW	FD	11	1		300	20	E	BO	VI
	Bogorov	29.07.07		EP	53	4	57	143	19	97	340	13	15	1	3,000	L	NO		GW	2	NO	FD	FE	11	88		1500	340	B	BL	SE
	Bogorov	29.07.07	VS		53	3	95	143	20	73	179	14	30	2	10,000	L	NO		GW	1	NO	FD	FE	1	88		2000	220	E	BL	SE
	Bogorov	29.07.07	VS		53	8	20	143	19	71	353	16	30	2	10,000	L	MO	8	GW	3	NO	FD	FE	11	88		5000	330	B	BL	SE
	Bogorov	29.07.07	VS		53	16	91	143	16	34	302	17	15	2	10,000	L	SE	10	GW	1	NO	FL	FE		88		2500	310	B	BL	SE
	Bogorov	30.07.07		EP	53	21	97	143	14	23	162	13	00	3	10,000	L	NO		GW	1	SP	TH	SW	2	4		350	210	E	BO	MO
	Bogorov	30.07.07	VS		53	10	51	143	17	85	159	14	20	3	10,000	L	NO		GW	2	SP	FD	TH	12	12		3000	150	B	BL	SE
	Bogorov	30.07.07	VS		52	45	20	143	25	36	182	17	00	2	5,000	L	NO		GW	1	UN	FD	FD	9	99		2000	90	B	BL	SE
	Bogorov	03.08.07	VS		53	8	83	143	20	54	176	16	30	2	8,000	L	MO	2	GW	1	UN	FD	FD	1	99		5000	190	B	BL	SE
	Bogorov	03.08.07	VS		53	8	83	143	20	54	175	16	45	2	8,000	L	MO	2	GW	1	UN	FD	FD	11	99		3000	140	E	BL	SE
	Bogorov	03.08.07	VS		53	8	82	143	20	54	185	17	30	2	10,000	L	SE	3	GW	1	NO	FD	FE	2	88		6000	230	B	BL	SE
	Bogorov	04.08.07	VS		53	8	80	143	19	65	165	09	00	2	10,000	L	SE	10	GW	1	NO	FD	FE	4	3		2500	290	B	BO	SE
	Bogorov	04.08.07		EP	53	8	81	143	19	66	184	10	00	2	10,000	L	MO	10	GW	1	NO	FD	FE	6	88	0,25	3600	350	B	BL	SE
	Bogorov	04.08.07		EP	53	8	81	143	19	65	186	11	00	2	10,000	L	LI	10	GW	3	NO	FL	FE	12	88		1500	360	B	BL	SE
	Bogorov	04.08.07		EP	53	8	81	143	19	63	177	12	30	2	10,000	L	LI	11	GW	1	NO	FD	FE	2	88		600	200	E	BO	SE
	Bogorov	04.08.07		EP	53	8	81	143	19	67	250	20	20	2	10,000	L	SE	2	GW	2	NO	FD	FE	12	88		3000	250	B	BL	SE
	Bogorov	05.08.07	VS		53	8	75	143	19	65	13	06	00	1	10,000	L	LI	2	GW	1	SP	FD	FD	9	11		3000	280	B	BL	SE
	Bogorov	05.08.07	VS		53	8	75	143	19	67	2	08	00	1	10,000	L	SE	3	GW	1	SP	FD	FD	8	7		1300	260	E	BL	SE
	Bogorov	05.08.07		EP	53	8	74	143	19	64	347	12	15	2	10,000	L	LI	6	GW	2	NO	FD	FE	7	88		3200	230	B	BL	SE
	Bogorov	05.08.07		EP	53	8	72	143	19	63	353	18	20	3	10,000	L	SE	6	GW	2	NO	FD	FE	9	88		3600	290	B	BL	SE

	Bogorov	05.08.07		EP	53	8	72	143	19	63	350	18	30	3	10,000	L	SE	6	GW	1	NO	FD	FE	7	88		3000	260	B	BL	SE
	Bogorov	06.08.07	VS		53	8	69	143	19	63	352	07	30	1	5,000	L	SE	3	GW	1	NO	FD	FE	10	88		4000	300	B	FL	SE
	Bogorov	06.08.07	VS		53	8	69	143	19	62	6	09	00	1	10,000	L	SE	3	GW	1	NO	FD	FE	11	88		5000	310	B	BL	SE
	Bogorov	06.08.07		EP	53	8	95	143	17	55	87	11	00	2	10,000	L	MO	12	GW	2	NO	FD	FE	11	88	0,25	3600	60	B	BL	SE
	Bogorov	06.08.07		EP	53	8	86	143	17	84	18	20	50	3	10,000	L	NO		GW	1	NO	FD	FE	11	88	1	1500	340	B	BL	SE
	Bogorov	06.08.07		EP	53	8	86	143	17	84	17	20	55	3	10,000	L	NO		GW	1	UN	NO	NO	11	99	0,5	2500	0	B	BL	MO
	Bogorov	07.08.07	VS		53	8	82	143	20	49	163	09	30	2	10,000	L	NO		GW	2	UN	FD	FD	2	99		3000	200	B	BL	SE
	Bogorov	07.08.07		EP	53	8	71	143	18	58	148	12	00	3	10,000	L	NO		GW	1	UN	FD	FD	12	99		2500	145	B	BL	SE
	Bogorov	07.08.07		EP	53	8	49	143	19	57	294	18	30	3	10,000	L	SE	11	GW	1	NO	FD	FE	9	88	1	1500	200	B	BO	SE
	Bogorov	07.08.07		EP	53	8	49	143	18	65	285	18	40	3	10,000	L	SE	11	GW	1	NO	FD	FE	2	88	0,25	3600	330	B	BL	SE
	Bogorov	07.08.07		EP	53	11	19	143	18	83	283	20	00	3	10,000	L	NO		GW	1	NO	FD	TH	12	88		2500	275	B	BL	SE
	Bogorov	07.08.07		EP	53	11	19	143	18	83	280	20	30	3	10,000	L	NO		GW	2	NO	FD	FE	2	88		3500	315	B	BL	SE
	Bogorov	08.08.07	VS		53	11	23	143	18	78	174	06	30	2	10,000	L	NO		GW	1	NO	FD	FE	2	88		3500	220	B	FL	SE
	Bogorov	11.08.07		EP	52	51	33	143	25	16	183	14	00	2	10,000	L	NO		GW	1	NO	FD	FE	1	88		4500	205	B	BL	SE
	Bogorov	11.08.07		EP	52	51	33	143	25	16	185	14	25	2	10,000	L	NO		GW	1	NO	FD	FE	3	88		2500	270	B	BL	SE
	Bogorov	11.08.07		EP	52	51	33	143	25	16	188	14	30	2	8,000	L	NO		GW	1	NO	FD	FE	2	88		3500	240	B	BL	SE
	Bogorov	11.08.07		EP	52	53	43	143	20	72	106	19	40	2	5,000	L	NO		GW	1	NO	FD	FE	9	88		2500	20	B	BL	SE
	Bogorov	14.08.07	VS		51	55	92	143	37	0	317	15	20	2	1,000	L	NO		GW	1	SP	FD	FE	2	12		300	10	E	BO	VI
	Bogorov	15.08.07		EP	52	51	84	143	24	27	296	18	00	2	10,000	L	SE	11	GW	4	NO	FD	FE	10	88		4000	250	B	BL	SE
	Bogorov	16.08.07	VS		53	3	72	143	20	61	354	06	00	2	10,000	L	NO		GW	2	NO	FD	FD	9	88		2000	270	B	BL	SE
	Bogorov	16.08.07	VS		53	3	63	143	18	80	60	09	00	2	10,000	L	SE	1	GW	1	SA	FD	FD	2	1		2500	130	E	BL	SE
	Bogorov	16.08.07		EP	53	9	1	143	18	56	276	10	00	2	10,000	L	MO	6	GW	1	NO	FD	FE	9	88		3000	210	B	BL	SE
	Bogorov	17.08.07	VS		53	27	94	143	10	30	164	09	30	2	10,000	L	SE	10	GW	2	NO	FD	FD	11	88		5000	130	E	BL	SE
	Bogorov	17.08.07		EP	53	23	74	143	12	39	159	10	45	2	10,000	L	MO	10	GW	1	NO	FD	FE	3	88		2000	110	B	BL	SE
	Bogorov	17.08.07		EP	53	18	68	143	16	4	158	11	20	2	10,000	L	LI	10	GW	1	NO	FD	FE	12	88		4000	165	B	BL	SE
	Bogorov	17.08.07		EP	53	15	76	143	16	95	170	11	35	2	10,000	L	LI	10	GW	1	NO	FD	FE	1	88		3500	200	B	BL	SE
	Bogorov	17.08.07		EP	53	11	47	143	18	17	173	12	00	2	10,000	L	NO		GW	4	NO	FD	FE	1	88		3000	210	B	BL	SE
	Bogorov	17.08.07		EP	53	8	34	143	20	5	180	12	55	2	8,000	L	LI	12	GW	1	NO	FD	FD	2	88		2500	260	B	BL	SE
	Bogorov	17.08.07	VS		53	3	82	143	19	90	339	14	15	2	10,000	L	LI	7	GW	1	NO	FD	FE	11	88		1200	280	E	BL	SE
	Bogorov	17.08.07	VS		53	2	91	143	19	21	159	17	30	2	10,000	L	SE	3	GW	1	NO	FD	FE	1	88		2500	170	E	BL	SE
	Bogorov	17.08.07	VS		53	1	86	143	19	96	159	17	40	2	10,000	L	SE	3	GW	1	NO	FD	FE	2	88		2000	200	E	BL	SE
	Bogorov	17.08.07	VS		53	1	3	143	20	56	159	17	45	2	10,000	L	SE	3	GW	1	NO	FD	FE	1	88		3000	180	E	BL	SE
	Bogorov	17.08.07		EP	52	49	42	143	24	33	170	19	00	2	10,000	L	NO		GW	1	NO	FD	FE	3	88		2500	245	B	BL	SE
	Bogorov	17.08.07		EP	52	45	5	143	25	5	170	19	30	2	10,000	L	SE	3	GW	1	NO	FD	FE	3	88		3500	315	B	BL	SE
	Bogorov	18.08.07	VS		52	34	23	143	23	38	347	07	00	2	10,000	L	SE	3	GW	2	SP	FD	FE	11	9		3000	310	E	BL	SE
	Bogorov	18.08.07		EP	52	39	7	143	22	67	357	10	15	2	10,000	L	MO	3	GW	1	NO	FD	FE	10	88		3000	300	B	BL	SE
	Bogorov	18.08.07		EP	52	47	42	143	25	69	348	12	40	2	8,000	L	NO		GW	1	NO	FD	FE	9	88		5000	270	B	BL	SE
	Bogorov	18.08.07		EP	52	49	5	143	25	7	30	12	50	2	8,000	L	NO		GW	1	NO	TH	FE	9	88		5000	275	B	BL	SE
	Bogorov	18.08.07		EP	52	49	15	143	25	13	271	13	30	2	8,000	L	NO		GW	1	NO	FL	FE	10	88		4500	240	B	BL	SE
	Bogorov	18.08.07		EP	52	51	52	143	24	26	346	13	50	2	8,000	L	NO		GW	2	NO	FD	FE	10	88		5000	305	B	BL	SE
	Bogorov	18.08.07	VS		53	0	1	143	21	20	345	15	30	1	8,000	L	NO		GW	1	NO	FD	FE	11	88		5000	310	B	BL	SE
	Bogorov	18.08.07		EP	52	45	58	143	23	65	182	19	15	2	10,000	L	NO		GW	2	NO	FD	FD	1	88		4500	220	B	BL	SE
	Bogorov	24.08.07	VS		53	13	23	143	17	93	176	07	00	2	10,000	L	NO		GW	1	NO	FD	FD	2	88		2000	240	B	BL	SE
	Bogorov	24.08.07	VS		53	18	3	143	15	5	247	08	50	2	10,000	L	NO		GW	2	NO	FD	FD	1	88		1000	280	E	BL	SE

	Bogorov	24.08.07		EP	53	17	2	143	15	90	168	10	05	2	10,000	L	SE	12	GW	2	NO	FD	FE	12	88		4000	160	B	BL	SE
	Bogorov	24.08.07		EP	53	11	3	143	17	31	161	10	45	2	10,000	L	SE	11	GW	2	NO	FD	FE	12	88		2000	155	B	BL	SE
	Bogorov	24.08.07		EP	53	11	19	143	16	93	60	11	15	2	10,000	L	SE	6	GW	1	NO	FD	FE	10	88		2000	350	B	BL	SE
	Bogorov	24.08.07		EP	53	6	28	143	19	8	194	12	15	2	10,000	L	MO	10	GW	2	NO	FD	FE	1	88		3000	185	B	BL	SE
	Bogorov	25.08.07		EP	53	11	28	143	16	87	205	10	00	2	10,000	L	NO		GW	1	NO	FD	FD	1	88		3000	240	B	BL	SE
	Bogorov	25.08.07	VS		53	24	41	143	12	11	170	14	15	1	8,000	L	NO		GW	1	NO	FD	FD	1	88		3000	200	B	BL	SE
	Bogorov	25.08.07	VS		53	15	25	143	15	69	170	15	45	2	8,000	L	NO		GW	2	NO	FD	FD	2	88		1000	200	E	BL	SE
	Bogorov	25.08.07	VS		53	14	91	143	17	78	170	15	50	2	8,000	L	NO		GW	1	SA	FD	FD	11	10		400	140	E	BO	SE
	Bogorov	25.08.07		EP	53	3	60	143	20	22	45	18	05	2	8,000	L	NO		GW	3	NO	FD	FD	6	88		2000	240	E	BL	SE
	Bogorov	26.08.07		EP	53	12	59	143	16	31	12	10	00	2	8,000	L	NO		GW	2	NO	FD	FD	10	88		1500	20	E	SL	SE
	Bogorov	27.08.07		EP	53	16	72	143	14	73	345	12	30	3	10,000	L	NO		GW	1	ST	SW	FD	2	10		1000	355	E	BL	MO
	Bogorov	28.08.07		EP	53	18	4	143	15	9	181	10	00	2	10,000	L	LI	11	GW	1	NO	FD	FD	11	88		3500	170	B	BL	SE
	Bogorov	28.08.07		EP	53	16	28	143	15	68	174	10	30	2	10,000	L	LI	10	GW	3	NO	FD	FD	12	88		4000	170	B	BL	SE
	Bogorov	28.08.07		EP	53	11	28	143	18	15	180	11	40	2	10,000	L	NO		GW	2	NO	FD	FD	12	99		5000	195	B	BL	SE
	Bogorov	28.08.07		EP	52	54	98	143	26	5	180	13	50	2	10,000	L	NO		GW	1	SA	SW	FD	12	11		1000	170	E	BL	MO
	Bogorov	28.08.07	VS		52	50	66	143	26	0	178	14	15	2	10,000	L	NO		GW	2	NO	FD	FD	3	88		6000	270	B	BL	SE
	Bogorov	28.08.07	VS		52	49	92	143	26	3	178	14	20	2	10,000	L	NO		GW	2	NO	FD	FD	2	88		6000	250	B	BL	SE
	Bogorov	28.08.07	VS		52	35	97	143	26	50	168	15	35	2	10,000	L	MO	2	GW	2	NO	FD	FD	3	88		5000	255	B	BL	SE
	Bogorov	29.08.07	VS		52	24	70	143	30	87	16	07	50	2	10,000	L	SE	2	GW	1	MI	FL	FE	1	88		800	50	E	FL	MO
	Bogorov	30.08.07		EP	51	57	11	143	37	2	355	12	00	3	10,000	L	MO	5	GW	2	UN	FD	FD	3	99		4000	75	B	BL	SE
	Bogorov	31.08.07		EP	51	44	53	143	38	2	359	19	09	2	10,000	L	SE	9	GW	2	NO	FD	FD	10	88		2500	315	B	BL	SE
	Bogorov	05.09.07		EP	53	17	54	143	15	73	170	10	10	2	10,000	L	NO		GW	2	NO	FD	FD	1	88		2000	215	B	BL	SE
	Bogorov	05.09.07		EP	53	16	24	143	16	11	171	10	15	2	10,000	L	NO		GW	1	NO	FD	FD	5	88		1500	310	B	BL	SE
	Bogorov	05.09.07		EP	53	9	0	143	18	79	33	11	30	2	10,000	L	NO		GW	1	NO	FD	FD	9	88		2000	310	B	BL	SE
	Bogorov	05.09.07		EP	53	6	66	143	19	18	169	12	15	2	10,000	L	NO		GW	2	NO	FD	FD	1	88		2000	190	E	BL	SE
	Bogorov	05.09.07		EP	53	5	94	143	19	39	167	12	20	2	10,000	L	NO		GW	1	NO	FD	FE	2	88		1000	220	E	BL	SE
	Bogorov	05.09.07		EP	53	0	4	143	18	90	170	13	55	2	10,000	L	MO	1	GW	3	NO	FD	FE	3	88		1000	215	E	BL	SE
	Bogorov	05.09.07	VS		52	52	38	143	22	49	171	14	30	2	10,000	L	MO	1	GW	4	NO	FD	FE	2	88		2000	230	E	BL	SE
	Bogorov	07.09.07	VS		52	50	89	143	24	38	351	15	25	2	10,000	L	SE	8	GW	2	NO	FD	FE	9	88		3000	260	B	BL	SE
	Bogorov	07.09.07	VS		52	54	45	143	23	8	350	16	10	2	10,000	L	SE	8	GW	1	NO	FD	FE	10	88		5000	300	B	BL	SE
	Bogorov	07.09.07	VS		52	54	27	143	22	27	230	16	15	2	10,000	L	SE	12	GW	3	NO	FD	FE	1	88		2000	260	E	BL	SE
	Bogorov	07.09.07		EP	52	57	39	143	22	4	351	20	20	3	10,000	L	NO		GW	2	NO	FD	FE	10	88		4000	315	B	BL	SE
	Bogorov	07.09.07		EP	52	57	39	143	22	4	351	20	25	3	10,000	L	NO		GW	1	NO	FD	FD	11	88		5000	325	B	BL	SE
	Bogorov	08.09.07	VS		53	0	0	143	21	8	190	07	30	2	10,000	L	MO	8	GW	4	NO	FD	FE	1	88		6000	210	B	BL	SE
	Bogorov	08.09.07	VS		53	0	0	143	21	8	192	08	30	2	10,000	L	SE	9	GW	3	NO	FD	FE	4	88		4000	310	B	BL	SE
	Bogorov	08.09.07		EP	52	54	92	143	22	22	176	11	20	2	10,000	L	MO	11	GW	2	NO	FD	FE	1	88		1500	200	E	BL	SE
	Bogorov	08.09.07		EP	52	52	79	143	22	36	175	11	30	2	10,000	L	MO	11	GW	2	NO	FD	FE	2	88		1000	200	E	BL	SE
	Bogorov	08.09.07		EP	52	51	50	143	22	80	176	11	37	2	10,000	L	MO	11	GW	3	NO	FD	FE	1	88		3500	190	B	BL	SE
	Bogorov	08.09.07		EP	52	45	57	143	23	65	175	12	10	2	10,000	L	MO	11	GW	1	NO	FD	FD	1	88		2500	205	B	BL	SE
	Bogorov	08.09.07		EP	52	3	72	143	40	38	192	18	10	3	10,000	L	SE	3	GW	1	NO	FD	FD	12	88		5000	195	B	BL	SE
	Bogorov	08.09.07		EP	52	1	62	143	39	78	190	18	25	3	10,000	L	SE	3	GW	2	UN	FD	FD	12	99		4000	190	B	BL	SE
	Bogorov	08.09.07		EP	52	1	39	143	39	72	192	18	27	3	10,000	L	SE	3	GW	2	UN	FD	FD	11	99		6000	165	B	BL	SE
	Bogorov	08.09.07		EP	52	2	9	143	39	64	191	18	30	3	10,000	L	SE	3	GW	3	UN	FD	FD	1	99		6000	205	B	BL	SE
	Bogorov	08.09.07		EP	51	59	71	143	39	29	191	18	37	3	10,000	L	SE	3	GW	2	UN	FD	FD	1	99		5000	205	B	BL	SE

	Bogorov	08.09.07		EP	51	58	29	143	38	97	190	18	45	3	10,000	L	SE	3	GW	2	UN	FD	FD	12	88			4000	195	B	BL	SE
	Oparin	15.09.07	AA		51	49	98	143	50	35	90	18	54	1	10,000	L	NO		BBW	1	SP	FD		12		2	850	90	B	FI	SE	
	Bogorov	06.07.07	AA		45	45	25	141	12	75	95	21	23	0	10,000	L	NO		BBW	1	NO	FD		12	9	3	600	30	N	FI	SE	
	Oparin	24.07.07		MK	52	4	18	143	16	34	220	17	00	0	10,000	L	LI	1	BS	1	NO	SW		12		E	50	210	N	BO	SE	
	Oparin	05.08.07		MK	52	7	69	143	12	6	0	06	46	1	10,000	L	SE	3	BS	1	SP	LO	SW	2	12	E	150	50	N	HE	SE	
	Oparin	28.08.07	AA		53	10	49	143	21	77	200	13	16	0	10,000	L	NO		BS	1	NO	SW		10		E	50	170	E	BO	SE	
	Oparin	06.09.07	AA		52	4	47	143	39	79	270	19	56	2	10,000	L	NO		BS	1	NO	SW		9		E	50	180	E	BO	SE	
	Oparin	07.09.07		MK	52	19	8	143	15	37	25	08	50	1	10,000	L	SE	3	BS	1	NO	SW		12		4	450	25	B	HE	SE	
	Oparin	10.09.07	AA		52	27	64	143	20	94	90	11	37	1	10	L	LI	2	BS	1	NO	LO		1		E	70	120	E	HE	SE	
	Oparin	10.09.07		MK	52	28	98	143	23	92	140	13	18	1	10	L	LI	1	BS	1	NO	SW		2		E	50	180	E	HE	SE	
	Oparin	24.09.07	AA	VS	53	5	37	143	20	47	180	10	23	2	10,000	L	NO		BS	1	NO	RE		2		E	40	240	E	HE	SE	
	Oparin	29.07.07	AA		52	15	66	143	37	16	18	06	22	0	0,300	L	SE	2	DP	1	SP	FD		2	3	E	200	90	N	FI	SE	
	Oparin	21.08.07	AA		53	5	92	143	20	36	180	10	43	0	8,000	L	NO		DP	1	NO	FD		1		6	300	210	B	FI	SE	
	Oparin	26.08.07		MK	52	50	97	143	24	73	190	08	38	1	8,000	L	NO		DP	1	SA	FD		2	3	E	80	240	E	BO	VI	
	Oparin	29.08.07		MK	53	18	47	143	15	79	180	06	53	1	10,000	L	SE	9	DP	1	NO	FD		2		1	1500	235	B	FI	SE	
	Oparin	06.10.07	AA	VS	49	25	55	144	31	80	170	08	11	1	10,000	L	SE	10	DP	15	SP	FD		2	3	E	200	225	E	FI	SE	
	Oparin	07.10.07	AA	VS	45	53	59	142	42	91	260	07	33	1	7,000	L	NO		DP	1	SP	FD		2	3	E	300	315	E	FI	MO	
	Oparin	07.10.07	MK	EP	45	52	22	142	30	44	260	08	24	1	10,000	L	SE	7	DP	3	SA	FD		9	8	6	300	180	E	SP	VI	
	Bogorov	04.07.07	AA		43	41	22	136	18	13	59	15	07	1	10,000	L	NO		DP	1	NO	FD		11	10	12	50	30	N	FL	SE	
	Bogorov	04.07.07	AA		43	44	30	136	24	76	55	15	35	1	10,000	L	NO		DP	4	NO	FD		11	10	12	50	30	N	FL	SE	
	Bogorov	06.07.07	AA		45	45	94	140	58	17	94	20	30	0	10,000	L	SE	7	DP	2	SP	FD		1	2	10	190	130	N	FI	SE	
	Oparin	20.07.07	AA		54	20	95	142	36	77	100	15	52	1	10,000	L	NO		HP	2	SA	FD		12	2	E	30	105	N	FI	MO	
	Oparin	24.07.07	AA		52	9	9	143	35	17	215	14	07	0	8,000	L	NO		HP	2	SA	FD		1	2	1,5	1000	240	Y	FI	MO	
	Oparin	24.07.07	AA		52	9	26	143	33	77	120	14	46	0	9,000	L	NO		HP	6	SP	SW		9		0,7	2000	60	Y	FI	MO	
	Oparin	24.07.07	AA		52	9	38	143	29	61	280	15	35	0	9,000	L	NO		HP	3	NO	FD		12		1,5	1000	275	Y	FI	MO	
	Oparin	24.07.07	AA		52	9	88	143	23	83	10	15	56	0	9,000	L	NO		HP	2	SA	FD		10	9	2	850	300	Y	FI	MO	
	Oparin	24.07.07	AA		52	7	6	143	19	97	220	16	41	0	10,000	L	NO		HP	3	SA	FD		2		4	450	260	N	FI	MO	
	Oparin	24.07.07	AA		52	5	83	143	18	42	220	16	49	0	10,000	L	NO		HP	2	SA	FD		12	11	4,5	400	210	Y	FI	MO	
	Oparin	24.07.07		MK	52	4	40	143	12	71	0	17	32	0	10,000	L	LI	9	HP	1	SA	FD		11	10	1,5	1000	325	Y	FI	SE	
	Oparin	25.07.07	AA		52	12	9	143	12	51	10	06	53	1	9,000	L	NO		HP	2	SP	FD		11	10	10	190	340	Y	FI	MO	
	Oparin	25.07.07		MK	52	40	15	143	21	93	185	15	05	1	2,000	L	NO		HP	1	SA	FD		1	11	5	370	210	Y	FI	MO	
	Oparin	25.07.07	AA		52	30	6	143	20	13	360	17	58	0	3,000	L	NO		HP	1	SA	FD		8		1,5	1000	150	Y	FI	MO	
	Oparin	26.07.07		MK	52	30	5	143	20	20	315	06	40	1	8,000	L	LI	4	HP	4	NO	FD		12		1,5	1000	335	Y	FI	SE	
	Oparin	26.07.07	AA		52	40	73	143	22	77	10	10	04	0	8,000	L	NO		HP	1	NO	FD		11	10	3	600	10	Y	FI	MO	
	Oparin	26.07.07	AA		52	51	95	143	24	61	360	15	38	1	10,000	L	NO		HP	1	NO	FD		12		E	300	340	N	FI	SE	
	Oparin	26.07.07		MK	53	10	82	143	18	81	350	17	42	1	2,000	L	NO		HP	1	SP	FD		9	12	5	350	280	N	FI	SE	
	Oparin	27.07.07	AA		52	39	81	143	22	13	80	19	12	1	10,000	L	NO		HP	1	NO	FD		1		E	50	90	N	FI	MO	
	Oparin	29.07.07		MK	52	32	67	143	21	63	207	16	30	1	10,000	L	MO	2	HP	1	SA	FD		1	3	4	450	240	Y	FI	SE	
	Oparin	30.07.07		MK	52	14	49	143	41	91	270	18	12	1	10,000	L	NO		HP	1	SA	FD		2	2	E	50	330	N	BO	SE	
	Oparin	31.07.07		MK	52	0	47	143	33	70	280	09	15	1	8,000	L	NO		HP	2	SA	FD		9	9	E	150	180	N	FI	MO	
	Oparin	31.07.07		MK	51	57	0	143	32	28	90	09	56	1	8,000	L	NO		HP	1	SA	FD		12	9	E	100	100	N	BO	MO	
	Oparin	31.07.07	AA		51	53	42	143	30	0	5	13	04	0	6,000	L	NO		HP	1	SP	FD		10		1,5	1000	330	Y	FI	SE	
	Oparin	31.07.07		MK	51	54	38	143	50	0	9	14	24	0	5,000	L	NO		HP	1	NO	FD		10		E	200	300	N	BO	MO	
	Oparin	31.07.07	AA		52	5	29	143	29	98	5	18	50	1	2,000	L	NO		HP	1	ST	FD		12		E	50	10	N	FI	MO	

	Oparin	31.07.07	AA		52	7	26	143	30	1	5	19	00	1	3,000	L	NO		HP	1	SP	FD		11		3	600	340	Y	FI	SE
	Oparin	31.07.07		MK	52	11	0	143	36	95	270	21	12	1	4,000	L	NO		HP	1	NO	FD		2		2,5	700	315	Y	FI	SE
	Oparin	01.08.07	AA		52	8	63	143	25	86	105	09	49	0	2,000	L	NO		HP	1	NO	FD		11		4	450	90	Y	FI	SE
	Oparin	05.08.07	AA		52	25	75	143	19	63	20	08	37	0	8,000	L	MO	3	HP	5	SA	FD		12		E	700	20	N	FI	MO
	Oparin	08.08.07	AA		52	44	17	143	23	21	185	07	33	1	9,000	L	NO		HP	1	NO	FD		12		4	460	187	Y	FI	SE
	Oparin	15.08.07		MK	52	4	0	143	49	37	95	13	26	1	10,000	L	NO		HP	1	NO	FD		10		5	350	40	Y	BO	SE
	Oparin	15.08.07		MK	52	3	34	143	50	2	185	13	33	1	10,000	L	NO		HP	2	NO	FD		1		1,5	1000	200	Y	FI	SE
	Oparin	15.08.07	AA		51	57	1	143	43	67	95	16	04	1	10,000	L	LI	4	HP	4	SP	FD		3		2	850	180	Y	FI	SE
	Oparin	15.08.07	AA		51	56	99	143	45	27	95	16	09	1	10,000	L	LI	4	HP	2	ST	FD		12		7	270	85	Y	FI	SE
	Oparin	19.08.07		MK	51	58	57	143	39	96	320	12	21	1	5,000	L	NO		HP	2	NO	FD		1		4	450	10	E	FI	SE
	Oparin	19.08.07	AA		52	0	12	143	41	50	30	15	17	0	8,000	L	NO		HP	1	ST	FD		11		4	450	15	B	FI	SE
	Oparin	21.08.07		MK	53	20	3	143	14	97	195	06	30	0	10,000	L	NO		HP	1	SA	FD		11	9	1,5	1000	160	B	FI	SE
	Oparin	21.08.07		MK	53	0	6	143	21	42	180	11	17	0	8,000	L	NO		HP	4	SA	FD		2	4	2	850	235	B	FI	SE
	Oparin	25.08.07	AA		52	28	52	143	37	79	270	11	41	0	10,000	L	NO		HP	1	SP	FD		3		2	850	340	B	FI	MO
	Oparin	25.08.07		MK	52	28	43	143	29	73	210	12	09	1	8,000	L	NO		HP	1	NO	FD		1		E	100	240	E	FI	MO
	Oparin	25.08.07		MK	52	24	97	143	41	26	100	13	07	0	8,000	L	NO		HP	2	ST	FD		12	10	2,5	700	105	B	FI	SE
	Oparin	25.08.07		MK	52	24	95	143	45	26	100	13	19	0	8,000	L	NO		HP	2	NO	FD		1		1,5	1000	135	B	FI	SE
	Oparin	25.08.07		MK	52	24	99	143	52	60	109	13	41	0	8,000	L	NO		HP	1	NO	FD		12		1,5	1000	110	B	FI	SE
	Oparin	25.08.07	AA		52	21	50	143	52	48	275	14	17	0	7,000	L	NO		HP	2	SP	FD		1		E	300	310	E	FI	SE
	Oparin	25.08.07	AA		52	21	49	143	49	1	275	14	30	0	7,000	L	NO		HP	3	SP	FD		1	5	1,5	1000	300	B	FI	SE
	Oparin	25.08.07	AA		52	21	51	143	44	84	275	14	44	0	6,000	L	NO		HP	1	SA	FD		10		3	600	230	B	FI	MO
	Oparin	26.08.07	AA		53	11	58	143	18	48	350	19	04	1	4,000	L	NO		HP	2	SA	FD		11		E	300	320	E	FI	SE
	Oparin	28.08.07	AA		53	17	90	143	18	95	250	11	00	1	10,000	L	MO	8/9	HP	1	SP	TS		1		E	300	290	E	BO	VI
	Oparin	28.08.07		MK	53	5	66	143	19	74	90	14	22	0	10,000	L	LI	3	HP	2	NO	FD		7		3	600	315	B	FI	SE
	Oparin	29.08.07		MK	53	18	47	143	15	79	180	06	52	1	10,000	L	SE	9	HP	2	NO	FD		3		1	1500	255	B	FI	SE
	Oparin	31.08.07	AA		53	2	73	143	19	73	195	10	40	1	10,000	L	SE	10	HP	1	NO	FD		1		E	250	230	E	FI	SE
	Oparin	31.08.07	AA		52	49	53	143	22	90	180	15	48	1	10,000	L	NO		HP	1	NO	FD		1		8	230	210	B	FI	SE
	Oparin	01.09.07		MK	52	5	9	143	30	0	355	15	00	1	10,000	L	LI	7	HP	2	SA	FD		2	4	E	200	50	E	FI	SE
	Oparin	05.09.07	AA		54	22	84	142	38	20	330	07	11	0	10,000	L	NO		HP	3	SA	FD		10	3	E	100	300	E	FI	SE
	Oparin	09.09.07	AA		52	57	65	143	21	94	355	13	26	1	10,000	L	NO		HP	5	NO	FD		12		6	315	350	E	FI	SE
	Oparin	09.09.07	AA		52	58	63	143	21	75	355	13	42	1	10,000	L	NO		HP	10	SA	FD		11		E	400	330	E	FI	SE
	Oparin	14.09.07	AA		52	19	26	143	29	98	10	09	55	1	10,000	L	SE	3	HP	2	NO	FD		12		3	600	40	B	FI	MO
	Oparin	16.09.07	AA	VS	52	24	22	143	33	99	315	16	00	2	10,000	L	SE	9	HP	3	SP	FD		11		E	50	300	E	FI	MO
	Oparin	17.09.07	MK	EP	52	53	18	143	22	14	0	14	20	1	10,000	L	LI	6/7	HP	3	SA	FD		10	8	E	100	320	E	FI	SE
	Oparin	20.09.07	MK	EP	53	1	16	143	20	5	40	12	52	1	10,000	L	MO	5	HP	3	NO	FD		3		3	600	120	B	FI	SE
	Oparin	20.09.07	AA	VS	52	54	21	143	22	19	175	14	30	1	10,000	L	LI	1	HP	2	NO	FD		11		E	30	150	E	FI	MO
	Oparin	21.09.07	MK	EP	52	50	83	143	22	90	260	14	00	3	10,000	L	SE	10	HP	2	NO	FD		10		E	30	210	E	FI	SE
	Oparin	03.10.07		MK	52	42	51	143	22	57	5	10	54	1	10,000	L	SE	4/5	HP	1	SP	FD		2		6	300	55	B	BO	SE
	Oparin	03.10.07	AA	VS	53	30	94	143	9	7	160	17	23	2	10,000	L	SE	3	HP	2	SA	FD		1		8	230	205	B	FI	MO
	Oparin	04.10.07	MK		53	1	50	143	21	14	0	13	46	0	10,000	L	SE	6	HP	3	ST	FD		11		E	100	330	E	BO	SE
	Oparin	04.10.07	AA		53	12	98	143	18	10	350	14	52	1	10,000	L	SE	7/8	HP	1	SP	FD		10		E	100	300	E	FI	VI
	Oparin	04.10.07	AA		53	19	76	143	15	39	350	15	36	1	10,000	L	SE	8/9	HP	1	SA	FD		12		4	450	345	B	FI	MO
	Oparin	06.10.07	AA	VS	49	30	53	144	29	35	165	07	44	1	9,000	L	LI	10	HP	3	SA	FD		11	10	E	100	130	E	FI	SE
	Oparin	06.10.07	AA	VS	49	18	25	144	35	20	165	08	49	1	10,000	L	SE	10	HP	2	NO	FD		1	12	2	850	190	B	FI	SE

	Bogorov	06.07.07		MK	45	43	24	140	39	89	60	19	22	0	10,000	L	SE	7	HP	8	SP	FD		2	5	0.7	2000	90	Y	FI	SE
	Bogorov	09.07.07	AA		51	51	13	143	16	87	50	05	57	1	4,000	L	NO		HP	3	SP			3	2	E	500	350	N	FI	MO
	Bogorov	09.07.07	AA		52	8	50	143	36	14	10	11	25	1	4,000	L	NO		HP	3	SP			11	10	E	400	290	N	FI	SE
	Bogorov	09.07.07		MK	52	13	40	143	17	66	294	14	00	1	10,000	L	NO		HP	1	FD			5	6	2.5	700	60	Y	FI	SE
	Bogorov	09.07.07		MK	52	14	72	143	14	92	82	14	39	1	10,000	L	NO		HP	4	FD			10	9	3	600	30	N	FI	SE
	Bogorov	09.07.07		MK	52	14	84	143	16	6	79	14	42	1	10,000	L	NO		HP	1	FD			11	10	1.5	1000	40	Y	FI	SE
	Bogorov	09.07.07	AA		52	23	55	143	33	26	319	18	05	1	9,000	L	NO		HP	1	NO	FD		12	11	E	350	300	N	FI	SE
	Bogorov	22.07.07		EP	53	1	61	143	23	38	254	10	30	3	6,000	L	NO		HP	1	SA	SW	FD	2	10		700	240	B	FI	MO
	Bogorov	09.09.07		EP	52	17	32	143	25	63	280	11	00	2	10,000	L	LI	7	HP	1	ST	FD	SW	11	10		400	265	E	FI	VI
	Oparin	18.07.07	AA		54	21	3	142	36	61	75	20	00	1	10,000	L	NO		KW	2	SA	FD		4	1	E	500	185	N	FI	SE
	Oparin	20.07.07	AA		54	21	11	142	36	55	190	08	00	1	10,000	L	NO		KW	2	NO	FD		12		4	460	185	N	FI	SE
	Oparin	25.07.07	AA		52	44	54	143	25	73	40	12	08	1	3,000	L	NO		KW	1	SA	FD		1	2	0.7	2000	90	Y	FI	SE
	Oparin	31.07.07	AA		52	4	3	143	35	55	90	07	14	1	8,000	L	NO		KW	1	SP	FD		1		0.5	2500	130	Y	FI	MO
	Oparin	07.08.07	AA		52	44	68	143	23	21	190	19	50	1	10,000	L	NO		KW	1	ST	FD		12		E	40	200	N	FI	MO
	Oparin	11.08.07	AA		54	18	36	142	21	22	120	16	41	1	10,000	L	MO	4	KW	1	ST	FD		11		E	700	100	Y	FI	MO
	Oparin	15.08.07	AA		52	10	99	143	35	11	95	09	38	1	10,000	L	LI	12/1	KW	1	NO	FD		2	3	0.7	2000	150	N	FI	MO
	Oparin	18.08.07		MK	52	19	93	143	35	0	255	16	07	1	10,000	L	LI	11	KW	1	ST	FD		11	1	2	850	210	E	FI	SE
	Oparin	23.08.07		MK	53	55	35	143	3	55	255	11	56	2	10,000	L	MO	9	KW	1	SA	FD		12	3	1	1500	255	B	FI	SE
	Oparin	25.08.07	AA		52	21	53	143	40	37	270	15	00	0	6,000	L	NO		KW	1	SA	FD		12		0.8	1800	270	B	FI	MO
	Oparin	25.08.07		MK	52	22	31	143	45	14	330	19	27	1	8,000	L	MO	10	KW	2	SP	FD		3	6	3	600	60	E	FI	MO
	Oparin	28.08.07	AA		53	16	64	143	15	63	355	18	08	1	10,000	L	SE	9	KW	4	NO	FD		1	4	E	500	20	E	FI	VI
	Oparin	04.09.07		MK	53	11	4	143	18	81	265	13	05	2	6,000	L	MO	9	KW	3	SA	FD		11	10	1.5	1000	240	B	BO	VI
	Oparin	15.09.07	AA		52	3	99	143	48	84	90	12	49	2	10,000	L	SE	3	KW	1	NO	FD		11		0.8	1800	50	B	FI	MO
	Oparin	03.10.07		MK	52	38	21	143	22	32	5	10	28	1	10,000	L	SE	4	KW	1	SA	FD		12	10	6	300	350	E	FI	SE
	Bogorov	04.07.07	AA		43	14	18	135	21	13	57	10	55	1	8,000	L	NO		KW	1	NO	FD		11	10	4	800	50	N	FL	SE
	Bogorov	06.07.07	AA		45	45	57	141	5	63	94	20	57	0	10,000	L	LI	7	KW	3	NO	FD		1	2	1	1500	110	N	FI	SE
	Bogorov	09.07.07		MK	52	36	10	143	31	55	62	20	46	1	8,000	L	NO		KW	2	SA	FD		10	9	3	600	10	N	FI	SE
	Bogorov	14.07.07		MK	52	37	53	143	47	5	95	19	15	2	8,000	L	NO		KW	5	SA	BR	FL	10	8	2	850	35	N	FI	MO
	Bogorov	26.07.07		EP	53	34	48	143	6	14	341	19	40	2	10,000	L	NO		KW	1	SP	SW	FD	11	7		200	250	E	FI	SE
	Bogorov	27.07.07		EP	52	55	71	143	22	21	170	18	30	2	10,000	L	LI	3	KW	1	SP	SW	SW	1	5		500	220	E	FI	MO
	Bogorov	21.08.07	VS		54	21	60	142	38	13	12	17	00	1	10,000	L	NO		KW	2	SP	FD	FD	10	12		500	300	E	FI	SE
	Bogorov	24.08.07		EP	53	6	33	143	18	66	351	18	50	2	10,000	L	NO		KW	2	MI	FD	FD	10	10		500	315	B	FI	SE
	Bogorov	04.09.07		EP	52	44	40	143	23	19	4	18	00	3	8,000	L	NO		KW	1	SP	SW	FD	11	7		500	330	E	FI	MO
	Oparin	24.07.07	AA		52	9	93	143	23	43	200	16	19	0	9,000	L	NO		MW	1	SP	FD		10	11	E	50	150	N	FI	MO
	Oparin	25.07.07		MK	52	39	70	143	21	94	185	15	09	1	2,000	L	NO		MW	1	SA	FD		11	9	4	460	170	Y	FI	MO
	Oparin	25.07.07	AA		52	35	36	143	21	97	185	15	48	1	0,500	L	NO		MW	1	NO	FD		11		E	500	155	N	FI	SE
	Oparin	25.07.07		MK	52	31	65	143	20	76	200	16	40	0	1,500	L	NO		MW	1	NO	FD		11		2	850	170	Y	FI	SE
	Oparin	25.07.07		MK	52	30	76	143	20	35	200	16	46	0	3,000	L	NO		MW	1	NO	FD		12		E	600	200	N	BO	MO
	Oparin	25.07.07		MK	52	30	5	143	20	12	0	19	49	0	99	L	NO		MW	1	NO	FD		11		2	850	330	Y	BO	SE
	Oparin	25.07.07		MK	52	30	5	143	20	12	15	20	10	0	1,000	L	NO		MW	1	SA	FD		12	2	E	500	20	N	FI	SE
	Oparin	26.07.07	AA		52	33	26	143	20	94	15	08	42	1	9,000	L	NO		MW	1	SA	FD		12	1	1	1500	15	N	FI	MO
	Oparin	26.07.07		AA	52	35	87	143	21	66	15	08	56	1	9,000	L	NO		MW	1	SA	FD		11	10	1.5	1000	345	N	FI	MO
	Oparin	26.07.07		MK	52	43	14	143	22	82	260	10	56	0	4,000	L	NO		MW	1	NO	FD		1		0.7	2000	300	Y	FI	SE
	Oparin	26.07.07		MK	52	45	38	143	23	17	150	13	00	1	10,000	L	NO		MW	1	NO	FD		3		4	450	250	N	BO	SE

	Oparin	26.07.07		MK	52	45	94	143	23	30	0	13	52	0	10,000	L	NO		MW	1	NO	FD		10		0,5	2500	310	N	BO	SE
	Oparin	27.07.07	AA		52	49	94	143	23	24	180	18	00	1	5,000	L	SE	3	MW	1	SP	FD		7		9	200	280	N	FI	MO
	Oparin	29.07.07	AA		52	47	65	143	23	11	360	13	04	0	10,000	L	NO		MW	1	NO	FD		11		1	1500	330	Y	FI	SE
	Oparin	29.07.07		MK	52	46	21	143	24	20	185	14	44	1	10,000	L	LI	1/2	MW	1	NO	FD		2		1,5	1000	245	Y	FI	MO
	Oparin	29.07.07		MK	52	42	32	143	24	46	185	15	14	1	10,000	L	LI	1/2	MW	1	ST	FD		1	9	E	100	200	N	FI	MO
	Oparin	29.07.07		MK	52	35	5	143	22	92	200	16	11	1	10,000	L	MO	1/2	MW	1	NO	FD		1		0,8	1800	220	Y	FI	SE
	Oparin	29.07.07		MK	52	34	47	143	22	68	200	16	15	1	10,000	L	MO	1/2	MW	1	SA	FD		1	3	3,5	500	230	Y	BO	SE
	Oparin	29.07.07		MK	52	32	16	143	21	29	207	16	33	1	10,000	L	MO	2	MW	1	SA	FD		12	2	1,5	1000	210	Y	FI	MO
	Oparin	30.07.07		MK	52	14	53	143	33	21	270	18	43	1	8,000	L	NO		MW	1	NO	FD		1		1,5	1000	290	Y	FI	MO
	Oparin	31.07.07	AA		51	53	53	143	43	37	95	13	53	0	6,000	L	NO		MW	1	SP	FD		10		2	850	40	Y	FI	MO
	Oparin	03.08.07	AA		53	2	11	143	21	66	330	15	27	1	9,000	L	LI	8\10	MW	1	SA	FD		12		0,9	1650	320	Y	FI	MO
	Oparin	03.08.07		MK	53	10	77	143	19	36	340	17	01	2	9,000	L	SE	9	MW	1	NO	FD		12		0,5	2500	350	Y	FI	SE
	Oparin	03.08.07		MK	53	17	31	143	16	1	350	17	53	2	9,000	L	SE	9	MW	1	NO	FD		11		E	300	315	N	BO	MO
	Oparin	03.08.07		MK	53	19	67	143	14	76	350	18	12	2	10,000	L	SE	9	MW	1	NO	FD		12		1,5	1000	340	Y	BO	MO
	Oparin	04.08.07	AA		53	12	66	143	18	65	160	12	07	1	10,000	L	LI	12	MW	1	NO	FD		9		E	1500	80	N	FI	SE
	Oparin	05.08.07	AA		52	28	69	143	20	80	20	08	55	0	10,000	L	NO		MW	1	NO	FD		12		1	1500	25	Y	FI	SE
	Oparin	05.08.07	AA		52	39	28	143	22	41	10	09	58	1	9,000	L	NO		MW	1	NO	FD		12		0,8	1800	25	Y	FI	SE
	Oparin	05.08.07			52	40	50	143	22	51	10	10	05	1	9,000	L	NO		MW	1	NO	FD		9		2	850	90	N	FI	MO
	Oparin	05.08.07		MK	53	33	32	143	7	66	165	15	50	3	5,000	L	NO		MW	1	NO	BR		9		6	300	80	N	BO	VI
	Oparin	05.08.07	AA		53	22	16	143	13	80	165	16	47	2	9,000	L	NO		MW	1	SP	FD		2	3	E	800	240	N	FI	MO
	Oparin	05.08.07		MK	53	19	77	143	15	0	5	19	34	3	2,000	L	NO		MW	1	SP	FD		1	4	E	70	40	N	FI	MO
	Oparin	06.08.07		MK	53	15	12	143	17	61	195	08	33	1	10,000	L	SE	9	MW	1	NO	FD		11		0,5	2500	160	Y	FI	SE
	Oparin	06.08.07		MK	53	13	60	143	18	8	120	10	16	1	10,000	L	MO	12	MW	3	NO	FD		11		0,3	3200	80	Y	BO	MO
	Oparin	07.08.07		MK	53	9	56	143	19	57	170	12	17	1	10,000	L	NO		MW	1	SP	FD		2	12	E	150	230	N	FI	MO
	Oparin	08.08.07	AA		52	42	40	143	22	63	45	11	32	1	10,000	L	NO		MW	1	ST	FD		12		E	100	35	N	FI	MO
	Oparin	08.08.07	AA		52	42	99	143	22	81	5	13	24	1	10,000	L	NO		MW	1	SA	FD		11		12	160	330	N	FI	MO
	Oparin	08.08.07	AA		53	6	73	143	21	42	340	17	39	1	0,500	L	NO		MW	1	NO	FD		10		E	100	300	N	FI	MO
	Oparin	13.08.07	AA		52	48	2	143	23	59	210	08	08	0	99	L	NO		MW	1	SA	FD		6	5	E	40	40	N	FI	SE
	Oparin	14.08.07	AA		52	52	80	143	22	69	180	17	23	1	6,000	L	NO		MW	1	NO	FD		2		1,5	1000	240	Y	FI	MO
	Oparin	15.08.07	AA		52	10	97	143	46	31	95	10	16	1	10,000	L	NO		MW	1	SP	FD		9	10	E	200	10	N	FI	MO
	Oparin	15.08.07		MK	51	50	1	143	35	37	100	18	36	1	10,000	L	SE	6	MW	1	NO	FD		1		1,5	1000	150	Y	FI	MO
	Oparin	18.08.07	AA		52	18	48	143	21	69	210	19	11	0	10,000	L	NO		MW	1	SA	FD		1		E	200	230	E	FI	SE
	Oparin	19.08.07	AA		51	58	84	143	40	57	345	14	58	0	8,000	L	NO		MW	1	SA	FD		12	11	E	700	340	E	FI	SE
	Oparin	20.08.07	AA		53	20	4	143	14	94	200	13	36	2	2,000	L	NO		MW	1	ST	FD		7		E	400	40	E	FI	SE
	Oparin	21.08.07	AA		53	7	13	143	20	10	180	10	36	0	8,000	L	NO		MW	1	NO	FD		12	1	1	1500	195	B	FI	SE
	Oparin	21.08.07		MK	53	1	4	143	21	24	180	11	11	0	8,000	L	NO		MW	1	SP	FD		2	12	E	100	240	B	BO	SE
	Oparin	21.08.07		MK	52	59	21	143	21	59	180	11	22	0	8,000	L	NO		MW	1	NO	FD		1		1	1500	200	B	FI	SE
	Oparin	21.08.07		MK	52	55	39	143	22	35	180	11	48	0	8,000	L	NO		MW	1	NO	FD		12		1	1500	190	B	FI	MO
	Oparin	21.08.07		MK	52	54	97	143	22	33	330	12	20	0	10,000	L	NO		MW	1	SP	FD		9	11	2	850	230	E	FI	SE
	Oparin	24.08.07	AA		53	36	80	143	5	64	310	12	30	2	10,000	L	MO	8	MW	1	SA	FD		12	11	E	600	290	E	FI	MO
	Oparin	26.08.07	AA		52	58	20	143	21	62	5	17	35	1	5,000	L	NO		MW	1	SA	FD		11		2	850	340	B	FI	MO
	Oparin	27.08.07		MK	53	24	89	143	12	49	20	19	36	3	6,000	L	NO		MW	1	SP	FD		9	12	E	50	280	E	BO	VI
	Oparin	28.08.07		MK	53	20	26	143	15	27	170	08	53	1	10,000	L	NO		MW	1	SP	FD		2	4	2	850	230	E	FI	MO
	Oparin	28.08.07	AA		53	12	76	143	19	99	175	12	26	1	10,000	L	NO		MW	2	NO	FD		1		E	100	200	E	FI	SE

	Oparin	29.08.07		MK	53	133	55	143	17	84	175	12	07	1	10,000	L	NO		MW	1	NO	FD		2		4	450	230	E	BO	MO
	Oparin	29.08.07		MK	52	43	22	143	22	53	20	18	55	1	10,000	L	NO		MW	1	NO	FD		11		E	500	350	E	FI	MO
	Oparin	31.08.07		AA	52	53	25	143	22	99	180	14	14	1	10,000	L	NO		MW	1	NO	FD		12		1,2	1300	175	B	FI	SE
	Oparin	01.09.07		MK	51	57	0	143	34	38	265	11	41	1	10,000	L	LI	8	MW	1	NO	FD		11		1	1500	230	B	FI	SE
	Oparin	01.09.07		MK	52	4	62	143	29	97	0	14	57	1	10,000	L	LI	7	MW	1	NO	FD		11		1	1500	325	B	FI	SE
	Oparin	02.09.07		MK	52	22	59	143	18	36	295	19	08	1	99	L	SE	11	MW	1	NO	FD		9		E	400	190	E	FI	SE
	Oparin	06.09.07		MK	52	24	76	143	30	43	110	13	09	2	10,000	L	MO	3	MW	1	NO	FD		1		E	200	130	E	FI	SE
	Oparin	06.09.07		MK	52	17	98	143	46	69	90	17	49	3	10,000	L	SE	6	MW	1	NO	FD		10		E	400	50	E	FI	SE
	Oparin	08.09.07		MK	52	47	91	143	24	68	15	18	20	2	8,000	L	SE	9	MW	1	NO	FD		8		5	370	250	B	FI	SE
	Oparin	09.09.07		AA	52	47	96	143	24	68	145	07	08	1	10,000	L	LI	10	MW	1	NO	BR		3		0,5	2500	245	B	BO	MO
	Oparin	10.09.07		AA	52	20	91	143	28	70	185	14	17	1	10	L	LI	12	MW	1	SA	FD	BR	12		E	400	175	E	FI	MO
	Oparin	14.09.07		MK	52	25	0	143	31	2	275	13	22	1	10,000	L	LI	9	MW	1	NO	FD		12		0,6	2300	275	B	FI	SE
	Oparin	17.09.07		MK	52	52	32	143	22	32	0	14	11	1	10,000	L	LI	6/7	MW	1	NO	FD		11		4	450	335	E	FI	SE
	Oparin	03.10.07		AA	52	53	90	143	22	45	360	12	10	2	10,000	L	SE	5/6	MW	1	NO	FD		12		0,5	2500	10	B	FI	MO
	Oparin	04.10.07		AA	53	31	82	143	8	54	345	16	52	1	10,000	L	SE	9	MW	1	NO	FD		12		0,5	2500	335	B	FI	SE
	Oparin	04.10.07		MK	53	30	79	143	9	22	160	17	59	1	10,000	L	SE	3	MW	1	NO	FD		12		2	850	140	B	FI	SE
	Bogorov	04.07.07		AA	43	37	30	136	9	73	57	14	30	1	10,000	L	NO		MW	2	NO	FD		11	10	0,5	2500	30	N	BL	SE
	Bogorov	11.07.07		AA	53	16	77	143	16	97	132	11	21	1	8,000	L	NO		MW	1	NO	FD		2		8	230	180	N	FI	SE
	Bogorov	11.07.07		AA	53	15	92	143	17	73	174	11	30	1	8,000	L	NO		MW	1	NO	FD		12		1,5	1000	160	N	BL	SE
	Bogorov	11.07.07		MK	53	3	76	143	20	40	144	14	07	2	10,000	L	NO		MW	1	NO	FD		4		5	350	260	N	FI	SE
	Bogorov	14.07.07		AA	52	46	60	143	27	31	345	14	38	1	5,000	L	LI	8	MW	1	SA	FE		11		E	400	300	N	FI	SE
	Bogorov	14.07.07		MK	52	37	62	143	36	24	94	18	19	2	6,000	L	LI	6	MW	1	SP	FD		10	12	4	450	30	N	FI	MO
	Bogorov	23.07.07		EP	52	43	33	143	25	44	5	10	00	3	6,000	L	NO		MW	1	SA	SW	SW	10	3		300	40	B	FI	VI
	Bogorov	25.07.07		VS	52	23	91	143	26	31	308	14	00	1	6,000	L	NO		MW	1	SA	SW	FD	12	11		300	300	E	BO	SE
	Bogorov	26.07.07		VS	53	3	83	143	21	53	347	16	30	2	2,000	L	NO		MW	1	SA	FD	FD	12	10		50	340	E	BO	VI
	Bogorov	26.07.07		VS	53	9	33	143	19	97	347	17	00	2	2,000	L	NO		MW	1	SA	FD	FD	9	8		150	260	E	FI	VI
	Bogorov	01.08.07		VS	52	51	25	143	24	95	135	07	30	1	0,100	L	NO		MW	1	ST	FD	FD	10	2		300	120	E	FI	MO
	Bogorov	01.08.07		VS	52	51	25	143	24	97	123	08	30	1	8,000	L	NO		MW	1	UN	FD		12	99		500	110	E	BO	MO
	Bogorov	07.08.07		EP	53	8	49	143	21	20	95	13	30	2	10,000	L	NO		MW	1	ST	SW	FD	11	5		500	85	B	BO	VI
	Bogorov	07.08.07		EP	53	8	73	143	25	80	62	13	45	3	10,000	L	NO		MW	1	SA	SW	FD	1	2		500	85	E	BO	VI
	Bogorov	09.08.07		EP	53	0	70	143	36	79	132	12	00	3	0,200	L	NO		MW	1	ST	FD	SW	11	3		40	100	E	BO	VI
	Bogorov	11.08.07		EP	52	51	33	143	25	16	180	13	30	2	10,000	L	NO		MW	1	SA	SW	FD	12	2		500	200	E	BO	VI
	Bogorov	11.08.07		VS	52	51	32	143	25	17	206	16	00	2	5,000	L	NO		MW	1	SA	FD	FD	1	2		300	230	E	BO	MO
	Bogorov	16.08.07		VS	53	20	1	143	16	16	266	14	00	2	10,000	L	NO		MW	1	UN	FD	FD	10	99		100	200	E	BO	VI
	Bogorov	17.08.07		EP	53	26	14	143	11	19	189	10	30	2	10,000	L	MO	10	MW	1	SP	SW	FD	2	4		50	230	E	BO	MO
	Bogorov	17.08.07		EP	53	22	16	143	13	67	159	11	00	2	10,000	L	LI	10	MW	2	SP	SW	FD	2	4		400	210	E	BO	MO
	Bogorov	17.08.07		EP	52	35	8	143	23	10	180	20	50	2	10,000	L	NO		MW	1	SP	SW	FD	10	8		50	130	E	BO	MO
	Bogorov	20.08.07		VS	53	32	84	143	15	6	356	17	30	2	4,000	L	NO		MW	2	MI	FD	FD	12	99		200	350	E	BO	MO
	Bogorov	24.08.07		EP	53	7	88	143	18	17	142	12	00	2	10,000	L	MO	12	MW	1	SP	FD	SW	11	7		400	80	E	BO	MO
	Bogorov	28.08.07		EP	53	17	69	143	14	82	155	10	20	2	10,000	L	LI	11	MW	1	SP	FD	SW	7	11		1000	90	E	BO	MO
	Bogorov	31.08.07		EP	51	41	21	143	38	31	176	10	20	3	10,000	L	SE	5	MW	1	ST	SW	TH	11	1		300	170	E	BO	MO
	Bogorov	06.09.07		EP	52	20	25	143	26	92	269	11	00	3	10,000	L	SE	7	MW	1	SA	SW	FD	11	10		200	245	E	BO	VI
	Bogorov	09.09.07		EP	52	16	80	143	26	26	270	11	30	2	10,000	L	LI	9	MW	1	SA	FD	SW	11	2		200	230	E	BO	VI
	Oparin	24.07.07		AA	52	6	54	143	19	31	220	16	45	0	10,000	L	NO		NF	1	SP	SW		10		4,5	400	150	Y	BO	MO

	Oparin	28.07.07	AA		52	17	91	143	52	91	100	08	12	1	10,000	L	NO		NF	1	SA	SW		10	9	E	30	50	N	HE	MO
	Oparin	08.08.07	AA		52	46	24	143	22	93	5	13	42	1	10,000	L	NO		NF	1	NO	LO	RE	10		5	370	310	N	BO	SE
	Oparin	06.10.07	AA	VS	49	27	63	144	30	80	170	08	00	1	9,000	L	SE	10	NF	1	NO	LO		1	3	E	150	195	E	BO	SE
	Oparin	06.10.07	MK	EP	48	35	49	144	55	89	167	12	30	2	0,200	L	LI	12	NF	5	NO	TH	BR	2		E	100	210	E	BO	SE
	Oparin	06.10.07	MK	EP	48	35	49	144	55	89	167	12	30	2	0,200	L	LI	12	NF	3	NO	TH	LO	2		E	150	210	E	BO	MO
	Oparin	06.10.07	MK	EP	48	30	96	144	58	8	160	12	52	2	0,050	L	NO		NF	2	SP	SW	LO	1	5	E	20	205	E	HE	VI
	Oparin	06.10.07	MK	EP	48	30	16	144	57	86	207	12	57	2	0,050	L	NO		NF	5	SA	SW	BR	3	9	E	30	130	E	BO	VI
	Oparin	06.10.07	MK	EP	48	28	71	144	57	1	207	13	05	2	0,050	L	NO		NF	2	SA	SW	BR	3	9	E	30	170	B	BO	MO
	Oparin	06.10.07	MK	EP	48	27	74	144	56	43	207	13	10	2	0,050	L	NO		NF	1	SA	SW		1		E	30	240	E	BO	SE
	Oparin	06.10.07	MK	EP	48	27	62	144	56	33	207	13	11	2	0,050	L	NO		NF	6	SA	SW	BR	9		E	50	130	E	BO	VI
	Oparin	06.10.07	MK	EP	48	26	31	144	55	59	205	13	19	2	0,050	L	LI	11	NF	3	SA	LO	BR	10	9	E	30	155	E	BO	VI
	Oparin	06.10.07	MK	EP	48	20	76	144	52	44	205	13	50	2	0,050	L	NO		NF	1	SA	BR		10	8	E	30	150	E	BO	VI
	Bogorov	07.07.07		MK	46	2	27	143	46	84	24	21	00	2	8,000	L	NO		NF	1	NO	RE		10		E	50	330	N	FP	SE
	Bogorov	08.07.07		MK	47	54	76	144	51	48	24	07	20	2	0,070	L	NO		NF	1	NO	RE		10	88	E	30	330	N	FP	SE
	Bogorov	08.07.07	AA		48	3	41	144	56	48	25	08	07	2	0,200	L	NO		NF	1	NO	FD		11	12	E	20	50	N	BO	MO
	Bogorov	08.07.07	AA		48	7	32	144	58	84	23	08	30	3	1,000	L	NO		NF	2	NO	FD		12	1	E	50	20	N	HE	SE
	Bogorov	08.07.07	AA		48	7	86	144	59	22	23	08	33	3	1,000	L	NO		NF	1	NO	FD		1	2	E	70	60	N	BO	SE
	Bogorov	08.07.07	AA		48	11	0	145	1	15	22	08	52	2	1,000	L	NO		NF	1	NO	FD		1	2	E	40	80	N	BO	SE
	Bogorov	08.07.07	AA		48	12	31	145	1	54	342	09	00	2	1,000	L	NO		NF	1	NO	FD		2	3	6	500	50	N	HE	SE
	Bogorov	08.07.07	AA		48	19	34	145	1	58	6	09	38	2	0,500	L	NO		NF	1	NO	FD		11	10	E	40	340	N	BO	SE
	Bogorov	08.07.07	AA		48	22	36	145	0	34	351	09	56	2	10,000	L	NO		NF	1	NO	FD		1	2	E	60	60	N	HE	SE
	Bogorov	08.07.07	AA		48	24	55	144	59	55	347	10	07	2	8,000	L	NO		NF	1	NO	RE		11	10	E	300	310	N	BO	SE
	Bogorov	08.07.07	AA		48	30	24	144	57	51	348	10	38	2	0,050	L	NO		NF	1	NO	FD		12	11	E	50	351	N	HE	SE
	Bogorov	08.07.07	AA		48	31	18	144	57	18	349	10	43	2	0,050	L	NO		NF	1	NO	FD		10	9	E	30	280	N	BO	SE
	Bogorov	08.07.07	AA		48	32	7	144	56	81	341	10	48	2	0,100	L	NO		NF	3	NO	RE		10	9	E	45	280	N	BO	SE
	Bogorov	08.07.07	AA		48	41	28	144	53	11	348	11	40	2	7,000	L	NO		NF	1	NO	RE		12	10	E	60	320	N	BO	SE
	Bogorov	08.07.07		MK	48	44	17	144	52	5	350	11	56	2	10,000	L	NO		NF	1	NO	LO		11	88	E	70	310	N	HE	SE
	Bogorov	08.07.07		MK	48	46	63	144	51	13	350	12	12	2	10,000	L	NO		NF	1	NO	RE		12	88	4	800	340	N	FP	SE
	Bogorov	08.07.07		MK	48	52	81	144	48	91	347	12	48	2	10,000	L	NO		NF	1	NO	LO		1	88	6	500	30	N	HE	SE
	Bogorov	08.07.07		MK	48	59	33	144	46	63	345	13	26	2	8,000	L	NO		NF	1	NO	LO		2	88	E	15	50	N	HE	SE
	Bogorov	09.07.07		MK	52	10	2	143	34	89	70	11	49	1	4,000	L	NO		NF	1	SA			11	8	E	20	40	N	BO	MO
	Bogorov	09.07.07		MK	52	15	28	143	19	63	81	14	55	1	10,000	L	NO		NF	1	FE			11	88	3	600	30	Y	HE	MO
	Bogorov	09.07.07		MK	52	16	90	143	31	48	74	15	57	1	10,000	L	NO		NF	1	LO	LO		2	88	E	100	120	N	HE	SE
	Bogorov	14.07.07	AA		53	16	14	143	16	67	169	10	20	1	8,000	L	NO		NF	1	NO	FD		11		12	150	140	N	HE	SE
	Bogorov	21.07.07		EP	54	24	7	142	33	82	46	19	30	2	8,000	L	SE	8	NF	1	SA	RE	SW	9	3		20	80	E	HE	MO
	Bogorov	22.07.07	VS		52	52	68	143	24	8	171	15	00	3	8,000	L	NO		NF	1	SA	SW	FD	99	3		20	260	E	HE	MO
	Bogorov	23.07.07		EP	52	46	86	143	25	43	0	10	15	3	5,000	L	NO		NF	1	SP	SW	LO	10	8		300	280	B	HE	MO
	Bogorov	26.07.07		EP	52	30	8	143	30	50	339	12	30	1	1,000	L	NO		NF	1	SA	SW	FD	3	9		30	270	E	BO	VI
	Bogorov	31.07.07		EP	52	18	79	143	41	15	79	10	30	2	3,000	L	NO		NF	1	SA	FD	SW	2	10		200	30	B	HE	MO
	Bogorov	31.07.07		EP	52	47	99	143	32	85	296	18	30	2	3,000	L	NO		NF	3	SP	SW	LO	2	5		30	0	E	HE	MO
	Oparin	06.10.07	AA	VS	49	26	19	144	31	50	170	08	07	1	10,000	L	SE	10	PWS D	6	SP	FD		2	3	E	450	220	E	BO	VI
	Bogorov	04.07.07		MK	43	18	28	135	29	63	62	11	34	1	8,000	L	NO		PWS D	4	NO	FD		11		6	500	30	N	FL	VI

	Bogorov	04.07.07		MK	44	0	18	136	58	24	63	18	08	1	10,000	L	MO	7	PWS D	4	NO	FD		10		1	1500	5	N	SE	VI
	Bogorov	04.07.07	AA		44	16	58	137	33	34	56	20	38	1	10,000	L	NO		PWS D	4	NO	FD		11	10	2	700	30	N	FI	SE
	Oparin	25.07.07	AA		52	44	50	143	24	6	270	13	03	1	4,000	L	NO		RS	1	NO	SW		12	9	5	370	260	Y	HE	SE
	Oparin	29.07.07	AA		52	30	42	143	20	5	225	18	30	1	10,000	L	SE	2	RS	1	NO	LO		1		8	230	265	Y	HE	SE
	Oparin	30.07.07		MK	52	14	49	143	40	59	270	18	17	1	10,000	L	NO		RS	1	NO	LO		10		E	30	210	N	HE	SE
	Oparin	31.07.07		MK	51	59	57	143	29	75	165	09	34	0	6,000	L	NO		RS	1	NO	LO		9		E	100	70	N	HE	SE
	Oparin	01.08.07	AA		52	14	11	143	40	80	260	15	16	0	1,000	L	NO		RS	1	SP	SW		2	4	E	100	330	N	BO	MO
	Oparin	08.08.07	AA		53	18	12	143	15	96	350	18	53	1	0,200	L	NO		RS	2	NO	SW		2	3	E	30	50	N	BO	SE
	Oparin	09.08.07	AA		53	26	2	143	12	8	345	09	25	2	0,400	L	NO		RS	2	NO	SW		1	2	E	40	50	N	BO	SE
	Oparin	09.08.07	AA		53	27	48	143	11	18	345	09	34	2	0,200	L	NO		RS	1	NO	SW		1	2	E	80	40	N	BO	MO
	Oparin	11.08.07		MK	54	18	36	142	21	21	125	17	00	1	10,000	L	SE	4	RS	1	NO	LO		6		E	100	325	N	HE	SE
	Oparin	23.08.07		MK	53	58	1	143	4	76	150	11	20	2	10,000	L	MO	11	RS	1	NO	SW		2		E	50	230	E	HE	SE
	Oparin	01.09.07		MK	52	3	99	143	37	0	265	14	30	1	10,000	L	LI	9	RS	1	NO	LO		2		E	50	310	E	HE	SE
	Oparin	01.09.07		MK	52	6	23	143	29	99	355	15	06	1	10,000	L	LI	7	RS	1	NO	LO		2		E	50	45	E	HE	SE
	Oparin	03.09.07	AA		51	59	10	143	22	55	105	07	17	1	2,000	L	LI	11	RS	1	NO	LO		2		E	50	160	E	HE	SE
	Oparin	25.09.07	AA	VS	52	50	35	143	22	70	295	11	58	2	10,000	L	SE	8	RS	1	NO	SW		11		E	50	275	E	BO	SE
	Oparin	27.09.07	AA	VS	53	30	46	143	9	49	345	19	09	2	10,000	L	NO		RS	1	NO	SW		11	10	E	50	310	E	BO	SE
	Oparin	30.09.07		EP	52	25	50	143	29	96	179	13	06	2	10,000	L	NO		RS	1	SP	SW	LO	1	5	E	50	190	B	HE	SE
	Bogorov	15.07.07		MK	52	37	30	143	25	89	270	09	17	0	0,500	L	NO		RS	1	NO	SW		1		E	70	210	N	HE	SE
	Bogorov	23.07.07		EP	52	49	62	143	25	41	2	10	30	3	0,500	L	NO		RS	1	ST	SW	LO	2	8		200	40	E	HE	VI
	Oparin	06.08.07	AA		53	19	78	143	15	2	350	06	53	1	5,000	L	LI	3	SL	1	SA	LO	SW	12	11	E	50	345	N	HE	MO
	Oparin	07.08.07		MK	53	13	66	143	18	4	175	06	55	1	10,000	L	NO		SL	1	SP	SW		3	12	E	50	250	N	BO	MO
	Oparin	03.09.07	AA		52	0	2	143	17	99	95	06	47	1	4,000	L	NO		SL	2	SP	SW		10	9	E	150	70	E	BO	MO
	Oparin	05.09.07		MK	54	22	84	142	38	16	10	10	15	0	10,000	L	NO		SL	2	SA	SW		12	1	E	100	30	E	BO	SE
	Oparin	11.09.07	AA	VS	52	6	77	143	45	20	200	13	22	3	10,000	L	NO		SL	1	NO	SW		12		E	100	205	E	BO	SE
	Oparin	15.09.07	AA	VS	51	51	91	143	46	81	315	19	13	1	10,000	L	NO		SL	3	NO	OT		2		E	150	10	E	BO	MO
	Oparin	03.10.07	AA		52	55	89	143	22	13	360	12	23	2	10,000	L	SE	6	SL	1	NO	SW		3		7	270	80	B	BO	MO
	Oparin	07.10.07	AA	VS	45	53	95	142	46	46	265	07	19	2	3,000	L	NO		SL	1	NO	RE		8	7	E	200	120	E	BO	SE
	Oparin	07.10.07	AA	VS	45	53	78	142	44	68	260	07	26	2	4,000	L	NO		SL	3	NO	RE		3	4	E	400	340	E	BO	SE
	Oparin	07.10.07	AA	VS	45	53	73	142	44	24	260	07	28	2	4,000	L	NO		SL	1	NO	RE		3	4	E	100	335	E	BO	SE
	Oparin	07.10.07	MK	EP	45	53	11	142	38	44	260	07	51	1	10,000	L	LI	7	SL	3	ST	SW		12	11	4	450	260	B	BO	MO
	Bogorov	06.07.07	AA		45	21	38	139	43	2	60	15	22	1	10,000	L	NO		SL	1	NO	RE		2	4	10	120	110	N	BO	SE
	Bogorov	22.07.07		EP	52	54	57	143	23	31	179	13	30	3	5,000	L	NO		SL	1	NO	LO	LO	11	11		500	140	B	HE	SE
	Bogorov	02.08.07		EP	53	8	98	143	17	94	162	10	30	1	0,050	L	NO		SL	1	SP	SW	LO	2	4		10	320	E	BO	SE
	Bogorov	02.08.07		EP	53	8	96	143	17	94	163	13	00	1	0,050	L	NO		SL	1	ST	FD	LO	6	12		15	340	E	BO	SE
	Bogorov	06.08.07		EP	53	8	69	143	19	62	6	10	30	2	10,000	L	MO	3	SL	1	ST	TH	LO	11	5		100		E	BO	VI
	Oparin	21.07.07	AA		54	0	45	143	4	52	180	11	58	1	0,050	L	NO		SS	1	NO	SW		11	9	E	50	170	N	HE	SE
	Oparin	24.07.07	AA		52	10	12	143	36	22	215	14	00	0	8,000	L	NO		SS	1	SP	SW		8	7	6	300	50	Y	HE	SE
	Oparin	24.07.07	AA		52	9	71	143	25	3	280	15	50	0	9,000	L	NO		SS	1	SA	SW		11	10	2,5	700	255	Y	HE	MO
	Oparin	24.07.07	AA		52	7	86	143	20	96	220	16	35	0	10,000	L	NO		SS	1	NO	SW		2	10	2	850	260	Y	HE	SE
	Oparin	24.07.07		MK	52	1	88	143	13	9	30	17	18	0	10,000	L	LI	9	SS	1	SA	SW		12	11	E	30	35	N	HE	MO
	Oparin	24.07.07		MK	52	4	79	143	12	64	0	17	34	0	10,000	L	LI	9	SS	1	NO	LO		11		2,5	700	330	N	HE	SE

	Oparin	25.07.07	AA		52	12	48	143	12	55	10	06	55	1	9,000	L	NO		SS	1	NO	SW		1	2	9	200	50	Y	HE	SE
	Oparin	25.07.07	AA		52	16	32	143	13	25	30	07	17	1	8,000	L	NO		SS	1	NO	SW		1	2	6	300	80	N	HE	SE
	Oparin	25.07.07	AA		52	17	18	143	13	88	30	07	22	1	6,000	L	NO		SS	1	SP	SW		3	4	11	170	100	N	BO	SE
	Oparin	25.07.07	AA		52	17	71	143	14	26	30	07	25	1	4,000	L	NO		SS	1	SP	SW		11	10	6	300	360	N	HE	MO
	Oparin	25.07.07	AA		52	18	21	143	14	61	30	07	28	1	3,000	L	NO		SS	1	SP	SW		11	10	2,5	700	350	Y	HE	SE
	Oparin	25.07.07	AA		52	19	19	143	15	34	30	07	34	0	0,500	L	NO		SS	1	SP	SW		5	6	10	190	180	N	HE	SE
	Oparin	25.07.07		MK	52	20	86	143	16	66	34	07	49	0	1,000	L	NO		SS	1	NO	SW		9		E	150	300	N	HE	SE
	Oparin	25.07.07		MK	52	21	25	143	16	98	34	07	53	0	0,500	L	NO		SS	1	SA	SW		12	10	E	50	25	N	HE	SE
	Oparin	25.07.07	AA		52	43	67	143	25	0	360	11	11	1	3,000	L	NO		SS	1	NO	SW		9	8	7,5	250	270	N	HE	SE
	Oparin	25.07.07	AA		52	44	29	143	24	96	360	11	16	1	4,000	L	NO		SS	1	NO	SW		10	9	6	300	275	Y	HE	SE
	Oparin	25.07.07		MK	52	41	8	143	21	43	270	14	37	0	1,000	L	NO		SS	1	NO	LO		10		E	100	200	N	HE	SE
	Oparin	25.07.07		MK	52	39	37	143	21	94	185	15	12	1	1,000	L	NO		SS	1	NO	LO		12		E	100	170	Y	HE	SE
	Oparin	25.07.07		MK	52	38	77	143	21	94	185	15	17	1	1,000	L	NO		SS	1	NO	LO		11		E	80	150	N	HE	SE
	Oparin	25.07.07		MK	52	38	16	143	21	93	185	15	22	1	1,000	L	NO		SS	2	NO	LO		12		E	200	200	Y	HE	SE
	Oparin	25.07.07		MK	52	37	42	143	21	94	185	15	30	1	1,000	L	NO		SS	1	NO	LO		1		E	300	220	Y	HE	SE
	Oparin	25.07.07		MK	52	35	92	143	21	95	185	15	42	1	1,000	L	NO		SS	1	NO	LO		1		E	150	210	N	HE	SE
	Oparin	25.07.07		MK	52	34	57	143	21	84	205	15	54	0	0,500	L	NO		SS	1	NO	LO		12		E	200	195	N	HE	SE
	Oparin	25.07.07		MK	52	33	51	143	21	42	200	16	03	0	0,700	L	NO		SS	1	NO	SW		12		E	150	190	N	HE	SE
	Oparin	25.07.07		MK	52	33	51	143	21	42	200	16	03	0	0,700	L	NO		SS	1	SP	SW		3	6	E	100	180	N	HE	SE
	Oparin	25.07.07		MK	52	32	89	143	21	16	200	16	07	0	0,700	L	NO		SS	2	SP	SW		10	12	E	100	150	N	HE	SE
	Oparin	25.07.07		MK	52	32	33	143	20	97	185	16	35	0	0,700	L	NO		SS	1	NO	FE		12		E	150	210	N	HE	SE
	Oparin	25.07.07		MK	52	31	43	143	20	66	200	16	42	0	2,000	L	NO		SS	1	NO	SW		11		3	600	175	Y	HE	SE
	Oparin	25.07.07	AA		52	30	6	143	20	13	350	17	30	0	1,500	L	NO		SS	1	SA	SW		12		3	600	355	N	BO	MO
	Oparin	25.07.07		MK	52	30	5	143	20	12	358	19	44	0	99	L	NO		SS	1	NO	SW		8		E	100	220	N	HE	SE
	Oparin	26.07.07	AA		52	30	9	143	20	21	205	08	07	1	8,000	L	NO		SS	1	NO	SW		8	7	2,5	700	90	Y	BO	MO
	Oparin	26.07.07	AA		52	32	10	143	20	66	10	08	36	1	9,000	L	NO		SS	3	SA	SW		12		2	850	350	Y	BO	MO
	Oparin	26.07.07	AA		52	37	27	143	22	3	15	09	04	1	9,000	L	NO		SS	1	NO	LO		12		2	850	15	Y	HE	SE
	Oparin	26.07.07	AA		52	40	20	143	22	77	350	09	22	1	9,000	L	NO		SS	1	NO	LO		12		3	600	355	N	HE	SE
	Oparin	26.07.07		MK	52	45	6	143	23	4	340	12	16	1	8,000	L	NO		SS	1	NO	FE		12		E	100	335	N	HE	SE
	Oparin	26.07.07	AA		52	49	37	143	23	1	195	14	26	1	9,000	L	NO		SS	1	NO	LO		12		12	150	185	N	HE	SE
	Oparin	26.07.07	AA		52	49	99	143	23	18	30	15	24	1	7,000	L	NO		SS	1	SP	SW		10		4	450	320	N	BO	MO
	Oparin	27.07.07	AA		53	9	74	143	19	23	175	12	12	2	8,000	L	NO		SS	1	SA	LO		12	3	E	30	190	N	HE	SE
	Oparin	27.07.07	AA		52	50	49	143	23	18	180	17	57	1	4,000	L	NO		SS	1	NO	LO		2		8	230	240	Y	HE	SE
	Oparin	27.07.07	AA		52	45	86	143	23	21	210	18	22	1	10,000	L	SE	2	SS	1	SA	SW		12		7	270	205	N	HE	MO
	Oparin	29.07.07	AA		52	15	67	143	37	16	25	05	58	0	2,000	L	NO		SS	1	SP	SW		2	3	E	150	100	N	BO	MO
	Oparin	29.07.07		MK	52	17	83	143	35	78	350	08	42	0	0,500	L	SE	3	SS	1	NO	LO		2		E	50	30	N	HE	SE
	Oparin	29.07.07		MK	52	31	44	143	27	67	345	09	57	0	99	L	NO		SS	1	NO	SW		1		E	50	20	N	HE	SE
	Oparin	29.07.07		MK	52	35	80	143	24	99	345	10	21	0	99	L	NO		SS	3	NO	SW		12		2	850	330	Y	HE	SE
	Oparin	29.07.07		MK	52	36	60	143	24	52	345	10	25	0	99	L	NO		SS	1	NO	SW		12		E	70	335	N	HE	SE
	Oparin	29.07.07		MK	52	37	10	143	24	22	345	10	28	0	99	L	NO		SS	1	NO	SW		2		5	350	25	Y	HE	SE
	Oparin	29.07.07	AA		52	40	5	143	22	22	360	11	21	0	8,000	L	NO		SS	1	SP	SW		3		E	150	280	N	BO	SE
	Oparin	30.07.07	AA		52	21	52	143	46	62	270	14	34	1	9,000	L	NO		SS	1	NO	SW		11		4	450	230	Y	HE	SE
	Oparin	30.07.07	AA		52	21	54	143	40	14	270	14	57	1	10,000	L	NO		SS	1	NO	SW		11		5	350	220	Y	HE	SE
	Oparin	31.07.07		MK	51	58	91	143	29	92	185	09	37	0	8,000	L	NO		SS	1	NO	LO		10		E	200	110	N	HE	SE

	Oparin	31.07.07	AA		51	50	0	143	37	10	280	12	19	1	8,000	L	NO		SS	1	NO	SW		1		9	200	320	Y	HE	SE
	Oparin	31.07.07	AA		51	51	2	143	29	98	5	12	50	1	6,000	L	NO		SS	1	NO	SW		4		3	600	140	Y	HE	SE
	Oparin	31.07.07	AA		51	51	59	143	30	0	5	12	53	1	6,000	L	NO		SS	1	NO	SW		10		12	160	310	Y	BO	MO
	Oparin	31.07.07	AA		51	53	63	143	30	61	105	13	07	0	6,000	L	NO		SS	1	SA	SW		11		E	20	80	Y	BO	MO
	Oparin	31.07.07	AA		51	53	57	143	31	10	105	13	09	0	6,000	L	NO		SS	1	SA	SW		1		E	100	130	Y	BO	MO
	Oparin	31.07.07	AA		51	53	53	143	36	96	95	13	30	0	6,000	L	NO		SS	1	SP	SW		1		8	230	140	Y	BO	MO
	Oparin	31.07.07		MK	51	53	49	143	46	95	95	14	05	0	4,000	L	NO		SS	1	NO	LO		11		E	100	70	N	HE	SE
	Oparin	01.08.07	AA		52	9	22	143	15	52	60	09	09	1	1,000	L	NO		SS	1	NO	SW		11		E	50	30	N	HE	SE
	Oparin	01.08.07	AA		52	10	15	143	18	66	115	09	22	1	8,000	L	NO		SS	1	NO	SW		10		E	70	70	N	HE	SE
	Oparin	01.08.07	AA		52	9	81	143	20	10	110	09	27	1	8,000	L	NO		SS	1	NO	SW		2		E	60	160	N	HE	SE
	Oparin	01.08.07	AA		52	9	8	143	23	44	110	09	40	0	5,000	L	NO		SS	1	NO	SW		1		E	250	160	N	BO	SE
	Oparin	01.08.07	AA		52	8	94	143	24	11	105	09	42	0	2,000	L	NO		SS	1	NO	SW		12		E	600	105	N	HE	SE
	Oparin	01.08.07		MK	52	12	37	143	52	24	90	12	47	1	6,000	L	NO		SS	1	NO	LO		2		E	100	160	N	HE	SE
	Oparin	01.08.07	AA		52	13	94	143	39	23	260	15	22	0	0,900	L	NO		SS	1	ST	SW		2	3	E	350	320	N	HE	SE
	Oparin	02.08.07		MK	52	29	56	143	22	78	26	11	50	0	0,200	L	NO		SS	1	SA	SW		10	9	E	50	320	N	HE	SE
	Oparin	03.08.07	AA		53	2	35	143	21	40	305	15	30	1	9,000	L	LI	8\10	SS	1	SA	SW		12		5	350	300	Y	BO	MO
	Oparin	03.08.07		MK	53	15	88	143	16	73	350	17	42	2	9,000	L	SE	9	SS	1	NO	LO		2		E	50	45	N	HE	SE
	Oparin	04.08.07	AA		53	19	83	143	14	85	255	06	24	1	10,000	L	NO		SS	1	NO	LO		11	10	E	50	320	N	HE	SE
	Oparin	05.08.07		MK	52	15	17	143	12	87	10	07	30	1	10,000	L	SE	3	SS	1	NO	LO		1		3	600	40	Y	HE	SE
	Oparin	05.08.07	AA		52	32	21	143	22	3	5	09	17	0	10,000	L	NO		SS	1	SP	SW		8	10	14	120	80	N	HE	MO
	Oparin	05.08.07	AA		52	33	22	143	22	5	5	09	23	0	10,000	L	NO		SS	1	NO	SW		1		5	350	50	Y	HE	SE
	Oparin	08.08.07	AA		53	9	11	143	20	4	350	17	55	1	0,100	L	NO		SS	1	SA	LO		11	10	E	50	320	N	HE	SE
	Oparin	08.08.07	AA		53	19	26	143	15	40	350	19	00	1	0,200	L	NO		SS	1	NO	SW		1	2	E	70	30	N	HE	SE
	Oparin	09.08.07	AA		53	21	78	143	14	31	350	08	58	1	0,500	L	NO		SS	1	SP	SW		11	10	E	60	290	N	HE	SE
	Oparin	12.08.07		MK	53	18	20	143	18	78	130	09	44	1	0,100	L	NO		SS	1	NO	LO		9		E	70	40	N	HE	SE
	Oparin	14.08.07		MK	53	3	63	143	22	28	290	14	02	0	8,000	L	NO		SS	1	NO	LO		12		7	270	285	Y	HE	SE
	Oparin	14.08.07	AA		52	46	5	143	23	23	170	19	30	1	9,000	L	NO		SS	3	NO	SW	RE	12		E	300	165	Y	HE	SE
	Oparin	14.08.07		MK	52	41	40	143	25	43	170	19	58	1	9,000	L	NO		SS	1	NO	LO		3		E	50	250	N	HE	SE
	Oparin	15.08.07	AA		52	7	47	143	48	36	280	10	55	1	10,000	L	NO		SS	1	SP	SW		9		E	200	190	N	BO	MO
	Oparin	15.08.07		MK	52	3	99	143	43	81	95	13	06	1	10,000	L	NO		SS	1	NO	LO		2		E	50	150	N	HE	SE
	Oparin	15.08.07		MK	52	3	99	143	45	94	95	13	13	1	10,000	L	NO		SS	1	NO	LO		2		E	100	150	N	HE	SE
	Oparin	19.08.07		MK	52	1	55	143	42	88	60	15	34	0	8,000	L	NO		SS	2	NO	LO		11		5	350	40	B	HE	SE
	Oparin	21.08.07		MK	53	2	67	143	20	93	180	11	02	0	8,000	L	NO		SS	1	SA	SW		2	4	6	300	230	B	HE	SE
	Oparin	21.08.07		MK	52	57	58	143	21	91	180	11	31	0	8,000	L	NO		SS	1	ST	SW		2	11	5	350	235	B	HE	SE
	Oparin	21.08.07		MK	52	42	91	143	22	51	185	15	33	0	0,300	L	NO		SS	1	SA	SW		2	3	E	50	250	E	HE	SE
	Oparin	25.08.07		MK	53	36	76	143	5	61	355	15	54	2	10,000	L	MO	9	SS	1	NO	LO		11		E	60	320	E	HE	SE
	Oparin	24.08.07		MK	53	24	33	143	13	25	165	20	04	1	10,000	L	NO		SS	1	NO	LO		12		E	70	180	E	HE	SE
	Oparin	25.08.07	AA		52	28	52	143	39	98	270	11	34	0	10,000	L	NO		SS	1	NO	SW		11		8	230	235	E	BO	SE
	Oparin	25.08.07		MK	52	24	98	143	37	13	100	12	54	0	8,000	L	NO		SS	1	SP	SW		10	7	5	350	40	E	HE	SE
	Oparin	25.08.07		MK	52	24	96	143	46	11	100	13	22	0	8,000	L	NO		SS	1	NO	SW		9		5	350	25	B	HE	SE
	Oparin	25.08.07	AA		52	22	57	143	54	98	185	14	02	0	8,000	L	NO		SS	1	NO	SW		2		4	450	240	B	BO	SE
	Oparin	25.08.07	AA		52	21	39	143	54	94	220	14	08	0	8,000	L	NO		SS	2	NO	SW		2		E	150	260	E	BO	SE
	Oparin	05.09.07	AA		54	22	84	142	38	20	335	07	15	0	10,000	L	NO		SS	1	ST	SW		11		E	150	310	E	HE	SE
	Oparin	05.09.07	AA		54	12	76	142	58	56	160	17	50	2	4,000	L	NO		SS	1	SP	SW		1		E	50	190	E	HE	SE

	Oparin	06.09.07		MK	52	28	20	143	29	66	160	12	48	2	10,000	L	NO		SS	1	NO	LO		10		E	50	100	E	HE	SE
	Oparin	07.09.07		MK	52	38	18	143	22	36	5	10	28	1	10,000	L	LI	4	SS	1	NO	LO		12		E	100	5	E	HE	SE
	Oparin	13.09.07	MK	EP	52	0	2	143	33	87	95	07	45	2	10,000	L	NO		SS	1	NO	LO		12		E	30	90	B	HE	SE
	Oparin	19.09.07	AA	VS	52	53	27	143	22	93	275	12	55	3	7,000	L	MO	9	SS	1	SA	SW		11		E	70	250	E	BO	MO
	Oparin	21.09.07	MK	EP	52	50	71	143	22	94	40	15	35	3	10,000	L	SE	6/7	SS	1	NO	LO		7		E	30	240	E	HE	SE
	Oparin	26.09.07	MK	EP	52	50	39	143	22	63	240	11	08	2	10,000	L	SE	9	SS	1	NO	LO		1		E	30	280	E	HE	SE
	Oparin	02.10.07	MK	EP	52	33	93	143	21	11	345	17	50	2	10,000	L	MO	9	SS	1	SA	SW	LO	3	9	E	150	260	B	HE	SE
	Oparin	04.10.07	AA		53	24	85	143	12	86	345	16	09	1	10,000	L	SE	8/9	SS	1	SA	SW		10		E	40	290	E	BO	SE
	Bogorov	09.07.07	AA		52	12	24	143	24	38	266	13	13	1	10,000	L	NO		SS	1	SP			10	9	E	150	200	N	HE	SE
	Bogorov	09.07.07		MK	52	15	8	143	18	13	78	14	50	1	10,000	L	NO		SS	1	LO			9	88	E	100	350	N	HE	SE
	Bogorov	09.07.07	AA		52	32	39	143	24	68	317	19	35	1	8,000	L	NO		SS	1	NO	FD		10	11	E	30	10	N	HE	SE
	Bogorov	10.07.07	AA		52	45	91	143	28	1	116	07	58	1	10,000	L	NO		SS	1	NO	LO		11	10	7	270	260	Y	HE	SE
	Bogorov	11.07.07	AA		53	21	12	143	18	37	289	07	34	1	10,000	L	NO		SS	1	NO	RE		2		E	30	220	N	HE	SE
	Bogorov	11.07.07		MK	53	0	59	143	24	46	89	15	17	2	10,000	L	LI	3	SS	1	NO	LO		12		E	30	90	N	HE	SE
	Bogorov	14.07.07	AA		53	12	76	143	17	75	168	10	38	1	8,000	L	NO		SS	1	NO	LO		12		10	190	180	N	HE	SE
	Bogorov	25.07.07	VS		52	24	28	143	24	18	180	14	30	1	6,000	L	NO		SS	1	ST	LO	FD	9	99		20	90	E	BO	SE
	Bogorov	26.07.07		EP	52	35	17	143	27	41	335	13	00	1	3,000	L	NO		SS	1	ST	SW	LO	1	8		1500	20	B	HE	SE
	Bogorov	26.07.07		EP	52	44	69	143	24	22	2	13	50	1	8,000	L	NO		SS	1	SP	SW	LO	10	8		300	280	B	HE	MO
	Bogorov	15.08.07		EP	52	28	89	143	28	0	325	12	30	2	10,000	OL	NO		SS	1	ST	SW	LO	11	6		30	300	E	BO	VI
	Bogorov	18.08.07	VS		53	7	20	143	19	25	174	17	00	2	10,000	L	NO		SS	1	ST	LO	SI	3	4		50	270	E	HE	SE
	Bogorov	20.08.07	VS		53	11	94	143	20	55	283	14	00	3	2,000	L	NO		SS	2	SA	SW	TH	11	10		30	250	E	HE	VI
	Bogorov	09.09.07	VS		52	21	32	143	32	83	80	08	30	2	10,00	L	LI	1	SS	1	SP	LO	SW	11	8		30	50	E	HE	SE

Appendix 1 (continued)

Remarks to Main Table (did not fit on main sheet):

Sighting ID	Vessel (Судно)	Date (Дата)	Latitude (Широта, ГРАДУСЫ)	Minutes (Широта, МИНУТЫ)	Minutes (Широта, МИНУТЫ)	Longitude (Долгота, ГРАДУСЫ)	Minutes (Долгота, МИНУТЫ)	Hour (Время, часы)	Minute (Время, минуты)	SPECIES (Виды)	REMARKS, Y - refers to above record (Примечания, Y- относится к предыдущей строке)
	Oparin	29.07.0	52	28	86	143	21	18	00	GW	Mother with calf
2	Oparin	30.07.0	52	14	52	143	45	18	00	GW	ID1
2	Oparin	31.07.0	52	3	97	143	47	07	57	GW	ID1
5	Oparin	31.07.0	52	0	50	143	42	08	47	GW	ID4
8	Oparin	31.07.0	51	56	99	143	39	10	19	GW	ID7
2	Oparin	31.07.0	51	57	1	143	37	15	18	GW	ID1
4	Oparin	31.07.0	52	7	46	143	44	19	48	GW	ID3
	Oparin	03.08.0	52	52	18	143	21	10	38	GW	Mother with calf
6	Oparin	05.08.0	52	42	87	143	22	10	18	GW	ID 3
8	Oparin	05.08.0	52	45	70	143	22	10	34	GW	ID 4
11	Oparin	05.08.0	52	50	59	143	22	11	01	GW	ID 10
12	Oparin	05.08.0	52	51	71	143	22	11	07	GW	ID 9
15	Oparin	05.08.0	52	54	27	143	22	11	21	GW	ID 13
18	Oparin	05.08.0	52	57	34	143	21	11	38	GW	ID 14
19	Oparin	05.08.0	53	0	42	143	21	11	56	GW	Possibly incorrect determination of distance due to refraction
22	Oparin	05.08.0	53	3	19	143	20	12	11	GW	ID 21
24	Oparin	05.08.0	53	5	32	143	20	12	24	GW	ID 19
28	Oparin	05.08.0	53	17	26	143	16	13	31	GW	ID 27
	Oparin	07.08.0	52	46	48	143	23	19	35	GW	Repeat sighting of previous group
	Oparin	08.08.0	52	44	17	143	23	06	00	GW	Fluking
2	Oparin	15.08.0	52	7	47	143	48	10	55	GW	ID 1
5	Oparin	15.08.0	52	3	98	143	44	13	09	GW	These whales may have been separated from group ID 1,2
6	Oparin	15.08.0	52	3	98	143	44	13	09	GW	ID 4

8	Oparin	15.08.0	52	0	53	143	42	14	12	GW	ID 7
10	Oparin	15.08.0	51	57	1	143	32	15	24	GW	ID 9
13	Oparin	15.08.0	51	53	53	143	36	17	30	GW	ID 12
1	Oparin	16.08.0	52	27	65	143	30	16	54	GW	Distance may have been determined incorrectly due to refraction
	Oparin	28.08.0	53	8	28	143	20	13	30	GW	possibly with calf
	Oparin	28.08.0 7	53	17	43	143	15	18	15	GW	About 18:15 while attempting to go around a group of killer whales sighted at 18:08, we unexpectedly came across a group of gray whales that we had not seen previously due to the glare. The vessel's speed was reduced to 3 knots, and an attempt was made to go around them to the left, but the group of whales, having started to move, came toward the vessel, closing the range, and as a result the group passed 600–700 m in front of the bow.
	Oparin	29.08.0	53	18	47	143	15	06	41	GW	Possibly 1 calf
	Oparin	29.08.0	52	46	30	143	23	19	22	GW	Possibly a repeat sighting of whales noted at 15:48-16:16
	Oparin	29.08.0	52	46	30	143	23	19	22	GW	Possibly a repeat sighting of whales noted at 15:48-16:16
	Oparin	30.08.0	52	51	79	143	23	10	34	GW	The group from 9 o'clock may have moved
	Oparin	31.08.0	53	2	69	143	19	06	30	GW	Possibly 1 calf
	Oparin	31.08.0 7	52	34	65	143	22	17	25	GW	Some time after being sighted, two whales began so-called "mating games": they began to come out of the water abruptly, showing their head, lie on their side and bump into each other. A third whale left them, going toward shore.
5	Oparin	01.09.0	51	56	99	143	42	11	12	GW	The fishing vessel AKTEON with sign UEGU, IMO 008722094 was trawling in the area
18	Oparin	07.09.0 7	52	55	93	143	22	12	03	GW	The vessel maneuvered to the right around the group of whales and returned to the transect at 12:12
	Oparin	07.09.0	53	19	74	143	15	18	09	GW	Repeat sighting of the whales seen at 14:33
	Oparin	09.09.0	52	52	54	143	23	10	47	GW	One of the whales separated from the group and slowly went north, going around the drifting vessel at a distance of 200 m
	Oparin	16.09.0	52	28	44	143	19	17	54	GW	Possibly a repeat sighting from 16:57
	Oparin	17.09.0	52	50	12	143	23	10	15	GW	Possibly a calf.
	Oparin	17.09.0	52	50	16	143	23	10	17	GW	Possibly a calf.
	Oparin	17.09.0	52	50	89	143	23	11	00	GW	Going southeast.
	Oparin	18.09.0	52	50	79	143	23	10	26	GW	Repeat sightings 10:12.
	Oparin	20.09.0	52	51	5	143	23	14	49	GW	One of them a calf.
	Oparin	21.09.0	52	50	84	143	22	07	14	GW	Jumping.
	Oparin	25.09.0	52	50	39	143	22	08	17	GW	Moving south.
	Oparin	26.09.0	52	50	39	143	22	07	23	GW	Going north.
	Oparin	26.09.0	52	50	39	143	22	08	00	GW	Moving south.
	Oparin	26.09.0	52	50	39	143	22	08	05	GW	Jumped.
	Oparin	27.09.0	52	50	33	143	22	07	09	GW	Left going north.
	Oparin	03.10.0	53	23	39	143	13	18	10	GW	Repeat from 15:39
10	Oparin	04.10.0	52	47	24	143	22	11	58	GW	Stuck its head out
	Oparin	05.10.0	52	2	46	143	50	15	09	GW	Possibly 1 whale recounted from 10:34 and 4 from 10:40.
	Bogorov	10.07.0	52	49	0	143	25	18	15	GW	Repeat sighting of whales from 16:10

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	Bogorov	16.07.0	52	36	73	143	23	12	37	GW	Small whale, possibly a calf
	Bogorov	17.07.0	52	43	45	143	22	12	07	GW	Mother with calf
	Bogorov	26.07.0	52	41	74	143	25	13	30	GW	Whale was observed in one place for 30 minutes, feeding, front diving; fluke and blow were
	Bogorov	26.07.0	52	46	2	143	24	14	00	GW	A Zodiac from the <i>Akademik Oparin</i> was working near this whale.
	Bogorov	26.07.0	52	47	33	143	24	14	10	GW	This whale was moving east from shore.
	Bogorov	29.07.0	52	51	15	143	24	11	30	GW	This whale was noted alongside the Molikpaq platform.
	Bogorov	29.07.0	52	53	63	143	24	12	00	GW	This whale was moving from shore, crossing the vessel's path. The vessel was stopped. The whale went out to sea safely.
	Bogorov	03.08.0	53	8	82	143	20	17	30	GW	This whale was noted near shore, feeding.
	Bogorov	14.08.0	51	55	92	143	37	15	20	GW	The vessel was drifting.
	Oparin	15.09.0	51	49	98	143	50	18	54	BBW	End of the special survey in the Offshore Area
	Oparin	07.10.0	45	52	22	142	30	08	24	DP	Porpoised
	Oparin	05.09.0	54	22	84	142	38	07	11	HP	Milling around the vessel
	Oparin	15.08.0	52	10	99	143	35	09	38	KW	Male
	Oparin	18.08.0	52	19	93	143	35	16	07	KW	Male
	Oparin	23.08.0	53	55	35	143	3	11	56	KW	Male
	Oparin	25.08.0	52	22	31	143	45	19	27	KW	Mother with calf
	Oparin	28.08.0	53	16	64	143	15	18	08	KW	Male with pride
	Oparin	04.09.0	53	11	4	143	18	13	05	KW	2 females and a male
	Oparin	03.10.0	52	38	21	143	22	10	28	KW	Female
	Bogorov	06.07.0	45	45	57	141	5	20	57	KW	Male and 2 females
	Oparin	06.10.0	49	26	19	144	31	08	07	PWSD	Porpoised
	Oparin	15.09.0	51	51	91	143	46	19	13	SL	Playing
	Oparin	07.10.0	45	53	95	142	46	07	19	SL	Male sea lion
	Oparin	25.07.0	52	19	19	143	15	07	34	SS	The survey was halted at 7:39 due to deterioration of visibility, 52 19 67 143 15 71

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APPENDIX 2

Results of Shore-Based Surveys of Gray Whales and Other Cetaceans in Piltun Feeding Area in June-October 2007

1 – Date 2 – Monitoring station number 3 – Species of cetacean (GW – gray whale, MW – Minke whale, HP – harbor porpoise, KW – killer whale) 4 – Number of individuals
5 – Latitude (N) 6 – Longitude (E) 7 – Distance from animal to shore, *m* (on a perpendicular line)

Odoptu-Piltun section

1	2	3	4	5	6
23.VI	7	GW	2	52,93884	143,35776
23.VI	7	GW	1	52,93551	143,36128
23.VI	8	GW	1	52,90839	143,36236
23.VI	8	GW	2	52,86987	143,39778
23.VI	8	GW	1	52,85299	143,38550
24.VI	8	GW	1	52,87644	143,38687
24.VI	6	GW	1	53,05062	143,34986
24.VI	5	GW	1	53,12669	143,34152
24.VI	5	GW	1	53,12744	143,34146
24.VI	4	GW	1	53,26465	143,28006
24.VI	3	GW	1	53,25761	143,34504
24.VI	3	GW	1	53,35730	143,23735
29.VI	2	GW	2	53,26148	143,27687
29.VI	3	GW	1	53,35319	143,23954
29.VI	3	GW	1	53,31889	143,37394
29.VI	5	GW	1	53,06561	143,31478
29.VI	6	GW	1	53,10489	143,32001
29.VI	6	GW	1	53,05822	143,34946
29.VI	7	GW	2	52,94711	143,36837
29.VI	8	GW	1	52,92822	143,36122
29.VI	8	GW	1	52,92865	143,35983
29.VI	8	GW	1	52,92777	143,36259
29.VI	8	GW	1	52,86987	143,39778
29.VI	8	GW	1	52,85299	143,38550
1.VII	2	HP	1	53,33641	143,22981
1.VII	2	GW	2	53,33209	143,25330
1.VII	2	GW	1	53,27379	143,26080
1.VII	3	GW	1	53,35734	143,21814
1.VII	3	GW	1	53,30396	143,27593
1.VII	3	GW	1	53,25301	143,30430
1.VII	6	GW	1	53,05149	143,34361
1.VII	6	GW	1	53,02238	143,33765
1.VII	7	GW	1	52,99483	143,36678
2.VII	8	GW	1	52,84280	143,34532
2.VII	8	GW	1	52,84429	143,35066
2.VII	8	GW	3	52,85414	143,37828
9.VII	2	GW	1	53,32388	143,30403
9.VII	4	GW	1	53,17046	143,36862
9.VII	5	GW	1	53,13432	143,32709
9.VII	5	GW	2	53,10031	143,28291
9.VII	6	GW	1	53,07830	143,33508

1	2	3	4	5	6
9.VII	8	GW	1	52,91173	143,38074
9.VII	8	GW	1	52,86743	143,38364
9.VII	8	GW	1	52,85969	143,37775
9.VII	8	GW	1	52,85614	143,37383
10.VII	8	GW	1	52,84062	143,37981
10.VII	8	GW	1	52,84712	143,37757
10.VII	8	GW	1	52,85162	143,38387
10.VII	8	GW	1	52,87672	143,38230
10.VII	8	GW	1	52,93057	143,35273
10.VII	8	GW	2	52,93091	143,35127
10.VII	8	GW	1	52,96914	143,33178
10.VII	7	GW	2	52,90462	143,34458
10.VII	7	GW	1	52,90512	143,34656
10.VII	7	GW	2	52,90619	143,35049
10.VII	7	GW	1	52,92675	143,35673
10.VII	7	GW	1	52,93293	143,35674
10.VII	7	GW	1	52,93485	143,36018
10.VII	7	GW	1	52,95289	143,36252
10.VII	7	GW	1	52,97068	143,36682
10.VII	7	GW	1	53,02888	143,32895
10.VII	6	GW	1	53,10489	143,32001
10.VII	6	GW	2	53,10627	143,31392
10.VII	5	GW	1	53,08359	143,31894
10.VII	4	GW	1	53,09921	143,30810
10.VII	4	GW	1	53,08666	143,30410
10.VII	4	GW	1	53,25824	143,26199
10.VII	3	GW	1	53,17031	143,30412
14.VII	2	GW	1	53,33664	143,26847
14.VII	2	GW	1	53,26948	143,26271
14.VII	3	GW	1	53,25333	143,35173
14.VII	3	GW	1	53,22469	143,35048
14.VII	3	GW	1	53,21211	143,35103
14.VII	3	GW	1	53,21083	143,34952
14.VII	3	GW	1	53,20692	143,32953
14.VII	4	GW	1	53,23993	143,26941
14.VII	4	GW	1	53,23431	143,32384
14.VII	4	GW	1	53,14266	143,31389
14.VII	5	GW	1	53,16176	143,28280
14.VII	5	GW	1	53,12824	143,32894
14.VII	7	GW	1	53,00372	143,33011
14.VII	7	GW	1	52,98596	143,34874

14.VII	7	GW	1	52,97675	143,34854
14.VII	7	GW	1	52,93742	143,34002
14.VII	7	GW	1	52,92329	143,34831
14.VII	8	GW	1	52,93155	143,34834
14.VII	8	GW	2	52,93238	143,34387
14.VII	8	GW	1	52,88067	143,37534
17.VII	1	GW	1	53,41589	143,25151
17.VII	1	GW	1	53,36061	143,19967
17.VII	2	GW	1	53,44010	143,15769
17.VII	2	GW	1	53,28228	143,27914
17.VII	2	GW	1	53,26148	143,27687
17.VII	2	GW	1	53,25905	143,27032
17.VII	3	GW	2	53,32542	143,26029
26.VII	1	GW	1	53,39635	143,18430
27.VII	1	GW	1	53,47143	143,15401
27.VII	3	GW	1	53,36724	143,22629
27.VII	3	GW	1	53,21427	143,33348
27.VII	3	GW	1	53,18818	143,33385
27.VII	4	GW	1	53,26536	143,24000
27.VII	4	GW	1	53,26581	143,25002
27.VII	4	GW	1	53,10748	143,33484
28.VII	8	GW	1	52,84207	143,36820
28.VII	8	GW	1	52,85730	143,37520
28.VII	8	GW	1	52,91930	143,34022
28.VII	7	GW	1	52,98728	143,37192
28.VII	7	GW	1	53,00236	143,35872
28.VII	7	GW	1	53,00172	143,35955
28.VII	7	GW	1	52,99973	143,36193
28.VII	5	GW	2	53,08518	143,32248
28.VII	5	GW	1	53,21648	143,29073
30.VII	3	GW	1	53,23659	143,31258
3.VIII	1	MW	1	53,46975	143,17622
3.VIII	1	HP	1	53,42106	143,19380
3.VIII	1	MW	1	53,41075	143,25163
3.VIII	2	GW	1	53,31326	143,25255
3.VIII	2	GW	2	53,28681	143,28650
3.VIII	5	GW	1	53,06991	143,32811
3.VIII	6	GW	2	53,06082	143,34230
3.VIII	6	GW	1	53,01081	143,32040
3.VIII	6	GW	1	53,00132	143,31941
3.VIII	7	GW	1	53,00155	143,33944
3.VIII	7	GW	1	52,99877	143,34410
3.VIII	7	GW	1	53,00701	143,35914
3.VIII	7	GW	1	52,99863	143,35281
3.VIII	7	GW	1	52,97554	143,36031
3.VIII	7	GW	1	52,97423	143,36040
3.VIII	8	GW	1	52,91951	143,33910
3.VIII	8	GW	2	52,90437	143,39978
3.VIII	8	GW	1	52,87279	143,38130
3.VIII	8	GW	1	52,84753	143,39037
3.VIII	8	GW	1	52,84712	143,37757
3.VIII	8	GW	1	52,82561	143,36866
4.VIII	8	GW	1	52,84107	143,36595
4.VIII	8	GW	1	52,84156	143,36709
4.VIII	8	GW	1	52,84062	143,37981

4.VIII	8	GW	1	52,85084	143,36600
4.VIII	8	GW	3	52,88913	143,39845
4.VIII	8	GW	3	52,89163	143,42131
4.VIII	8	GW	1	52,91538	143,36438
4.VIII	8	GW	1	52,91841	143,35700
4.VIII	8	GW	1	52,93212	143,34537
4.VIII	8	GW	1	52,93184	143,34686
4.VIII	7	GW	1	52,91468	143,34382
4.VIII	7	GW	2	52,93022	143,33963
4.VIII	7	GW	1	52,88071	143,37379
4.VIII	7	GW	1	52,94184	143,34884
4.VIII	7	GW	1	53,01534	143,31999
4.VIII	7	GW	1	53,03670	143,32145
4.VIII	6	GW	1	52,99291	143,30958
4.VIII	6	GW	1	53,03028	143,32992
4.VIII	6	GW	1	53,07923	143,30582
4.VIII	5	GW	1	53,06429	143,30954
4.VIII	5	GW	1	53,11148	143,33288
4.VIII	5	GW	1	53,17240	143,29998
4.VIII	5	GW	1	53,17877	143,29873
4.VIII	5	GW	1	53,17208	143,30135
4.VIII	4	MW	1	53,22021	143,31833
4.VIII	4	GW	1	53,25528	143,32494
4.VIII	4	GW	1	53,25762	143,27340
4.VIII	4	GW	1	53,25816	143,26428
4.VIII	3	GW	1	53,18567	143,31585
4.VIII	3	GW	1	53,21109	143,30677
4.VIII	3	GW	1	53,27404	143,30879
4.VIII	3	GW	1	53,36186	143,21771
4.VIII	2	GW	1	53,24967	143,26977
4.VIII	2	GW	1	53,25126	143,27471
4.VIII	2	GW	1	53,28654	143,26979
4.VIII	2	GW	1	53,29511	143,26584
4.VIII	2	GW	1	53,40483	143,22682
4.VIII	1	MW	1	53,40552	143,20476
5.VIII	2	GW	1	53,28732	143,27119
5.VIII	2	GW	1	53,26303	143,26091
5.VIII	2	GW	1	53,24333	143,24386
5.VIII	3	GW	1	53,37915	143,26028
5.VIII	3	GW	1	53,30419	143,29236
5.VIII	4	GW	1	53,26574	143,24751
5.VIII	4	GW	1	53,24276	143,27571
5.VIII	4	GW	1	53,24314	143,27202
5.VIII	4	GW	1	53,10902	143,31400
5.VIII	4	GW	1	53,11212	143,30198
5.VIII	5	GW	1	53,19009	143,26765
5.VIII	5	GW	1	53,18997	143,27711
5.VIII	5	GW	1	53,12106	143,31825
5.VIII	5	GW	2	53,10277	143,32558
5.VIII	5	GW	3	53,07272	143,30582
5.VIII	6	GW	1	53,11531	143,28889
5.VIII	6	GW	2	53,10714	143,30925
5.VIII	6	GW	1	53,04277	143,33830
5.VIII	6	GW	1	53,04413	143,33418
5.VIII	6	GW	3	53,03176	143,35489

5.VIII	6	GW	1	53,02603	143,34924
5.VIII	7	GW	1	53,04682	143,31642
5.VIII	7	GW	1	53,03694	143,31961
5.VIII	7	GW	1	53,03670	143,32145
5.VIII	7	GW	1	52,91420	143,34211
6.VIII	8	GW	1	52,80531	143,39846
6.VIII	8	GW	1	52,85667	143,38119
6.VIII	8	GW	1	52,88065	143,36977
6.VIII	8	GW	2	52,92371	143,37308
6.VIII	8	GW	1	52,93057	143,35273
6.VIII	8	GW	1	52,92865	143,35983
6.VIII	7	GW	1	52,87644	143,35729
6.VIII	7	GW	1	52,87582	143,35448
6.VIII	7	GW	2	52,87708	143,36010
6.VIII	7	GW	1	52,90988	143,36186
6.VIII	7	GW	1	52,97858	143,35702
6.VIII	7	GW	2	52,98396	143,35790
6.VIII	7	GW	1	53,01183	143,35077
6.VIII	7	GW	1	53,02012	143,34204
6.VIII	7	GW	1	53,04614	143,32277
6.VIII	7	GW	1	53,04731	143,31001
6.VIII	6	GW	1	53,01525	143,33209
6.VIII	6	GW	2	53,01172	143,34678
6.VIII	6	GW	1	53,02928	143,35975
6.VIII	6	GW	1	53,02617	143,35679
6.VIII	6	GW	1	53,03170	143,36172
6.VIII	6	GW	1	53,06894	143,35889
6.VIII	5	GW	1	53,16804	143,29868
6.VIII	4	GW	1	53,08527	143,29592
6.VIII	4	GW	1	53,05640	143,32779
6.VIII	4	GW	1	53,13077	143,33531
6.VIII	3	GW	1	53,09518	143,33685
6.VIII	3	GW	1	53,16099	143,32328
6.VIII	3	GW	1	53,22314	143,32441
7.VIII	2	GW	1	53,33912	143,27232
7.VIII	3	GW	1	53,35339	143,23430
7.VIII	3	GW	1	53,24746	143,30161
7.VIII	3	HP	1	53,25551	143,25873
7.VIII	4	GW	1	53,12045	143,34250
7.VIII	4	GW	1	53,10902	143,31400
7.VIII	5	GW	1	53,16986	143,30939
7.VIII	5	GW	1	53,14927	143,31785
7.VIII	5	GW	2	53,10783	143,34189
7.VIII	5	GW	1	53,06388	143,30777
7.VIII	6	GW	1	53,09152	143,32189
7.VIII	6	GW	1	53,09504	143,36055
7.VIII	6	GW	2	53,07801	143,34026
7.VIII	6	GW	1	53,01107	143,34557
7.VIII	6	GW	1	53,00004	143,33778
7.VIII	6	GW	1	52,99523	143,32161
7.VIII	7	GW	1	53,03235	143,34280
7.VIII	7	GW	1	52,93947	143,35875
7.VIII	7	GW	1	52,91587	143,37591
7.VIII	7	GW	1	52,92105	143,36157
7.VIII	8	GW	1	52,92326	143,35691

7.VIII	8	GW	1	52,86206	143,38608
7.VIII	8	GW	1	52,84712	143,37757
15.VIII	8	GW	1	52,84397	143,34961
15.VIII	8	GW	1	52,85111	143,35955
15.VIII	7	GW	1	52,92934	143,36198
15.VIII	7	GW	2	52,94564	143,34943
15.VIII	7	GW	1	52,96950	143,35248
15.VIII	7	GW	2	53,03785	143,31033
15.VIII	7	GW	1	53,03169	143,30742
16.VIII	1	GW	1	53,33379	143,20967
16.VIII	1	GW	1	53,33502	143,21424
16.VIII	2	GW	1	53,27566	143,25407
16.VIII	2	GW	1	53,27627	143,25580
16.VIII	2	GW	1	53,25829	143,26809
16.VIII	2	GW	2	53,24819	143,26474
16.VIII	3	GW	1	53,34655	143,21918
16.VIII	3	GW	1	53,34104	143,22652
16.VIII	3	GW	1	53,31273	143,26868
16.VIII	3	GW	1	53,27521	143,29474
16.VIII	5	GW	1	53,13328	143,31457
16.VIII	5	GW	1	53,13047	143,31217
16.VIII	5	GW	2	53,07606	143,29241
16.VIII	5	GW	1	53,07630	143,29383
16.VIII	6	GW	1	53,02909	143,34644
16.VIII	6	GW	1	53,03700	143,32438
16.VIII	6	GW	2	52,99996	143,31330
16.VIII	6	GW	1	52,99966	143,31175
16.VIII	7	GW	1	53,02213	143,31600
16.VIII	7	GW	2	53,00737	143,32493
16.VIII	7	GW	1	52,98700	143,34356
16.VIII	7	GW	1	52,93851	143,32892
16.VIII	8	GW	1	52,86112	143,34416
16.VIII	8	GW	1	52,83259	143,36067
16.VIII	8	GW	1	52,85389	143,34344
16.VIII	8	GW	1	52,83493	143,36743
17.VIII	8	GW	1	52,83098	143,35503
17.VIII	8	GW	2	52,86410	143,40479
17.VIII	8	GW	1	52,86661	143,39636
17.VIII	8	GW	1	52,92226	143,34313
17.VIII	8	GW	2	52,91390	143,32523
17.VIII	8	GW	3	52,91222	143,32310
17.VIII	7	GW	3	52,91633	143,32014
17.VIII	7	GW	1	52,98455	143,34536
17.VIII	7	GW	1	53,03054	143,31915
17.VIII	6	GW	1	53,00973	143,32972
17.VIII	6	MW	1	53,07050	143,35793
17.VIII	5	GW	2	53,13045	143,31577
17.VIII	5	GW	2	53,13179	143,31163
17.VIII	5	GW	2	53,13212	143,30835
17.VIII	5	GW	1	53,15698	143,28713
17.VIII	5	GW	1	53,19005	143,26575
17.VIII	4	GW	2	53,11212	143,30198
17.VIII	4	GW	1	53,12328	143,29434
17.VIII	4	GW	1	53,11261	143,30394
17.VIII	4	GW	2	53,11313	143,30588

17.VIII	4	GW	1	53,11897	143,30802
17.VIII	4	GW	1	53,23791	143,28499
17.VIII	3	GW	1	53,18334	143,29628
17.VIII	3	GW	1	53,18407	143,29861
17.VIII	2	GW	1	53,26148	143,27687
17.VIII	1	GW	1	53,38746	143,21579
17.VIII	1	GW	1	53,44680	143,22568
18.VIII	1	GW	1	53,33440	143,21197
18.VIII	2	GW	1	53,29969	143,25568
18.VIII	2	GW	1	53,28315	143,24674
18.VIII	3	GW	1	53,36143	143,20911
18.VIII	3	KW	1	53,26061	143,38444
18.VIII	3	KW	1	53,25569	143,38398
18.VIII	4	GW	1	53,24381	143,26085
18.VIII	4	MW	1	53,20490	143,36994
18.VIII	5	GW	1	53,16102	143,29902
18.VIII	7	GW	1	53,02290	143,30887
18.VIII	7	GW	1	52,92554	143,33875
18.VIII	7	GW	1	52,92512	143,33735
18.VIII	8	GW	1	52,87153	143,38556
19.VIII	8	GW	2	52,89360	143,38946
19.VIII	8	GW	1	52,89287	143,38983
19.VIII	7	GW	1	52,93159	143,34332
19.VIII	7	GW	1	52,96507	143,35888
19.VIII	7	GW	1	53,02172	143,31881
19.VIII	6	GW	1	52,99695	143,32824
19.VIII	6	GW	1	53,07831	143,34530
19.VIII	5	GW	3	53,17509	143,28289
19.VIII	4	GW	1	53,11953	143,30977
19.VIII	4	GW	2	53,12130	143,31495
19.VIII	3	GW	1	53,15840	143,28187
19.VIII	3	GW	1	53,35876	143,34177
21.VIII	2	GW	1	53,27845	143,25134
21.VIII	3	GW	1	53,32930	143,31235
21.VIII	3	GW	2	53,25235	143,25596
24.VIII	1	GW	1	53,48628	143,12627
24.VIII	2	GW	1	53,23459	143,26160
24.VIII	3	GW	1	53,33624	143,22444
24.VIII	4	GW	1	53,25253	143,25516
24.VIII	6	GW	1	53,01516	143,34158
24.VIII	6	GW	1	52,99413	143,31651
24.VIII	6	GW	1	52,99448	143,31822
24.VIII	7	GW	1	53,01495	143,34380
24.VIII	7	GW	1	53,00883	143,33412
24.VIII	7	GW	1	52,99877	143,34410
24.VIII	7	GW	1	52,94117	143,31860
24.VIII	7	GW	1	52,91288	143,33691
24.VIII	8	GW	1	52,93435	143,31612
24.VIII	8	GW	2	52,91111	143,34983
24.VIII	8	GW	2	52,85415	143,35941
24.VIII	8	GW	1	52,84534	143,37459
25.VIII	8	GW	2	52,79512	143,36107
25.VIII	8	GW	1	52,82132	143,35213
25.VIII	8	GW	1	52,79557	143,36353
25.VIII	8	GW	1	52,83259	143,36067

25.VIII	8	GW	1	52,82561	143,36866
25.VIII	8	GW	1	52,83878	143,37627
25.VIII	8	GW	1	52,85605	143,35786
25.VIII	8	GW	1	52,87214	143,38107
25.VIII	8	GW	1	52,88913	143,39135
25.VIII	8	GW	1	52,92980	143,38286
25.VIII	8	GW	1	52,93057	143,35273
25.VIII	7	GW	1	52,90282	143,33650
25.VIII	7	HP	1	52,97690	143,34352
25.VIII	6	GW	1	53,09386	143,33632
25.VIII	6	GW	1	53,09812	143,33975
25.VIII	4	GW	3	53,23702	143,30399
25.VIII	3	GW	1	53,19959	143,34281
25.VIII	1	MW	1	53,44120	143,22611
28.VIII	2	GW	1	53,32464	143,32317
28.VIII	3	GW	1	53,23111	143,35019
28.VIII	4	GW	1	53,13333	143,33947
28.VIII	5	GW	1	53,16901	143,31198
28.VIII	5	GW	3	53,12317	143,31658
28.VIII	5	GW	1	53,11409	143,33924
28.VIII	5	GW	3	53,11083	143,33248
28.VIII	5	GW	2	53,03510	143,30551
28.VIII	5	GW	1	53,03475	143,30289
28.VIII	6	HP	2	53,07708	143,29445
28.VIII	6	GW	2	53,00528	143,33247
28.VIII	6	GW	1	53,01107	143,34557
28.VIII	6	GW	2	53,00879	143,32717
28.VIII	6	GW	1	53,01160	143,32284
28.VIII	6	GW	1	53,01120	143,32163
28.VIII	6	GW	1	53,01081	143,32040
28.VIII	7	GW	1	53,03826	143,30095
28.VIII	7	GW	1	53,03815	143,30471
28.VIII	7	GW	1	53,03085	143,34786
28.VIII	7	GW	2	52,96495	143,37956
28.VIII	8	GW	1	52,90630	143,38736
28.VIII	8	GW	2	52,82781	143,37489
28.VIII	8	GW	1	52,82614	143,37024
28.VIII	8	GW	1	52,82561	143,36866
29.VIII	8	GW	1	52,80217	143,38958
29.VIII	8	GW	1	52,80880	143,40696
29.VIII	8	GW	1	52,81265	143,41503
29.VIII	8	GW	1	52,84712	143,37757
29.VIII	7	GW	1	53,02290	143,30887
30.VIII	1	GW	1	53,33440	143,21197
30.VIII	2	GW	2	53,31581	143,25699
30.VIII	2	GW	1	53,25905	143,27032
30.VIII	3	GW	1	53,34962	143,23905
30.VIII	3	GW	3	53,32268	143,25693
30.VIII	4	GW	1	53,20786	143,28492
30.VIII	4	GW	1	53,05497	143,32057
30.VIII	5	GW	1	53,06817	143,32323
30.VIII	5	GW	1	53,07478	143,31328
30.VIII	5	GW	1	53,08652	143,30178
30.VIII	5	GW	1	53,03730	143,31843
30.VIII	6	GW	1	53,11537	143,28528

30.VIII	6	GW	1	53,12389	143,29993
30.VIII	6	GW	1	53,10043	143,29465
30.VIII	6	GW	1	53,12220	143,31414
30.VIII	6	GW	1	53,10061	143,31703
30.VIII	6	GW	1	53,07175	143,31918
30.VIII	6	GW	1	52,97171	143,37998
30.VIII	6	GW	1	52,98977	143,33847
30.VIII	6	GW	1	52,96294	143,35499
30.VIII	7	GW	1	53,03807	143,30658
30.VIII	7	GW	2	52,99756	143,35889
30.VIII	7	GW	1	52,97928	143,38659
30.VIII	7	GW	1	52,90512	143,34656
30.VIII	7	GW	1	52,90462	143,34458
30.VIII	7	GW	1	52,91288	143,33691
30.VIII	8	GW	1	52,94261	143,32816
30.VIII	8	GW	1	52,94251	143,32996
30.VIII	8	GW	1	52,94210	143,33532
30.VIII	8	GW	2	52,92087	143,34907
30.VIII	8	GW	1	52,91801	143,35810
30.VIII	8	GW	1	52,87657	143,37496
30.VIII	8	GW	1	52,87541	143,37470
30.VIII	8	GW	1	52,80531	143,39846
30.VIII	8	GW	1	52,79820	143,37563
31.VIII	8	GW	1	52,81937	143,33994
31.VIII	8	GW	1	52,82098	143,35041
31.VIII	8	GW	1	52,79707	143,37084
31.VIII	8	GW	1	52,80145	143,38730
31.VIII	8	GW	1	52,87569	143,39934
31.VIII	8	GW	1	52,90976	143,38337
31.VIII	8	GW	2	52,92245	143,35936
31.VIII	7	GW	2	52,90205	143,33238
31.VIII	7	GW	2	52,90242	143,33445
31.VIII	7	GW	2	52,96430	143,38585
31.VIII	7	GW	1	53,04491	143,33114
31.VIII	7	GW	1	53,04525	143,32906
31.VIII	7	GW	1	53,04376	143,33731
31.VIII	7	GW	1	53,03197	143,29894
31.VIII	6	GW	1	52,99523	143,32161
31.VIII	6	GW	2	52,99606	143,32495
31.VIII	6	GW	1	53,01576	143,33319
31.VIII	6	GW	1	53,00306	143,34528
31.VIII	6	GW	1	53,03337	143,37126
31.VIII	6	GW	1	53,03120	143,38081
31.VIII	6	GW	1	53,11495	143,29609
31.VIII	5	GW	1	53,06245	143,30057
31.VIII	4	GW	1	53,23899	143,27813
31.VIII	4	GW	1	53,27538	143,22676
31.VIII	3	GW	1	53,22283	143,26221
31.VIII	3	GW	2	53,33364	143,24099
31.VIII	3	GW	1	53,33788	143,24404
31.VIII	3	GW	1	53,34651	143,23619
31.VIII	2	GW	1	53,25885	143,24576
31.VIII	2	GW	3	53,27827	143,28240
31.VIII	1	GW	1	53,38460	143,19393
1.IX	1	GW	3	53,34006	143,22963

1.IX	2	MW	1	53,37120	143,30900
1.IX	2	GW	2	53,30078	143,27862
1.IX	2	GW	2	53,30742	143,27679
1.IX	3	GW	1	53,35534	143,19369
1.IX	3	GW	1	53,35709	143,21267
1.IX	3	GW	1	53,34633	143,21434
1.IX	3	GW	1	53,35268	143,24738
1.IX	3	GW	1	53,25757	143,31013
1.IX	3	GW	1	53,23883	143,29639
1.IX	3	GW	1	53,17953	143,34612
1.IX	4	GW	3	53,24704	143,27302
1.IX	4	GW	2	53,21647	143,28153
1.IX	4	GW	1	53,24254	143,29973
7.IX	1	MW	1	53,43951	143,24868
7.IX	2	GW	1	53,27918	143,28404
7.IX	3	GW	1	53,34549	143,25066
7.IX	4	GW	1	53,05497	143,32057
7.IX	5	GW	1	53,07572	143,31617
7.IX	5	GW	1	53,09221	143,30075
7.IX	5	GW	1	53,06245	143,30057
7.IX	6	GW	1	53,09096	143,34202
7.IX	6	GW	3	53,00430	143,32966
7.IX	6	GW	1	53,01071	143,33222
8.IX	8	GW	1	52,82242	143,35722
8.IX	8	GW	1	52,82283	143,35889
8.IX	8	GW	1	52,83819	143,37506
8.IX	8	GW	1	52,84836	143,37946
8.IX	8	GW	1	52,85772	143,36059
8.IX	8	GW	1	52,92068	143,36411
8.IX	8	GW	1	52,92114	143,36294
8.IX	8	GW	1	52,94104	143,34416
8.IX	7	GW	1	52,90950	143,31703
8.IX	7	GW	1	52,90971	143,31887
8.IX	7	GW	1	52,90205	143,33238
8.IX	7	GW	1	52,91517	143,34552
8.IX	7	GW	1	52,93142	143,36572
8.IX	7	GW	1	52,95029	143,34733
8.IX	7	GW	1	52,96001	143,36331
8.IX	7	GW	1	52,97504	143,36691
8.IX	7	GW	1	52,99920	143,35207
8.IX	7	GW	3	53,04376	143,33731
8.IX	7	GW	1	53,02888	143,32895
8.IX	7	GW	1	53,01768	143,32266
8.IX	7	GW	2	53,04557	143,32698
8.IX	6	GW	1	52,98670	143,32714
8.IX	6	GW	2	53,00242	143,34381
8.IX	6	GW	1	52,99424	143,35092
8.IX	6	GW	1	53,04756	143,35318
8.IX	6	GW	2	53,06108	143,38665
8.IX	6	GW	1	53,05897	143,34289
8.IX	6	GW	1	53,08073	143,34876
8.IX	6	GW	1	53,10326	143,32592
8.IX	5	GW	1	53,16106	143,30872
8.IX	5	GW	1	53,18989	143,27900
8.IX	4	GW	1	53,12137	143,34421

8.IX	4	MW	1	53,17454	143,31822
8.IX	4	GW	1	53,24737	143,30080
8.IX	4	GW	1	53,23973	143,29371
8.IX	3	GW	1	53,19606	143,33707
8.IX	3	GW	1	53,23922	143,40656
8.IX	3	GW	1	53,30392	143,24624
8.IX	3	GW	1	53,34549	143,25066
8.IX	2	GW	1	53,26901	143,24592
8.IX	2	GW	1	53,33600	143,27731
9.IX	2	MW	1	53,31807	143,32119
9.IX	2	GW	1	53,30967	143,29711
9.IX	2	GW	1	53,28606	143,24014
9.IX	3	GW	1	53,14213	143,29035
9.IX	5	GW	1	53,15813	143,29099
9.IX	5	GW	1	53,07434	143,31181
9.IX	6	GW	1	53,07044	143,34762
9.IX	6	GW	1	53,00180	143,34233
9.IX	6	GW	1	53,00242	143,34381
9.IX	6	GW	1	52,99036	143,34030
9.IX	6	GW	1	52,99265	143,30782
9.IX	7	GW	1	53,03522	143,33053
9.IX	7	GW	1	53,02573	143,34148
9.IX	7	GW	2	53,02618	143,33996
9.IX	7	GW	1	53,01653	143,35117
9.IX	7	GW	1	53,01478	143,35484
9.IX	7	GW	1	53,01418	143,35604
9.IX	7	GW	1	53,01538	143,35364
9.IX	7	GW	1	53,00172	143,35955
9.IX	7	GW	1	53,00107	143,36036
9.IX	7	GW	1	52,90564	143,34853
9.IX	7	GW	1	52,91046	143,32438
9.IX	8	GW	2	52,92822	143,36122
9.IX	8	GW	1	52,92731	143,36395
9.IX	8	GW	1	52,87688	143,39252
9.IX	8	GW	1	52,82614	143,37024
9.IX	8	GW	1	52,82462	143,36546
9.IX	8	GW	1	52,82167	143,35383
10.IX	8	GW	1	52,82724	143,37335
10.IX	8	GW	1	52,82668	143,37181
10.IX	8	GW	1	52,87540	143,38204
10.IX	8	GW	1	52,87688	143,39252
10.IX	8	GW	1	52,91569	143,32863
10.IX	8	GW	1	52,96864	143,33945
10.IX	8	GW	2	52,96943	143,32150
10.IX	7	GW	1	52,94212	143,32228
10.IX	7	GW	1	52,94766	143,35716
10.IX	7	GW	1	52,95272	143,35787
10.IX	7	GW	2	53,00007	143,35594
10.IX	7	GW	1	53,00775	143,35043
10.IX	7	GW	1	53,01478	143,35484
10.IX	7	GW	1	53,01418	143,35604
10.IX	7	GW	1	53,00548	143,31897
10.IX	7	GW	1	53,03736	143,31591
10.IX	7	GW	1	53,03716	143,31777
10.IX	6	GW	1	53,01848	143,33843

10.IX	6	GW	1	53,05343	143,36335
10.IX	6	GW	1	53,09215	143,33979
10.IX	6	GW	1	53,09330	143,33750
12.IX	2	GW	1	53,37149	143,21448
12.IX	2	GW	1	53,37433	143,26144
12.IX	2	GW	1	53,29743	143,27443
12.IX	2	GW	1	53,26828	143,27510
13.IX	1	HP	1	53,41418	143,19020
13.IX	2	GW	1	53,32828	143,23552
13.IX	2	GW	3	53,25615	143,26128
13.IX	2	GW	1	53,26458	143,24682
13.IX	3	GW	1	53,32533	143,27703
13.IX	3	GW	1	53,29077	143,25437
13.IX	3	GW	1	53,28270	143,28973
13.IX	3	GW	2	53,28139	143,29082
13.IX	3	GW	1	53,20498	143,29383
13.IX	3	GW	1	53,19987	143,29435
13.IX	4	GW	4	53,24387	143,25711
13.IX	4	GW	2	53,23874	143,27986
13.IX	4	GW	1	53,23848	143,28158
13.IX	5	GW	1	53,13641	143,30870
13.IX	6	GW	1	53,02603	143,34924
13.IX	7	GW	1	53,01635	143,34013
13.IX	7	GW	1	53,01495	143,34380
13.IX	7	HP	2	52,98448	143,31803
13.IX	7	GW	2	52,92383	143,34976
13.IX	8	GW	1	52,85798	143,38253
13.IX	8	GW	1	52,82962	143,37938
13.IX	8	GW	1	52,82900	143,37790
13.IX	8	GW	2	52,82668	143,37181
13.IX	8	GW	2	52,82462	143,36546
14.IX	8	GW	3	52,83796	143,35765
14.IX	8	GW	3	52,83091	143,38228
14.IX	8	GW	1	52,83367	143,38786
14.IX	8	GW	2	52,83158	143,38371
14.IX	8	GW	1	52,83026	143,38084
14.IX	8	GW	1	52,83544	143,36874
14.IX	8	GW	1	52,80449	143,39627
14.IX	8	GW	1	52,85369	143,38629
14.IX	8	GW	1	52,92597	143,34668
14.IX	7	GW	1	52,95361	143,38938
14.IX	7	GW	1	52,95265	143,38879
14.IX	7	GW	2	52,97129	143,37082
14.IX	7	MW	1	52,97365	143,38713
14.IX	7	GW	3	53,01974	143,35727
14.IX	6	GW	1	53,08861	143,31367
14.IX	6	GW	1	53,10826	143,30133
14.IX	6	GW	1	53,11531	143,28889
14.IX	5	GW	1	53,07876	143,30488
14.IX	5	MW	1	53,11051	143,33740
14.IX	5	GW	1	53,17557	143,27556
14.IX	4	GW	2	53,21654	143,29537
14.IX	4	GW	1	53,25054	143,31277
14.IX	4	MW	1	53,24688	143,30276
14.IX	4	GW	1	53,25325	143,30223

14.IX	4	GW	1	53,25696	143,28019
14.IX	4	GW	1	53,24775	143,26116
14.IX	3	GW	1	53,16803	143,29587
14.IX	3	GW	1	53,19988	143,31726
14.IX	3	GW	2	53,20279	143,32269
14.IX	3	GW	1	53,20148	143,32822
14.IX	3	GW	1	53,19840	143,32266
14.IX	3	GW	1	53,21480	143,34027
14.IX	3	GW	1	53,21920	143,33392
14.IX	2	GW	1	53,26065	143,27471
15.IX	1	GW	2	53,40102	143,29528
15.IX	1	GW	1	53,39021	143,22715
15.IX	2	GW	1	53,38837	143,19250
15.IX	2	GW	1	53,39053	143,25364
17.IX	3	HP	2	53,25054	143,25713
17.IX	3	GW	1	53,17285	143,31216
17.IX	3	GW	1	53,17031	143,30412
17.IX	3	GW	2	53,16876	143,29864
17.IX	4	GW	1	53,23585	143,27868
17.IX	4	GW	1	53,23534	143,28194
17.IX	4	GW	1	53,23225	143,28384
17.IX	4	GW	1	53,14174	143,35052
17.IX	5	GW	1	53,19000	143,26386
17.IX	5	GW	1	53,09474	143,32868
17.IX	6	GW	2	53,10714	143,30925
17.IX	6	GW	1	53,01397	143,33934
17.IX	7	GW	1	52,98012	143,37462
17.IX	8	GW	1	52,93057	143,35273
17.IX	8	GW	1	52,90405	143,38146
17.IX	8	GW	1	52,87212	143,36316
17.IX	8	GW	1	52,85730	143,37520
17.IX	8	GW	1	52,85624	143,36810
17.IX	8	GW	1	52,83588	143,39183
17.IX	8	GW	1	52,83513	143,39053
17.IX	8	GW	1	52,83439	143,38921
17.IX	8	GW	3	52,84207	143,36820
17.IX	8	GW	1	52,84156	143,36709
17.IX	8	GW	1	52,82668	143,37181
17.IX	8	GW	1	52,82204	143,35553
17.IX	8	GW	1	52,82132	143,35213
17.IX	8	GW	1	52,79654	143,36841
18.IX	8	GW	1	52,82167	143,35383
18.IX	8	GW	1	52,82462	143,36546
18.IX	8	GW	3	52,84258	143,36931
18.IX	8	GW	2	52,84207	143,36820
18.IX	8	GW	1	52,84311	143,37040
18.IX	8	GW	2	52,85729	143,38991
18.IX	8	GW	1	52,85627	143,39950
18.IX	8	GW	1	52,86321	143,40431
18.IX	8	GW	1	52,86232	143,40379
18.IX	8	GW	1	52,87841	143,39269
18.IX	8	GW	1	52,94210	143,33532
18.IX	7	GW	1	52,90205	143,33238
18.IX	7	GW	1	52,90282	143,33650
18.IX	7	GW	1	52,96209	143,36439

18.IX	6	GW	1	52,98544	143,32129
18.IX	6	GW	1	52,98505	143,31932
18.IX	6	GW	2	53,07441	143,33210
18.IX	5	GW	2	53,06429	143,30954
18.IX	5	GW	1	53,15031	143,32171
18.IX	5	GW	1	53,16328	143,30222
18.IX	5	GW	1	53,18064	143,28597
18.IX	4	GW	1	53,27593	143,23235
18.IX	3	GW	1	53,19059	143,32684
18.IX	3	GW	1	53,24705	143,26132
18.IX	3	GW	1	53,32104	143,27779
18.IX	2	GW	1	53,28654	143,26979
20.IX	3	GW	1	53,17971	143,32997
20.IX	3	GW	1	53,17865	143,32752
20.IX	3	GW	2	53,20498	143,29383
20.IX	4	GW	2	53,25046	143,28462
20.IX	4	GW	1	53,21999	143,34755
20.IX	4	GW	1	53,14852	143,34314
20.IX	4	GW	1	53,08527	143,29592
20.IX	5	GW	1	53,17567	143,27114
20.IX	5	GW	1	53,19003	143,27522
20.IX	5	GW	1	53,17551	143,27703
20.IX	5	GW	2	53,18825	143,29582
20.IX	5	GW	1	53,14221	143,29232
20.IX	7	GW	1	53,01292	143,34851
20.IX	7	GW	1	53,00828	143,35715
20.IX	7	GW	1	53,01069	143,35296
20.IX	7	GW	1	53,01010	143,35404
20.IX	7	GW	1	52,90794	143,35625
20.IX	7	GW	1	52,90512	143,34656
20.IX	8	GW	1	52,94173	143,33888
20.IX	8	GW	1	52,91711	143,37189
20.IX	8	GW	1	52,87235	143,39860
20.IX	8	GW	1	52,87402	143,39902
26.IX	2	GW	1	53,36841	143,22682
26.IX	2	GW	1	53,20940	143,30927
26.IX	3	GW	2	53,37988	143,20225
26.IX	3	GW	2	53,23314	143,32356
26.IX	4	GW	1	53,16491	143,34925
26.IX	6	GW	1	53,01791	143,33741
26.IX	7	GW	1	53,00186	143,35354
26.IX	7	GW	1	52,94078	143,36068
26.IX	8	GW	1	52,96817	143,34453
26.IX	8	GW	1	52,89849	143,37509
26.IX	8	GW	1	52,80615	143,40062
26.IX	8	GW	1	52,81265	143,41503
26.IX	8	GW	1	52,83226	143,38511
26.IX	8	GW	2	52,80369	143,39406
26.IX	8	GW	2	52,79512	143,36107
27.IX	8	GW	1	52,80007	143,38269
27.IX	8	GW	1	52,84896	143,36246
27.IX	8	GW	1	52,92985	143,35560
27.IX	7	GW	1	52,87993	143,37110
27.IX	7	GW	1	52,94637	143,36760
27.IX	7	GW	1	52,95408	143,37432

27.IX	7	GW	1	52,99091	143,35670
27.IX	7	GW	2	52,99440	143,35751
27.IX	7	GW	1	53,00366	143,36377
27.IX	7	GW	1	53,00245	143,32876
27.IX	7	GW	1	53,03694	143,31961
27.IX	6	GW	1	52,96083	143,34704
27.IX	6	GW	1	52,99287	143,34745
27.IX	6	GW	1	53,03927	143,36636
27.IX	6	GW	1	53,10873	143,29651
30.IX	1	HP	1	53,42979	143,16493
30.IX	2	HP	1	53,31545	143,23676
30.IX	3	GW	1	53,15191	143,28885
30.IX	4	GW	1	53,10035	143,31275
30.IX	5	GW	1	53,08578	143,31139
30.IX	6	GW	1	53,10086	143,28499
30.IX	6	GW	1	53,01375	143,35031
30.IX	8	GW	1	52,94225	143,33354
30.IX	8	GW	3	52,85152	143,41114
30.IX	8	GW	1	52,85232	143,37592
30.IX	8	GW	1	52,85003	143,37253
30.IX	8	GW	1	52,84773	143,37852
30.IX	8	GW	1	52,84126	143,38096
30.IX	8	GW	2	52,83819	143,37506
30.IX	8	GW	1	52,83719	143,35516
30.IX	8	GW	1	52,79880	143,37800
30.IX	8	GW	1	52,79762	143,37324
1.X	8	GW	1	52,84429	143,35066
1.X	8	GW	1	52,84788	143,36888
1.X	8	GW	1	52,84893	143,37073
1.X	8	GW	2	52,85003	143,37253
1.X	8	GW	1	52,87514	143,40858
1.X	8	GW	1	52,89692	143,36822
3.X	2	GW	1	53,35261	143,22870
3.X	3	GW	1	53,37667	143,17539
3.X	3	GW	1	53,21074	143,32260
3.X	6	GW	1	52,98716	143,32907
3.X	7	GW	1	52,99945	143,35671

3.X	8	GW	1	52,87475	143,38188
3.X	8	GW	1	52,84062	143,37981
3.X	8	GW	2	52,83819	143,37506
3.X	8	GW	2	52,83493	143,36743
3.X	8	GW	1	52,83443	143,36610
3.X	8	GW	2	52,83303	143,36205
3.X	8	GW	1	52,79880	143,37800
4.X	8	GW	1	52,82283	143,35889
4.X	8	GW	1	52,82369	143,36220
4.X	8	GW	1	52,80075	143,38500
4.X	8	GW	1	52,80145	143,38730
4.X	8	GW	1	52,80217	143,38958
4.X	8	GW	1	52,83596	143,37003
4.X	8	GW	1	52,82900	143,37790
4.X	8	GW	1	52,83761	143,37383
4.X	8	GW	2	52,84753	143,39037
4.X	8	GW	1	52,85667	143,38119
4.X	8	GW	1	52,85969	143,37775
4.X	8	GW	3	52,90007	143,40292
4.X	7	GW	1	52,99805	143,35353
4.X	6	GW	1	52,98716	143,32907
4.X	3	GW	1	53,15053	143,32459
4.X	2	GW	1	53,25984	143,27253
16.X	3	GW	1	53,33181	143,25720
16.X	4	GW	2	53,16177	143,33890
16.X	5	GW	1	53,18917	143,28840
16.X	6	GW	2	52,95841	143,33616
16.X	7	GW	1	52,99863	143,35281
16.X	7	GW	1	52,98514	143,36053
16.X	8	GW	2	52,80075	143,38500
16.X	8	GW	1	52,79654	143,36841
17.X	8	GW	1	52,83091	143,38228
17.X	7	GW	1	52,88601	143,38946
17.X	3	GW	1	53,29801	143,33031
17.X	3	GW	1	53,29205	143,29007
17.X	2	GW	1	53,25045	143,27225
17.X	2	GW	1	53,27084	143,28083

Astokh-Chayvo section.

1	2	3	4	5	6
23.VI	9	GW	1	52,86624	143,37593
23.VI	9	GW	1	52,86875	143,36944
24.VI	11	GW	1	52,68806	143,36570
25.VI	13	WW	1	52,45040	143,29860
25.VI	9	GW	2	52,88268	143,35579
25.VI	12	HP	2	52,57534	143,32732
29.VI	11	GW	1	52,70453	143,35057
29.VI	11	GW	1	52,70486	143,34889
1.VII	12	GW	2	52,56111	143,39339
1.VII	12	GW	1	52,56199	143,39330
1.VII	11	GW	2	52,60768	143,35246
1.VII	10	KW	2	52,74046	143,40924
2.VII	9	GW	2	52,86222	143,35095
2.VII	9	GW	2	52,86128	143,37733

1	2	3	4	5	6
2.VII	9	GW	1	52,85725	143,38408
2.VII	9	GW	1	52,85615	143,38561
2.VII	9	GW	1	52,80498	143,38680
8.VII	12	KW	2	52,53497	143,39768
8.VII	12	GW	1	52,56692	143,37627
8.VII	12	KW	1	52,57058	143,39669
8.VII	12	GW	1	52,59712	143,38093
8.VII	12	GW	1	52,60130	143,38580
8.VII	11	GW	2	52,59814	143,36273
8.VII	11	GW	1	52,59391	143,37069
8.VII	11	GW	1	52,61179	143,38926
8.VII	11	GW	1	52,68287	143,38661
8.VII	10	GW	2	52,72772	143,37538
8.VII	10	GW	1	52,71079	143,39940

8.VII	10	GW	1	52,75201	143,41918
8.VII	10	GW	1	52,75808	143,41772
8.VII	10	GW	1	52,78422	143,37263
8.VII	9	GW	1	52,78807	143,37364
8.VII	9	GW	1	52,87200	143,37413
8.VII	9	GW	1	52,87732	143,37753
8.VII	9	GW	1	52,87778	143,37616
8.VII	9	GW	1	52,87908	143,37197
9.VII	12	GW	2	52,52304	143,36323
9.VII	12	GW	1	52,52600	143,37440
9.VII	11	GW	1	52,61987	143,36544
9.VII	11	GW	1	52,62642	143,37349
9.VII	11	GW	1	52,68140	143,38866
9.VII	11	GW	1	52,69343	143,36602
9.VII	11	GW	1	52,63979	143,38159
9.VII	10	GW	2	52,69880	143,37876
9.VII	10	GW	1	52,75601	143,40843
9.VII	9	GW	1	52,79728	143,34683
9.VII	9	GW	2	52,79833	143,35243
9.VII	9	GW	2	52,88128	143,36329
10.VII	9	GW	2	52,89152	143,44081
10.VII	9	GW	1	52,89375	143,43719
10.VII	10	HP	1	52,75841	143,34429
10.VII	10	GW	1	52,69788	143,35586
10.VII	11	GW	1	52,71455	143,34760
10.VII	11	GW	1	52,66365	143,36887
11.VII	13	GW	1	52,49435	143,35499
11.VII	12	GW	1	52,50685	143,33690
11.VII	12	GW	1	52,57778	143,38187
11.VII	12	GW	1	52,57702	143,38242
11.VII	12	GW	1	52,56587	143,37992
11.VII	11	GW	1	52,59254	143,33909
11.VII	11	GW	1	52,61973	143,38922
11.VII	11	GW	1	52,68092	143,37067
11.VII	10	GW	1	52,73437	143,39987
11.VII	10	GW	1	52,73356	143,39950
11.VII	10	GW	1	52,76728	143,36611
12.VII	13	GW	1	52,51112	143,34072
12.VII	12	GW	2	52,55978	143,37485
12.VII	12	GW	1	52,62076	143,36010
12.VII	11	GW	1	52,60419	143,37708
12.VII	11	GW	1	52,60296	143,37462
14.VII	12	GW	1	52,60844	143,35771
14.VII	11	GW	1	52,68637	143,35884
14.VII	10	GW	2	52,77547	143,37908
14.VII	10	GW	1	52,77833	143,37471
24.VII	12	GW	2	52,56875	143,39735
26.VII	13	HP	1	52,45645	143,30492
26.VII	13	HP	1	52,46205	143,31388
26.VII	13	MW	1	52,46637	143,35970
26.VII	13	HP	1	52,46806	143,31907
26.VII	12	HP	1	52,55417	143,34268
28.VII	9	GW	2	52,87111	143,37652
28.VII	12	GW	1	52,51843	143,37013
28.VII	12	GW	2	52,49095	143,33879
28.VII	13	GW	2	52,51483	143,33210

28.VII	13	GW	1	52,50247	143,34520
28.VII	13	GW	2	52,41847	143,33226
29.VII	10	GW	2	52,75604	143,40093
29.VII	10	GW	2	52,76332	143,39753
29.VII	10	GW	1	52,78676	143,39326
29.VII	10	GW	2	52,77403	143,35423
29.VII	10	GW	1	52,80682	143,37288
29.VII	10	GW	1	52,80784	143,36938
29.VII	9	GW	1	52,77587	143,33815
29.VII	9	GW	1	52,77887	143,39303
29.VII	9	GW	2	52,78152	143,39881
29.VII	9	GW	1	52,78930	143,39233
29.VII	9	GW	1	52,79057	143,39465
29.VII	9	GW	2	52,80190	143,42583
29.VII	9	GW	2	52,84022	143,37584
29.VII	9	GW	1	52,84932	143,38325
29.VII	9	GW	2	52,87479	143,38417
29.VII	9	GW	1	52,89138	143,35582
29.VII	9	GW	2	52,89271	143,34149
29.VII	9	GW	1	52,89289	143,33605
30.VII	12	GW	1	52,63178	143,35874
30.VII	11	GW	2	52,61332	143,39121
30.VII	10	GW	1	52,76281	143,39155
30.VII	10	GW	2	52,76910	143,40149
30.VII	10	GW	1	52,79294	143,38201
30.VII	10	GW	1	52,79234	143,36595
30.VII	9	GW	1	52,80254	143,35455
30.VII	9	GW	1	52,78523	143,38365
30.VII	9	GW	1	52,85934	143,38082
30.VII	9	GW	3	52,87764	143,35069
30.VII	9	GW	1	52,87420	143,34283
3.VIII	12	GW	2	52,56365	143,38048
3.VIII	12	GW	1	52,56365	143,38048
3.VIII	12	GW	2	52,57281	143,33792
3.VIII	12	GW	1	52,61434	143,35702
3.VIII	11	GW	2	52,58523	143,32747
3.VIII	11	GW	2	52,58578	143,33447
3.VIII	11	GW	1	52,58878	143,35323
3.VIII	10	GW	1	52,70335	143,34106
3.VIII	10	GW	1	52,71916	143,38831
3.VIII	10	GW	1	52,73356	143,39950
3.VIII	10	GW	1	52,74294	143,39633
3.VIII	10	GW	1	52,74528	143,39655
3.VIII	10	GW	1	52,74683	143,39658
3.VIII	10	GW	1	52,78652	143,37957
3.VIII	9	GW	3	52,78579	143,32694
3.VIII	9	GW	3	52,79433	143,33846
3.VIII	9	GW	2	52,78684	143,36995
3.VIII	9	GW	1	52,85686	143,40035
3.VIII	9	GW	2	52,86755	143,37274
3.VIII	9	GW	2	52,87701	143,35479
3.VIII	9	GW	1	52,87744	143,35206
4.VIII	9	GW	1	52,87677	143,35614
4.VIII	9	GW	2	52,87598	143,36015
4.VIII	9	GW	1	52,79877	143,37697
4.VIII	9	GW	2	52,80160	143,35734

4.VIII	9	GW	2	52,80189	143,35213
4.VIII	9	GW	1	52,79157	143,35657
4.VIII	9	GW	2	52,80069	143,34629
4.VIII	10	GW	1	52,78285	143,36588
4.VIII	10	GW	2	52,71425	143,35930
4.VIII	10	GW	1	52,70169	143,35177
4.VIII	10	GW	1	52,69690	143,35160
4.VIII	11	GW	2	52,70164	143,31446
4.VIII	11	GW	1	52,70162	143,32241
4.VIII	11	GW	1	52,69291	143,36737
4.VIII	11	GW	2	52,65675	143,35433
4.VIII	11	GW	2	52,61629	143,36484
4.VIII	11	GW	1	52,59139	143,32812
4.VIII	12	HP	1	52,56585	143,33493
4.VIII	12	GW	1	52,57239	143,37364
4.VIII	13	HP	1	52,46452	143,30831
5.VIII	12	GW	1	52,55470	143,38081
5.VIII	12	GW	1	52,55549	143,40559
5.VIII	12	GW	2	52,55649	143,40566
5.VIII	12	GW	1	52,56255	143,40543
5.VIII	12	GW	1	52,57320	143,38978
5.VIII	12	GW	1	52,57570	143,38838
5.VIII	12	GW	1	52,58204	143,38991
5.VIII	11	GW	2	52,57944	143,35460
5.VIII	11	GW	1	52,68855	143,36449
5.VIII	10	GW	1	52,70024	143,36409
5.VIII	10	GW	1	52,78530	143,38184
5.VIII	9	GW	3	52,79803	143,33232
5.VIII	9	GW	1	52,78902	143,33333
6.VIII	9	GW	2	52,91926	143,31928
6.VIII	9	GW	1	52,89285	143,33787
6.VIII	9	GW	2	52,89220	143,34869
6.VIII	9	GW	1	52,89162	143,35405
6.VIII	9	GW	2	52,84887	143,38826
6.VIII	9	GW	1	52,83631	143,41294
6.VIII	9	GW	2	52,79916	143,34699
6.VIII	10	GW	1	52,80268	143,38463
6.VIII	11	HP	1	52,66907	143,34704
6.VIII	11	MW	1	52,67218	143,38289
6.VIII	11	GW	1	52,66524	143,36731
6.VIII	11	GW	1	52,66140	143,36051
6.VIII	11	GW	1	52,60732	143,35134
6.VIII	11	GW	2	52,58878	143,35323
6.VIII	11	GW	1	52,57944	143,35460
6.VIII	12	GW	1	52,59644	143,33435
6.VIII	12	GW	1	52,59081	143,38097
6.VIII	12	GW	1	52,58515	143,38070
6.VIII	12	GW	1	52,58535	143,38698
6.VIII	12	GW	1	52,61434	143,35702
6.VIII	12	GW	1	52,59406	143,34287
6.VIII	12	GW	1	52,49231	143,34644
6.VIII	12	GW	1	52,60584	143,37798
6.VIII	13	GW	1	52,51665	143,32686
6.VIII	13	GW	1	52,51483	143,33210
6.VIII	13	GW	1	52,51384	143,33464
7.VIII	13	GW	2	52,47019	143,33670

7.VIII	12	GW	2	52,50829	143,35857
7.VIII	12	HP	1	52,56747	143,37036
7.VIII	11	GW	1	52,61649	143,39483
7.VIII	10	GW	3	52,75282	143,36631
7.VIII	10	GW	1	52,76402	143,41522
7.VIII	10	GW	1	52,76456	143,38033
7.VIII	10	GW	1	52,78936	143,37361
7.VIII	10	GW	1	52,79140	143,36856
7.VIII	9	GW	1	52,76739	143,32807
7.VIII	9	GW	2	52,79763	143,35839
7.VIII	9	GW	2	52,79848	143,36117
7.VIII	9	GW	2	52,79997	143,40779
7.VIII	9	GW	1	52,81270	143,41816
7.VIII	9	GW	2	52,86669	143,39949
7.VIII	9	GW	1	52,89183	143,35227
11.VIII	13	GW	2	52,52280	143,32837
11.VIII	13	GW	1	52,51824	143,32142
11.VIII	12	GW	1	52,52142	143,36013
11.VIII	12	GW	1	52,52249	143,36221
11.VIII	12	GW	1	52,52361	143,36423
11.VIII	12	GW	1	52,58551	143,36953
11.VIII	12	GW	1	52,58734	143,36710
11.VIII	12	GW	1	52,52128	143,38377
11.VIII	12	GW	1	52,52447	143,38783
11.VIII	11	GW	1	52,59391	143,37069
11.VIII	11	GW	1	52,66145	143,39791
11.VIII	10	GW	1	52,78575	143,35826
11.VIII	10	GW	1	52,80878	143,36582
11.VIII	10	GW	1	52,79552	143,35501
15.VIII	9	GW	1	52,86350	143,37267
15.VIII	9	GW	1	52,84514	143,38326
15.VIII	9	GW	1	52,81351	143,39010
15.VIII	9	GW	2	52,81763	143,37408
15.VIII	9	GW	2	52,79029	143,34977
15.VIII	10	GW	2	52,79362	143,34035
15.VIII	10	GW	1	52,79729	143,34639
15.VIII	11	GW	2	52,65544	143,40035
15.VIII	11	BBW	2	52,65244	143,40873
15.VIII	11	BBW	3	52,65052	143,40902
15.VIII	11	GW	1	52,62028	143,38259
15.VIII	11	GW	1	52,60237	143,37336
15.VIII	11	GW	1	52,58807	143,34990
15.VIII	11	GW	3	52,59254	143,33909
15.VIII	11	GW	2	52,59195	143,33442
15.VIII	11	GW	2	52,57662	143,33489
15.VIII	12	GW	2	52,59534	143,33868
15.VIII	12	GW	1	52,59909	143,35052
15.VIII	12	GW	1	52,60296	143,35968
15.VIII	12	GW	2	52,58918	143,35927
15.VIII	12	GW	2	52,57747	143,36069
15.VIII	12	GW	3	52,53169	143,35786
15.VIII	12	GW	2	52,53183	143,35443
15.VIII	12	GW	1	52,50064	143,31938
15.VIII	12	GW	1	52,49543	143,31474
15.VIII	13	GW	2	52,52668	143,31108
15.VIII	13	GW	1	52,50934	143,34418

15.VIII	13	GW	1	52,50176	143,33822
15.VIII	13	GW	1	52,48233	143,34771
16.VIII	12	GW	5	52,51225	143,34472
16.VIII	12	GW	1	52,51981	143,34181
16.VIII	12	GW	2	52,52049	143,34400
16.VIII	12	GW	1	52,53156	143,36156
16.VIII	12	GW	1	52,53378	143,36449
16.VIII	10	GW	2	52,74946	143,36566
16.VIII	10	GW	2	52,79091	143,36984
16.VIII	10	GW	1	52,78446	143,35162
16.VIII	9	GW	1	52,78935	143,34161
16.VIII	9	GW	1	52,77747	143,35518
16.VIII	9	GW	2	52,79266	143,36097
16.VIII	9	GW	1	52,84120	143,38001
16.VIII	9	GW	1	52,85288	143,37900
16.VIII	9	GW	1	52,85386	143,38273
16.VIII	9	GW	1	52,85567	143,37481
16.VIII	9	GW	1	52,86264	143,37457
17.VIII	9	GW	1	52,87859	143,34098
17.VIII	9	GW	1	52,86651	143,36459
17.VIII	9	GW	1	52,85948	143,38828
17.VIII	9	GW	3	52,85889	143,38911
17.VIII	9	GW	1	52,83241	143,38332
17.VIII	9	GW	1	52,80670	143,37352
17.VIII	9	GW	1	52,80638	143,36872
17.VIII	9	GW	1	52,79739	143,36591
17.VIII	9	GW	1	52,79300	143,34863
17.VIII	10	GW	2	52,77710	143,33797
17.VIII	10	GW	1	52,76506	143,38457
17.VIII	10	GW	1	52,69661	143,35016
17.VIII	10	GW	2	52,69426	143,33240
17.VIII	11	GW	1	52,70033	143,33816
17.VIII	11	GW	1	52,65862	143,36990
17.VIII	11	GW	1	52,58916	143,35488
17.VIII	12	GW	1	52,53396	143,40593
17.VIII	12	GW	1	52,51314	143,41766
17.VIII	12	GW	1	52,49495	143,35758
17.VIII	12	GW	1	52,50881	143,34559
17.VIII	12	GW	1	52,49126	143,34072
17.VIII	12	GW	1	52,48881	143,31318
17.VIII	13	GW	1	52,52668	143,31108
17.VIII	13	GW	1	52,52550	143,31750
18.VIII	13	GW	1	52,50547	143,35061
18.VIII	13	GW	1	52,50711	143,33722
18.VIII	13	GW	1	52,51665	143,32686
18.VIII	13	GW	1	52,51991	143,31439
18.VIII	12	GW	1	52,50475	143,32030
18.VIII	12	GW	4	52,50685	143,33690
18.VIII	12	GW	1	52,50398	143,34359
18.VIII	12	GW	1	52,50919	143,34700
18.VIII	12	GW	2	52,51467	143,35244
18.VIII	12	GW	1	52,56127	143,37763
18.VIII	12	GW	1	52,56269	143,37741
18.VIII	11	HP	2	52,65768	143,33861
18.VIII	10	GW	1	52,76489	143,39652
18.VIII	10	GW	1	52,80373	143,34412

18.VIII	10	GW	1	52,80415	143,34081
18.VIII	10	GW	2	52,77808	143,33081
18.VIII	9	GW	2	52,79822	143,33880
18.VIII	9	GW	1	52,78181	143,34321
18.VIII	9	GW	2	52,79500	143,36831
18.VIII	9	GW	2	52,80585	143,36357
18.VIII	9	GW	1	52,79924	143,37787
18.VIII	9	GW	1	52,82565	143,39594
19.VIII	9	GW	1	52,84020	143,38653
19.VIII	9	GW	1	52,83906	143,38708
19.VIII	9	GW	1	52,83734	143,38778
19.VIII	9	GW	1	52,78909	143,33689
19.VIII	9	GW	3	52,78564	143,33336
19.VIII	9	GW	1	52,76732	143,33170
19.VIII	10	GW	3	52,79920	143,32695
19.VIII	10	GW	1	52,79878	143,33450
19.VIII	10	GW	1	52,80433	143,33915
19.VIII	10	GW	1	52,70764	143,39508
19.VIII	10	GW	1	52,70956	143,38468
23.VIII	13	GW	1	52,46517	143,35462
23.VIII	13	GW	1	52,51931	143,33862
23.VIII	12	GW	1	52,50744	143,33983
23.VIII	12	GW	2	52,50881	143,34559
23.VIII	12	GW	1	52,50683	143,35421
23.VIII	12	GW	3	52,51675	143,34886
23.VIII	12	GW	1	52,52506	143,35522
23.VIII	12	GW	1	52,57503	143,37186
23.VIII	12	GW	4	52,59479	143,36055
23.VIII	12	GW	1	52,60296	143,35968
23.VIII	11	GW	2	52,57725	143,34089
23.VIII	11	GW	1	52,58916	143,35488
23.VIII	11	GW	1	52,60172	143,35774
23.VIII	11	GW	1	52,60259	143,36028
23.VIII	11	GW	1	52,59505	143,37368
23.VIII	11	GW	1	52,66090	143,37116
23.VIII	10	GW	1	52,70704	143,38026
23.VIII	10	GW	1	52,76985	143,34565
23.VIII	10	GW	1	52,80269	143,35065
23.VIII	9	GW	1	52,79296	143,36204
23.VIII	9	GW	1	52,83113	143,40657
24.VIII	13	GW	1	52,48161	143,33805
24.VIII	13	GW	1	52,50672	143,32839
24.VIII	13	GW	1	52,50658	143,31953
24.VIII	12	GW	1	52,50218	143,33408
24.VIII	12	GW	1	52,55132	143,37685
24.VIII	12	GW	3	52,57817	143,37701
24.VIII	12	GW	2	52,58094	143,37456
24.VIII	12	GW	2	52,59287	143,35792
24.VIII	12	GW	1	52,61574	143,35213
24.VIII	12	GW	1	52,61659	143,34880
24.VIII	11	GW	1	52,58744	143,34652
24.VIII	11	GW	1	52,58956	143,35652
24.VIII	11	GW	1	52,61386	143,36687
24.VIII	11	GW	1	52,61488	143,39307
24.VIII	11	GW	1	52,65380	143,36991
24.VIII	11	GW	1	52,66034	143,37157

24.VIII	10	GW	1	52,74229	143,38352
24.VIII	10	GW	1	52,74373	143,38058
24.VIII	10	GW	1	52,74740	143,38076
24.VIII	10	GW	2	52,76636	143,38347
24.VIII	10	GW	1	52,78368	143,37371
24.VIII	10	GW	1	52,79703	143,34785
24.VIII	9	GW	2	52,78902	143,33333
24.VIII	9	GW	2	52,83681	143,37982
24.VIII	9	GW	2	52,84298	143,38487
24.VIII	9	GW	3	52,87839	143,34377
24.VIII	9	GW	1	52,87850	143,34238
25.VIII	9	GW	1	52,89271	143,34149
25.VIII	9	GW	2	52,86546	143,36770
25.VIII	9	GW	1	52,86333	143,38194
25.VIII	9	GW	1	52,84985	143,37148
25.VIII	9	GW	1	52,83697	143,39535
25.VIII	9	GW	2	52,82339	143,40574
25.VIII	9	GW	1	52,80157	143,40949
25.VIII	9	GW	1	52,79189	143,38294
25.VIII	9	GW	1	52,78807	143,37364
25.VIII	9	GW	1	52,77587	143,33815
25.VIII	9	GW	1	52,77579	143,33187
25.VIII	10	GW	1	52,80476	143,33414
25.VIII	10	GW	1	52,80433	143,33915
25.VIII	10	GW	1	52,78338	143,38510
25.VIII	10	GW	2	52,76146	143,38270
25.VIII	11	GW	1	52,64042	143,37548
25.VIII	11	GW	2	52,62729	143,36709
25.VIII	11	GW	2	52,61370	143,34020
25.VIII	11	GW	2	52,57777	143,34485
25.VIII	12	GW	1	52,61332	143,36022
25.VIII	12	HP	2	52,57116	143,32427
25.VIII	12	GW	1	52,58241	143,36477
25.VIII	12	GW	2	52,57384	143,38008
25.VIII	12	GW	1	52,54039	143,38818
25.VIII	12	GW	1	52,52861	143,36153
25.VIII	12	GW	1	52,52703	143,35891
25.VIII	13	GW	1	52,53523	143,31476
25.VIII	13	GW	1	52,52481	143,32066
25.VIII	13	GW	2	52,50429	143,32562
26.VIII	13	GW	2	52,51093	143,35548
26.VIII	13	GW	1	52,50917	143,33285
26.VIII	12	GW	1	52,50434	143,34514
26.VIII	12	GW	2	52,54908	143,38314
26.VIII	11	GW	1	52,59356	143,34523
26.VIII	11	GW	1	52,60887	143,37436
26.VIII	11	GW	1	52,62452	143,38673
26.VIII	11	GW	1	52,62599	143,39464
26.VIII	11	GW	1	52,64908	143,39548
26.VIII	10	GW	2	52,78652	143,37957
26.VIII	9	GW	2	52,78956	143,34396
26.VIII	9	GW	1	52,78666	143,34865
26.VIII	9	GW	1	52,77951	143,39451
26.VIII	9	GW	1	52,83038	143,41359
26.VIII	9	GW	1	52,83207	143,41352
26.VIII	9	GW	2	52,84140	143,38945

26.VIII	9	GW	2	52,84466	143,39163
26.VIII	9	GW	1	52,86705	143,38554
26.VIII	9	GW	2	52,87111	143,37652
26.VIII	9	GW	1	52,87284	143,37169
28.VIII	13	GW	1	52,50437	143,33348
28.VIII	13	GW	1	52,51818	143,34141
28.VIII	13	GW	1	52,51434	143,33338
28.VIII	13	GW	1	52,51577	143,32951
28.VIII	12	GW	1	52,50141	143,35475
28.VIII	12	GW	1	52,51512	143,35368
28.VIII	12	GW	1	52,53714	143,38594
28.VIII	12	GW	2	52,53957	143,38765
28.VIII	12	GW	1	52,54204	143,38915
28.VIII	12	GW	1	52,60209	143,38455
28.VIII	11	GW	1	52,58956	143,35652
28.VIII	11	GW	1	52,59447	143,37220
28.VIII	11	GW	1	52,70259	143,35880
28.VIII	10	GW	1	52,69940	143,38012
28.VIII	10	GW	1	52,79921	143,39247
28.VIII	10	GW	1	52,81304	143,34161
28.VIII	9	GW	2	52,79185	143,32998
28.VIII	9	GW	1	52,77683	143,35059
28.VIII	9	GW	2	52,82359	143,41286
28.VIII	9	GW	1	52,82725	143,40643
28.VIII	9	GW	1	52,83345	143,40638
28.VIII	9	GW	1	52,84200	143,38911
28.VIII	9	GW	1	52,85707	143,39153
28.VIII	9	GW	1	52,86005	143,38742
28.VIII	9	GW	1	52,89279	143,33968
29.VIII	9	GW	1	52,87311	143,38797
29.VIII	9	GW	1	52,86229	143,40545
29.VIII	9	GW	1	52,85916	143,40899
29.VIII	9	GW	1	52,85170	143,40524
29.VIII	9	GW	1	52,89249	143,34510
29.VIII	9	GW	2	52,89220	143,34869
29.VIII	9	GW	1	52,79711	143,35650
29.VIII	9	GW	1	52,77202	143,37241
29.VIII	10	GW	1	52,69410	143,36572
29.VIII	11	GW	1	52,70342	143,35554
29.VIII	11	GW	1	52,66497	143,38929
29.VIII	11	GW	1	52,65840	143,41736
29.VIII	11	GW	1	52,58679	143,38020
29.VIII	12	GW	1	52,63275	143,35449
29.VIII	12	HP	2	52,57633	143,34334
29.VIII	12	GW	2	52,58055	143,38494
29.VIII	12	GW	1	52,49890	143,36991
29.VIII	12	GW	1	52,50008	143,34980
29.VIII	12	GW	1	52,49066	143,33686
29.VIII	13	GW	3	52,53221	143,32938
30.VIII	13	GW	1	52,50817	143,33506
30.VIII	13	GW	2	52,51759	143,34278
30.VIII	13	GW	1	52,51818	143,34141
30.VIII	12	GW	1	52,50156	143,37657
30.VIII	12	GW	1	52,58025	143,37520
30.VIII	12	GW	1	52,60746	143,34615
30.VIII	10	GW	2	52,81304	143,34161

30.VIII	9	GW	1	52,77824	143,35972
30.VIII	9	GW	1	52,79549	143,36007
30.VIII	9	GW	2	52,79060	143,36673
30.VIII	9	GW	1	52,83325	143,42276
30.VIII	9	GW	1	52,85121	143,39779
30.VIII	9	GW	1	52,86434	143,37999
30.VIII	9	GW	1	52,87156	143,37533
30.VIII	9	GW	1	52,89290	143,33061
31.VIII	9	GW	1	52,89285	143,33787
31.VIII	9	GW	2	52,85120	143,36298
31.VIII	9	GW	1	52,85088	143,43107
31.VIII	9	GW	1	52,82921	143,38344
31.VIII	9	GW	1	52,82528	143,41319
31.VIII	9	GW	1	52,82096	143,42162
31.VIII	9	GW	2	52,80852	143,39085
31.VIII	9	GW	1	52,80309	143,40004
31.VIII	9	GW	1	52,80480	143,39349
31.VIII	9	GW	1	52,77797	143,35821
31.VIII	9	GW	1	52,78205	143,34600
31.VIII	9	GW	2	52,77635	143,34595
31.VIII	9	GW	2	52,77587	143,33815
31.VIII	10	GW	2	52,80476	143,33414
31.VIII	10	GW	1	52,80965	143,36221
31.VIII	10	GW	1	52,80923	143,36402
31.VIII	10	GW	2	52,79981	143,36328
31.VIII	10	GW	1	52,78555	143,41373
31.VIII	11	GW	1	52,70602	143,34209
31.VIII	11	GW	1	52,58998	143,35815
31.VIII	11	GW	1	52,58616	143,33795
31.VIII	12	GW	1	52,60916	143,33896
31.VIII	12	GW	3	52,49856	143,34304
31.VIII	12	GW	1	52,48222	143,34714
31.VIII	12	GW	1	52,48085	143,33833
31.VIII	12	GW	1	52,48007	143,33164
31.VIII	13	GW	1	52,51665	143,32686
31.VIII	13	GW	1	52,51577	143,32951
31.VIII	13	GW	1	52,50064	143,34000
31.VIII	13	GW	1	52,49418	143,36349
31.VIII	13	GW	1	52,48584	143,34997
31.VIII	13	GW	1	52,48356	143,36262
31.VIII	13	GW	1	52,44236	143,36022
1.IX	13	GW	1	52,42987	143,34259
1.IX	13	GW	2	52,43613	143,34292
1.IX	13	GW	1	52,44945	143,34137
1.IX	13	GW	1	52,47122	143,37309
1.IX	13	GW	1	52,51818	143,34141
1.IX	11	GW	1	52,71605	143,33569
1.IX	10	GW	1	52,80325	143,34740
1.IX	9	GW	1	52,82110	143,40506
1.IX	9	GW	1	52,83219	143,39236
1.IX	9	GW	1	52,83715	143,41274
1.IX	9	GW	1	52,84133	143,41143
1.IX	9	GW	1	52,85856	143,36935
1.IX	9	GW	3	52,89285	143,33787
1.IX	9	GW	4	52,89292	143,33424
5.IX	13	GW	2	52,48756	143,34013

5.IX	13	GW	1	52,52280	143,32837
5.IX	12	GW	1	52,49039	143,33491
5.IX	12	GW	1	52,60243	143,36096
5.IX	12	HP	1	52,54889	143,32720
5.IX	11	GW	1	52,58212	143,36593
5.IX	11	GW	2	52,58956	143,38690
7.IX	13	GW	1	52,42800	143,32540
7.IX	13	GW	1	52,52324	143,32685
7.IX	12	GW	1	52,51378	143,36045
7.IX	12	GW	1	52,52913	143,37247
7.IX	12	GW	2	52,56056	143,37770
7.IX	12	GW	1	52,57896	143,38618
7.IX	12	GW	1	52,57817	143,37701
7.IX	11	GW	1	52,57750	143,34287
7.IX	10	GW	1	52,69553	143,37020
7.IX	10	GW	1	52,71758	143,40689
7.IX	10	GW	1	52,78591	143,38071
7.IX	10	GW	1	52,79921	143,39247
8.IX	9	GW	1	52,86799	143,34256
8.IX	9	GW	1	52,86928	143,35365
8.IX	9	GW	1	52,85959	143,37347
8.IX	9	GW	2	52,85567	143,37481
8.IX	9	GW	1	52,85645	143,39230
8.IX	9	GW	1	52,84873	143,37985
8.IX	9	GW	1	52,84833	143,39396
8.IX	9	GW	1	52,84097	143,39859
8.IX	9	GW	1	52,83958	143,39918
8.IX	9	GW	2	52,82802	143,40650
8.IX	9	GW	1	52,82805	143,38598
8.IX	9	GW	1	52,77666	143,34905
8.IX	10	GW	1	52,69519	143,39487
8.IX	10	GW	1	52,70064	143,38281
8.IX	10	GW	1	52,68338	143,36148
8.IX	11	GW	1	52,70650	143,33864
8.IX	11	GW	1	52,67754	143,39343
8.IX	12	GW	1	52,56587	143,37992
8.IX	12	GW	1	52,51325	143,35916
8.IX	12	GW	1	52,51225	143,34472
8.IX	12	GW	2	52,50364	143,34202
8.IX	13	GW	1	52,53221	143,32938
9.IX	13	GW	1	52,47664	143,34641
9.IX	13	HP	2	52,48472	143,32203
9.IX	13	GW	2	52,50582	143,33047
9.IX	12	GW	2	52,49556	143,31834
9.IX	12	GW	1	52,52600	143,37440
9.IX	11	GW	1	52,70747	143,32817
9.IX	10	GW	1	52,72213	143,41074
9.IX	10	GW	1	52,76720	143,39484
9.IX	10	GW	1	52,76797	143,37271
9.IX	10	GW	1	52,77851	143,39204
9.IX	10	KW	3	52,79188	143,36726
9.IX	10	GW	1	52,80449	143,33748
9.IX	9	GW	1	52,76732	143,33351
9.IX	9	GW	1	52,79494	143,35805
9.IX	9	GW	2	52,80417	143,39275
9.IX	9	GW	1	52,81626	143,39702

9.IX	9	GW	1	52,82416	143,40592
9.IX	9	GW	1	52,83105	143,40098
9.IX	9	GW	1	52,83534	143,40045
9.IX	9	GW	1	52,84376	143,38801
9.IX	9	GW	1	52,85328	143,38917
9.IX	9	GW	1	52,85490	143,38133
9.IX	9	GW	2	52,85022	143,36476
9.IX	9	GW	1	52,86617	143,36564
10.IX	9	GW	2	52,89113	143,35759
10.IX	9	GW	1	52,85688	143,37835
10.IX	9	GW	1	52,85464	143,33631
10.IX	9	GW	1	52,84482	143,40245
10.IX	9	GW	1	52,83958	143,39918
10.IX	9	GW	1	52,83960	143,40490
10.IX	10	GW	1	52,78127	143,40082
10.IX	11	GW	1	52,64813	143,39049
10.IX	12	GW	1	52,56915	143,38670
10.IX	12	GW	1	52,49354	143,35207
10.IX	12	GW	1	52,49194	143,34454
10.IX	12	GW	1	52,47937	143,32262
10.IX	13	GW	1	52,48517	143,35042
11.IX	13	GW	1	52,53127	143,33292
11.IX	12	GW	1	52,49126	143,34072
11.IX	12	GW	1	52,52668	143,37532
11.IX	12	GW	2	52,51770	143,40331
11.IX	10	GW	2	52,70064	143,38281
11.IX	9	GW	1	52,78236	143,34877
11.IX	9	GW	1	52,79243	143,38403
11.IX	9	GW	1	52,78897	143,36090
11.IX	9	GW	1	52,81450	143,40933
11.IX	9	GW	1	52,84983	143,39897
11.IX	9	GW	1	52,85778	143,38329
11.IX	9	GW	2	52,87363	143,36919
13.IX	13	GW	3	52,49834	143,33109
13.IX	12	HP	2	52,56763	143,33608
13.IX	10	GW	1	52,76912	143,38651
13.IX	10	GW	1	52,77995	143,39016
13.IX	10	GW	1	52,80572	143,37632
13.IX	10	GW	2	52,83857	143,36271
13.IX	9	GW	1	52,82024	143,41191
13.IX	9	GW	1	52,82319	143,40003
13.IX	9	GW	1	52,83546	143,41310
13.IX	9	GW	1	52,85396	143,40328
13.IX	9	GW	1	52,85896	143,39794
13.IX	9	GW	1	52,85735	143,37757
14.IX	9	GW	1	52,88409	143,34346
14.IX	9	GW	1	52,88924	143,36801
14.IX	9	GW	2	52,86986	143,36605
14.IX	9	GW	1	52,86968	143,38001
14.IX	9	GW	1	52,85420	143,41360
14.IX	9	GW	2	52,84939	143,40701
14.IX	9	GW	2	52,84860	143,40756
14.IX	9	GW	3	52,84781	143,40808
14.IX	9	GW	2	52,84297	143,41073
14.IX	9	GW	1	52,84050	143,41174
14.IX	9	GW	2	52,82528	143,41319

14.IX	9	GW	2	52,82275	143,41266
14.IX	10	GW	1	52,83767	143,36799
14.IX	11	GW	1	52,65086	143,37584
14.IX	12	GW	1	52,49761	143,33786
14.IX	12	GW	1	52,48991	143,33101
14.IX	13	GW	2	52,52550	143,31750
14.IX	13	GW	1	52,52280	143,32837
15.IX	13	GW	1	52,51169	143,33954
15.IX	13	GW	1	52,51577	143,32951
15.IX	13	GW	2	52,50666	143,30940
15.IX	12	GW	1	52,59960	143,36710
15.IX	11	GW	1	52,71389	143,35151
15.IX	10	GW	1	52,71089	143,38678
15.IX	10	GW	1	52,79033	143,38721
15.IX	10	GW	1	52,80134	143,38783
15.IX	9	GW	1	52,79237	143,35988
15.IX	9	GW	1	52,80966	143,38187
15.IX	9	GW	2	52,80675	143,39560
15.IX	9	GW	1	52,81101	143,39320
15.IX	9	GW	1	52,81153	143,39985
15.IX	9	GW	2	52,83463	143,40059
15.IX	9	GW	1	52,85016	143,40645
15.IX	9	GW	1	52,85170	143,40524
15.IX	9	GW	1	52,85246	143,40461
15.IX	9	GW	1	52,85769	143,39074
15.IX	9	GW	1	52,86533	143,38867
15.IX	9	GW	2	52,86760	143,38447
15.IX	9	GW	1	52,87437	143,36666
15.IX	9	GW	1	52,85356	143,34535
15.IX	9	GW	1	52,87850	143,34238
16.IX	13	GW	1	52,42789	143,37304
16.IX	12	GW	1	52,51477	143,37336
16.IX	12	GW	1	52,51544	143,37460
17.IX	13	GW	1	52,42576	143,31798
17.IX	13	GW	2	52,51699	143,34413
17.IX	12	GW	1	52,48952	143,32707
17.IX	12	GW	1	52,48261	143,34932
17.IX	12	GW	1	52,63306	143,44125
17.IX	11	GW	1	52,71041	143,36667
17.IX	10	GW	1	52,68566	143,37044
17.IX	10	GW	1	52,78651	143,41259
17.IX	10	GW	1	52,78929	143,40902
17.IX	10	GW	1	52,79533	143,39978
17.IX	9	GW	2	52,74986	143,39862
17.IX	9	GW	1	52,75130	143,40322
17.IX	9	GW	2	52,79972	143,37875
17.IX	9	GW	1	52,82252	143,38458
17.IX	9	GW	1	52,82383	143,38809
17.IX	9	GW	1	52,83320	143,40081
17.IX	9	GW	1	52,84166	143,39827
17.IX	9	GW	1	52,85671	143,41140
17.IX	9	GW	1	52,85916	143,40899
17.IX	9	GW	1	52,86162	143,39446
17.IX	9	GW	1	52,87823	143,37478
17.IX	9	GW	1	52,88313	143,35274
17.IX	9	GW	2	52,88333	143,35121

17.IX	9	GW	1	52,89285	143,33787
18.IX	9	GW	1	52,89249	143,34510
18.IX	9	GW	2	52,89220	143,34869
18.IX	9	GW	1	52,89183	143,35227
18.IX	9	GW	1	52,91671	143,37057
18.IX	9	GW	1	52,88112	143,39362
18.IX	9	GW	1	52,85250	143,36372
18.IX	9	GW	1	52,89900	143,42762
18.IX	9	GW	1	52,84970	143,37875
18.IX	9	GW	2	52,84353	143,38449
18.IX	9	GW	1	52,83817	143,39968
18.IX	9	GW	1	52,82958	143,40658
18.IX	9	GW	1	52,82186	143,40531
18.IX	9	GW	1	52,80808	143,39692
18.IX	9	GW	1	52,74729	143,38919
18.IX	10	GW	2	52,82570	143,41000
18.IX	10	GW	1	52,76402	143,41522
18.IX	11	GW	1	52,67506	143,34733
18.IX	12	GW	1	52,59280	143,33439
18.IX	13	GW	1	52,52915	143,33982
18.IX	13	GW	1	52,49881	143,33027
18.IX	13	GW	1	52,50046	143,35722
20.IX	13	GW	1	52,42004	143,31382
20.IX	13	GW	1	52,44455	143,34081
20.IX	13	GW	1	52,49492	143,33158
20.IX	13	GW	2	52,50966	143,33172
20.IX	12	GW	1	52,47951	143,32488
20.IX	12	GW	1	52,50238	143,35799
20.IX	12	GW	1	52,50453	143,36428
20.IX	12	GW	1	52,55007	143,39805
20.IX	12	GW	1	52,53044	143,39401
20.IX	12	GW	1	52,61004	143,38654
20.IX	12	GW	2	52,62356	143,34908
20.IX	11	GW	1	52,58842	143,35157
20.IX	11	GW	1	52,58551	143,37674
20.IX	10	GW	1	52,84059	143,34661
20.IX	9	GW	1	52,79653	143,32545
20.IX	9	GW	1	52,78702	143,35115
20.IX	9	GW	2	52,78573	143,36615
20.IX	9	GW	1	52,80900	143,40561
20.IX	9	GW	1	52,82570	143,40622
20.IX	9	GW	1	52,84303	143,39756
20.IX	9	GW	1	52,86571	143,35641
20.IX	9	GW	1	52,89086	143,35935
20.IX	9	GW	1	52,91745	143,36554
20.IX	9	GW	1	52,85854	143,32272
24.IX	13	GW	1	52,47954	143,35827
24.IX	12	GW	1	52,51607	143,35613
24.IX	12	GW	1	52,54527	143,38156
24.IX	12	GW	1	52,57236	143,39020
24.IX	12	GW	2	52,57817	143,37701
24.IX	12	GW	1	52,59859	143,37866
24.IX	12	GW	1	52,60334	143,37006
24.IX	12	GW	1	52,63228	143,35662
24.IX	11	GW	1	52,57871	143,35073
24.IX	11	GW	1	52,70820	143,37391

24.IX	10	GW	1	52,79747	143,37078
24.IX	9	GW	1	52,77593	143,33971
24.IX	9	GW	1	52,78337	143,35560
24.IX	9	GW	1	52,78474	143,36226
24.IX	9	GW	2	52,78850	143,37485
24.IX	9	GW	1	52,80944	143,39815
24.IX	9	GW	1	52,87778	143,37616
24.IX	9	GW	1	52,86097	143,39536
26.IX	13	GW	1	52,49924	143,34962
26.IX	13	GW	1	52,56009	143,33672
26.IX	12	GW	1	52,55287	143,39863
26.IX	12	GW	2	52,55380	143,39877
26.IX	12	GW	1	52,55628	143,37774
27.IX	9	GW	1	52,85297	143,35199
27.IX	9	GW	1	52,85829	143,38994
27.IX	9	GW	1	52,84548	143,38675
27.IX	9	GW	2	52,80900	143,40561
27.IX	10	GW	1	52,84032	143,34931
27.IX	10	GW	1	52,83857	143,36271
27.IX	10	HP	2	52,75336	143,35662
27.IX	10	GW	1	52,75329	143,40913
27.IX	11	GW	1	52,73816	143,37832
27.IX	12	GW	2	52,55145	143,39278
27.IX	12	GW	1	52,54186	143,39488
27.IX	12	GW	2	52,49270	143,34833
30.IX	13	GW	1	52,48551	143,35540
30.IX	13	GW	4	52,49351	143,34319
30.IX	12	GW	1	52,63071	143,36294
30.IX	11	GW	1	52,60679	143,38179
30.IX	11	GW	1	52,70170	143,36201
30.IX	11	GW	1	52,71140	143,36295
30.IX	10	GW	1	52,68424	143,36510
30.IX	10	GW	1	52,79614	143,39836
30.IX	9	GW	1	52,74790	143,39158
30.IX	9	GW	2	52,78930	143,39233
30.IX	9	GW	1	52,80486	143,41260
30.IX	9	GW	1	52,83817	143,39968
30.IX	9	GW	1	52,87866	143,37338
30.IX	9	GW	1	52,91836	143,35794
30.IX	9	GW	1	52,88440	143,33721
1.X	9	GW	2	52,89220	143,34869
1.X	9	GW	1	52,89086	143,35935
1.X	9	GW	2	52,89027	143,36284
1.X	9	GW	1	52,88128	143,36329
1.X	9	GW	1	52,79327	143,39907
1.X	9	GW	1	52,78927	143,36209
1.X	9	GW	1	52,77650	143,34750
1.X	10	GW	1	52,79981	143,36328
1.X	10	GW	1	52,79921	143,39247
3.X	13	GW	1	52,51986	143,33720
3.X	13	GW	1	52,53221	143,32938
3.X	12	GW	1	52,49446	143,35575
3.X	12	GW	1	52,53400	143,38334
3.X	12	GW	4	52,54008	143,39389
3.X	12	GW	1	52,55266	143,38826
3.X	11	GW	2	52,54985	143,35280

3.X	11	GW	1	52,58687	143,34312
3.X	10	KW	5	52,73931	143,40156
3.X	10	GW	1	52,79883	143,31180
3.X	9	GW	2	52,77622	143,34440
3.X	9	HP	1	52,80001	143,34113
3.X	9	GW	1	52,78941	143,37723
3.X	9	GW	1	52,81559	143,39661
3.X	9	GW	1	52,82367	143,39547
3.X	9	GW	1	52,83462	143,41324
3.X	9	GW	1	52,84050	143,41174
3.X	9	GW	1	52,86598	143,40054
3.X	9	GW	1	52,86968	143,38001
3.X	9	GW	1	52,87200	143,37413
3.X	9	GW	2	52,87401	143,36793
3.X	9	GW	3	52,86986	143,36605
3.X	9	GW	1	52,87568	143,36147
3.X	9	GW	1	52,89162	143,35405
4.X	9	GW	1	52,89220	143,34869
4.X	9	GW	3	52,89027	143,36284
4.X	9	GW	1	52,88717	143,37640
4.X	9	GW	1	52,87401	143,36793
4.X	9	GW	1	52,87479	143,38417
4.X	9	GW	1	52,85872	143,37515
4.X	9	GW	1	52,85889	143,38911
4.X	9	GW	1	52,83462	143,41324
4.X	9	GW	1	52,82851	143,42287
4.X	9	GW	1	52,82762	143,38329
4.X	9	GW	1	52,82725	143,40643
4.X	9	GW	1	52,81941	143,41162
4.X	9	GW	1	52,81370	143,40887
4.X	9	GW	1	52,80417	143,39275
4.X	9	GW	2	52,80112	143,38878
4.X	9	GW	1	52,77683	143,35059
4.X	11	GW	1	52,69623	143,37717
4.X	11	GW	1	52,58998	143,35815
4.X	11	GW	1	52,55109	143,36108
4.X	11	GW	1	52,57944	143,35460
4.X	12	GW	1	52,57599	143,39409
4.X	12	GW	1	52,55295	143,38418
4.X	12	GW	1	52,52285	143,38584
4.X	13	GW	2	52,56061	143,33413
4.X	13	GW	1	52,51574	143,34679
6.X	13	GW	1	52,44369	143,32467
6.X	13	GW	1	52,48840	143,35346
6.X	13	GW	1	52,50873	143,34530
6.X	13	GW	1	52,51169	143,33954
6.X	13	GW	1	52,51818	143,34141
6.X	12	GW	1	52,52337	143,37055
6.X	12	GW	1	52,52950	143,37878
7.X	13	GW	1	52,47748	143,35399
7.X	13	GW	2	52,48103	143,35267
7.X	13	GW	1	52,49362	143,35568

7.X	12	GW	1	52,52038	143,37348
7.X	12	GW	1	52,53658	143,37558
7.X	12	GW	1	52,57240	143,39593
7.X	12	GW	2	52,61387	143,37883
7.X	11	GW	1	52,54918	143,34723
7.X	11	GW	2	52,71314	143,35537
16.X	12	GW	2	52,55058	143,39258
16.X	12	GW	1	52,57739	143,34526
16.X	11	GW	1	52,59520	143,35271
16.X	11	GW	1	52,66096	143,40605
16.X	11	GW	1	52,65728	143,38383
16.X	11	GW	2	52,68806	143,36570
16.X	10	GW	1	52,68224	143,35596
16.X	10	GW	1	52,77940	143,34333
16.X	10	GW	1	52,80298	143,34903
16.X	9	GW	1	52,78902	143,33333
16.X	9	GW	1	52,79467	143,38826
16.X	9	GW	1	52,79123	143,39578
16.X	9	GW	2	52,79541	143,40217
16.X	9	GW	2	52,79919	143,40691
16.X	9	GW	1	52,80599	143,40300
17.X	9	GW	1	52,88313	143,35274
17.X	9	GW	1	52,88128	143,36329
17.X	9	GW	1	52,85794	143,42615
17.X	9	GW	1	52,79967	143,39589
17.X	9	GW	2	52,79617	143,37131
17.X	9	GW	1	52,78470	143,38235
17.X	9	GW	1	52,78807	143,37364
17.X	9	GW	1	52,77797	143,35821
17.X	10	GW	1	52,80628	143,37461
17.X	11	GW	1	52,71231	143,35919
17.X	11	GW	1	52,71140	143,36295
17.X	11	GW	1	52,64737	143,39053
17.X	12	GW	1	52,63405	143,34801
17.X	12	GW	1	52,58220	143,37811
17.X	12	GW	1	52,54457	143,39044
17.X	12	GW	1	52,54451	143,38117
17.X	13	GW	1	52,44463	143,37331

APPENDIX 3

Weather Conditions on Northeast Coast of Sakhalin in Odoptu Bay Area
in June–October 2007

1 - Date 2 – Time 3 – Wind direction, ° 4 – Wind speed, m/s
5 – Air temperature, °C 6 – Pressure at station level

1	2	3	4	5	6
20.06.2007	11:00	120	4	9,3	1009,5
20.06.2007	14:00	120	5	9,3	1008,6
21.06.2007	11:00	110	4	8,3	1006,7
21.06.2007	14:00	110	4	10,0	1006,0
22.06.2007	11:00	60	3	5,6	1007,1
22.06.2007	14:00	30	3	6,3	1007,2
23.06.2007	11:00	60	1	6,8	1010,3
23.06.2007	14:00	70	1	7,8	1010,2
24.06.2007	11:00	60	2	7,9	1010,0
24.06.2007	14:00	60	2	8,1	1009,2
25.06.2007	11:00	60	2	8,2	1005,5
25.06.2007	14:00	80	4	9,1	1004,3
26.06.2007	11:00	70	2	7,6	1002,6
26.06.2007	14:00	70	3	8,2	1002,7
27.06.2007	11:00	20	1	7,0	1003,5
27.06.2007	14:00	10	4	8,7	1003,9
28.06.2007	11:00	50	4	8,1	1011,9
28.06.2007	14:00	50	5	8,5	1013,4
29.06.2007	11:00	80	4	9,1	1017,7
29.06.2007	14:00	90	4	10,0	1017,5
30.06.2007	11:00	130	7	7,4	1013,9
30.06.2007	14:00	140	8	8,2	1012,2
01.07.2007	11:00	220	5	21,5	1006,2
01.07.2007	14:00	40	4	14,3	1006,2
02.07.2007	11:00	50	3	7,2	1000,8
02.07.2007	14:00	70	3	9,2	999,5
03.07.2007	11:00	60	2	5,7	997,5
03.07.2007	14:00	40	3	7,2	997,9
04.07.2007	11:00	140	5	6,6	1002,1
04.07.2007	14:00	80	3	6,1	1002,6
05.07.2007	11:00	40	2	7,5	1004,4
05.07.2007	14:00	30	2	8,5	1004,6
06.07.2007	11:00	10	3	8,1	1007
06.07.2007	14:00	30	3	7,1	1006,7
07.07.2007	11:00	340	6	8,1	1008,3
07.07.2007	14:00	340	7	8,9	1008,1
08.07.2007	11:00	350	6	8,1	1010,3
08.07.2007	14:00	350	5	8,2	1010,3
09.07.2007	11:00	0	0	8,7	1012,7
09.07.2007	14:00	90	4	9,8	1012,9
10.07.2007	11:00	140	8	9,9	1014,1
10.07.2007	14:00	140	7	11,5	1014,1
11.07.2007	11:00	150	6	8,7	1015,2
11.07.2007	14:00	130	8	10,1	1015,9
1	2	3	4	5	6

12.07.2007	11:00	140	8	7,5	1015,4
12.07.2007	14:00	140	8	9,3	1014,5
13.07.2007	11:00	140	9	6,1	1010,2
13.07.2007	14:00	140	9	6,3	1008,6
14.07.2007	11:00	230	7	16,1	1005,0
14.07.2007	14:00	190	5	20,3	1003,7
15.07.2007	11:00	330	2	12,2	1081,0
15.07.2007	14:00	330	1	12,3	1008,1
16.07.2007	11:00	140	8	10,0	1005,3
16.07.2007	14:00	130	8	10,3	1004,3
17.07.2007	11:00	140	6	9,7	1003,0
17.07.2007	14:00	140	7	9,9	1002,1
18.07.2007	11:00	140	10	8,3	1002,7
18.07.2007	14:00	140	12	8,7	1001,8
19.07.2007	11:00	140	9	4,9	1004,4
19.07.2007	14:00	140	10	5,6	1004,1
20.07.2007	11:00	140	8	4,2	999,9
20.07.2007	14:00	140	9	5,1	999,9
21.07.2007	11:00	130	5	5,3	1002,1
21.07.2007	14:00	130	7	6,2	1002,3
22.07.2007	11:00	120	4	3,1	1001,5
22.07.2007	14:00	130	4	6,0	1001,2
23.07.2007	11:00	210	1	14,4	1007,0
23.07.2007	14:00	100	4	9,2	1001,3
24.07.2007	11:00	30	2	8,0	1003,3
24.07.2007	14:00	20	2	9,8	1003,6
25.07.2007	11:00	330	4	9,7	1003,4
25.07.2007	14:00	350	4	10,0	1002,9
26.07.2007	11:00	290	4	11,5	1000,9
26.07.2007	14:00	350	5	10,6	1000,7
27.07.2007	11:00	350	4	9,9	1006,0
27.07.2007	14:00	30	6	10,6	1006,1
28.07.2007	11:00	10	3	9,9	1010,2
28.07.2007	14:00	10	4	10,2	1010,4
29.07.2007	11:00	40	1	9,5	1009,4
29.07.2007	14:00	100	3	10,2	1008,3
30.07.2007	11:00	140	6	13,6	999,6
30.07.2007	14:00	140	6	13,1	998,1
31.07.2007	11:00	210	4	16,6	996,9
31.07.2007	14:00	110	6	8,2	998,2
01.08.2007	11:00	120	4	7,8	1002,3
01.08.2007	14:00	130	3	10,4	1002,6
02.08.2007	11:00	350	3	9,6	1009,8
02.08.2007	14:00	10	3	12,1	1009,5
03.08.2007	11:00	210	2	13,4	1008,4
03.08.2007	14:00	130	5	12,4	1007,1

04.08.2007	11:00	200	5	21,6	1001,1
04.08.2007	14:00	250	5	26,7	999,2
05.08.2007	11:00	290	6	21,8	998,6
05.08.2007	14:00	350	7	17,0	1000,3
06.08.2007	11:00	170	3	16,8	1008,2
06.08.2007	14:00	120	7	16,1	1007,5
07.08.2007	11:00	140	5	14,0	1008,8
07.08.2007	14:00	130	6	13,9	1009,1
08.08.2007	11:00	140	6	12,1	1011,2
08.08.2007	14:00	150	6	13,3	1011,4
09.08.2007	11:00	140	5	11,3	1011,7
09.08.2007	14:00	130	8	9,9	1012,1
10.08.2007	11:00	130	7	8,5	1008,8
10.08.2007	14:00	140	10	10,1	1007,5
11.08.2007	11:00	150	6	10,3	1003,0
11.08.2007	14:00	140	6	12,1	1002,2
12.08.2007	11:00	150	1	16,6	999,5
12.08.2007	14:00	250	3	20,0	999,6
13.08.2007	11:00	340	6	9,9	1007,6
13.08.2007	14:00	340	6	11,2	1008,9
14.08.2007	11:00	130	3	8,3	1012,9
14.08.2007	14:00	140	4	9,3	1012,8
15.08.2007	11:00	40	4	10,9	1013,3
15.08.2007	14:00	20	3	12,1	1014,0
16.08.2007	11:00	350	5	13,7	1016,0
16.08.2007	14:00	10	3	14,1	1016,1
17.08.2007	11:00	220	4	19,0	1010,5
17.08.2007	14:00	280	6	23,3	1008,2
18.08.2007	11:00	290	6	27,0	1004,1
18.08.2007	14:00	290	6	20,8	1003,7
19.08.2007	11:00	180	2	17,5	1005,9
19.08.2007	14:00	110	5	16,6	1004,8
20.08.2007	11:00	140	7	11,5	997,3
20.08.2007	14:00	140	6	10,0	996,8
21.08.2007	11:00	110	3	15,0	995,4
21.08.2007	14:00	130	4	13,0	993,8
22.08.2007	11:00	40	9	12,7	984,2
22.08.2007	14:00	40	10	12,4	984,8
23.08.2007	11:00	340	9	14,5	1000,9
23.08.2007	14:00	340	8	17,2	1001,4
24.08.2007	11:00	250	8	21,6	1001,2
24.08.2007	14:00	290	8	24,4	1002,2
25.08.2007	11:00	190	4	17,4	1003,4
25.08.2007	14:00	120	2	15,2	1002,9
26.08.2007	11:00	60	3	13,7	997,9
26.08.2007	14:00	90	4	13,5	996,8
27.08.2007	11:00	350	7	13,1	1000,1
27.08.2007	14:00	360	5	13,4	1000,3
28.08.2007	11:00	270	4	15,1	1005,1
28.08.2007	14:00	280	5	17,8	1004,7
29.08.2007	11:00	200	5	14,2	1004,5
29.08.2007	14:00	240	2	15,1	1003,8
30.08.2007	11:00	280	5	13,1	1006,8
30.08.2007	14:00	320	6	13,6	1006,1

31.08.2007	11:00	260	5	16,4	1006,7
31.08.2007	14:00	280	6	18,6	1006,7
01.09.2007	11:00	240	2	17,0	1011,5
01.09.2007	14:00	130	4	15,6	1011,9
02.09.2007	11:00	150	6	12,8	1016,2
02.09.2007	14:00	150	6	13,0	1015,6
03.09.2007	11:00	140	5	11,9	1015,3
03.09.2007	14:00	140	7	12,4	1014,2
04.09.2007	11:00	150	4	12,4	1009,3
04.09.2007	14:00	150	6	13,0	1007,5
05.09.2007	11:00	340	8	12,7	1000,7
05.09.2007	14:00	360	4	12,3	1001,3
06.09.2007	11:00	310	12	12,0	1008,8
06.09.2007	14:00	300	12	13,1	1010,4
07.09.2007	11:00	210	4	13,7	1018,8
07.09.2007	14:00	130	6	14,2	1017,5
08.09.2007	11:00	240	2	15,1	1012,4
08.09.2007	14:00	100	3	15,1	1011,9
09.09.2007	11:00	300	3	15,9	1014,6
09.09.2007	14:00	360	5	13,5	1015,6
10.09.2007	11:00	140	5	12,9	1020,9
10.09.2007	14:00	140	5	13,0	1019,7
11.09.2007	11:00	140	6	11,8	1013,3
11.09.2007	14:00	170	7	13,6	1011,9
12.09.2007	11:00	170	6	13,1	1007,0
12.09.2007	14:00	160	6	14,1	1006,1
13.09.2007	11:00	210	3	15,1	1007,3
13.09.2007	14:00	120	4	16,1	1001,3
14.09.2007	11:00	280	3	12,6	1007,1
14.09.2007	14:00	290	6	12,6	1006,5
15.09.2007	11:00	260	6	12,4	1006,8
15.09.2007	14:00	290	9	14,4	1006,1
16.09.2007	11:00	320	8	11,9	1010,3
16.09.2007	14:00	310	6	13,9	1011,2
17.09.2007	11:00	290	4	13,1	1020,1
17.09.2007	14:00	100	3	14,5	1019,9
18.09.2007	11:00	220	4	15,1	1014,4
18.09.2007	14:00	210	6	20,0	1012,5
19.09.2007	11:00	220	8	17,2	1002,6
19.09.2007	14:00	220	10	19,9	1000,3
20.09.2007	11:00	300	4	12,9	1009,8
20.09.2007	14:00	270	6	15,2	1009,7
21.09.2007	11:00	210	5	14,9	1002,7
21.09.2007	14:00	50	2	16,8	1001,0
22.09.2007	11:00	330	12	10,0	1002,9
22.09.2007	14:00	320	12	10,2	1004,6
23.09.2007	11:00	310	10	6,0	1012,4
23.09.2007	14:00	290	11	9,4	1012,8
24.09.2007	11:00	310	7	9,5	1010,4
24.09.2007	14:00	290	9	10,8	1009,8
25.09.2007	11:00	320	7	10,5	1011,1
25.09.2007	14:00	350	8	8,9	1011,9
26.09.2007	11:00	330	4	8,3	1012,7
26.09.2007	14:00	280	3	8,9	1012,5

27.09.2007	11:00	160	5	8,9	1011,9
27.09.2007	14:00	140	8	10,8	1009,8
28.09.2007	11:00	70	11	8,0	997,1
28.09.2007	14:00	70	12	7,5	996,3
29.09.2007	11:00	330	5	6,8	1006,5
29.09.2007	14:00	290	7	8,1	1006,6
30.09.2007	11:00	260	6	7,9	1006,7
30.09.2007	14:00	250	5	11,8	1005,6
01.10.2007	11:00	210	7	8,8	1002,3
01.10.2007	14:00	170	6	12,3	999,0
02.10.2007	11:00	290	14	6,4	1001,6
02.10.2007	14:00	300	12	7,2	1005,2
03.10.2007	11:00	200	4	8,4	1014,0
03.10.2007	14:00	260	4	11,5	1013,4
04.10.2007	11:00	360	2	9,1	1015,4
04.10.2007	14:00	40	2	9,7	1014,9
05.10.2007	11:00	240	9	13,4	1008,0
05.10.2007	14:00	290	8	17,1	1007,5
06.10.2007	11:00	180	3	7,5	1010,0
06.10.2007	14:00	140	3	10,7	1007,5
07.10.2007	11:00	300	6	9,4	1008,4
07.10.2007	14:00	290	4	9,9	1008,7
08.10.2007	11:00	50	12	7,8	999,0
08.10.2007	14:00	50	11	8,6	996,8
09.10.2007	11:00	340	12	7,2	998,0
09.10.2007	14:00	350	14	7,7	999,1
10.10.2007	11:00	330	7	3,7	1010,5
10.10.2007	14:00	300	7	5,2	1010,2
11.10.2007	11:00	190	7	5,6	998,0
11.10.2007	14:00	180	5	8,5	995,5
12.10.2007	11:00	300	6	0,7	1001,8
12.10.2007	14:00	310	4	1,5	1001,5
13.10.2007	11:00	270	7	-3,1	1001,3
13.10.2007	14:00	290	8	-2,0	1000,3
14.10.2007	11:00	350	15	4,4	1003,1
14.10.2007	14:00	350	15	4,5	1005,5
15.10.2007	11:00	330	5	3,2	1019,7
15.10.2007	14:00	320	5	5,4	1020,0
16.10.2007	11:00	240	4	-1,4	1019,9
16.10.2007	14:00	270	4	6,0	1018,7
17.10.2007	11:00	280	4	3,2	1018,8
17.10.2007	14:00	210	1	9,1	1018,8
18.10.2007	11:00	200	6	1,8	1021,1
18.10.2007	14:00	150	5	7,7	1020,6

2.27.2 TABLES

Table 1

Location of Onshore Monitoring Stations (MS) in 2007
and their characteristics

Site	MS number ¹	Latitude (N)	Longitude (E)	Elevation above sea level (m)	Maximum visibility ² (m)	Distance between MS (km)	
Odoptu-Piltun section	1	53.41249	143.15274	13.08	14.8	1-2	9.08
	2	53.33517	143.19597	18.13	17.1	2-3	8.25
	3	53.26345	143.22717	27.04	20.6	3-4	9.53
	4	53.17961	143.25584	14.56	15.5	4-5	6.15
	5	53.12498	143.27012	8.99	12.6	5-6	8.12
	6	53.05245	143.28461	7.95	12.0	6-7	8.77
	7	52.97434	143.30208	9.87	13.1	7-8	10.03
	8a ¹	52.88049	143.31970	7.0	11.4	8-9	5.7
Astokh-Chayvo section	9a ¹	52,83012	143,33297	6.00	10.7	9-10	9,3
	10a ¹	52,74660	143,32285	7.00	11.4	10-11	11,2
	11	52.64637	143.31812	7.73	11.8	11-12	9.8
	12	52.55821	143.31059	9.78	13.1	12-13	9.6
	13a ¹	52,47003	143,28668	7.00	11.4	

Notes: 1 – the coordinates and elevations of these monitoring stations have changed slightly in comparison with the original ones, since the former stations were demolished by shore erosion as a result of severe storms in the late fall of 2005; a change in the stations' location is indicated by the letter a added to their number.

2 – visibility is calculated with allowance for the height of the observers, which is taken as 1.8 m.

Table 2

Overall Results of Survey of Gray Whales and Other Marine Mammals in the Waters of Southeastern Sakhalin in July–October 2007. All MMO sightings were used in this analysis.

Note: GW – gray whale, MW – Minke whale, KW – killer whale, DP – Dall's porpoise, HP – harbor porpoise,

Month (vessel)	Marine mammal species												Total
	GW	MW	KW	DP	HP	NFS	BS	SL	SS	PWS D	BBW	RS	
July (B)	146	11	13	7	22	33		2	10	12	1	2	259
July (O)	169	21	6	1	43	2	1		63			4	310
July (B+O)	315	32	19	8	65	35	1	2	73	12	1	6	569
August (B)	112	17	4					3	4				140
August (O)	510	40	12	3	46	1	2	2	39			8	663
August (B+O)	622	57	16	3	46	1	2	5	43			8	803
September (B)	50	2	1		1				1				55
September (O)	563	10	4		35		5	8	8		1	6	640
September	613	12	5		36		5	8	9		1	6	695
October (O)	140	3	1	19	13	29		9	2	6			222
Total, %	308	30	18	7	23	33		5	15	12	1	2	454
Total, %	138	74	23	23	13	32	8	19	11	6	1	18	1835
Grand total (B+O)	1690	104	41	30	160	65	8	24	127	18	2	20	2289
%	73,8	4,5	1,8	1,3	7,0	2,8	0,	1,	5,5	0,8	0,0	0,9	100,0

NFS – northern fur seal, BS – bearded seal, SL – sea lion, SS – spotted seal, PWS – Pacific white-sided dolphin, BBW – Baird's beaked whale, RS – ringed seal, (B) – Research Vessel *Professor Bogorov*, (O) – Research Vessel *Akademik Oparin*.

Table 3

Results of Special Systematic Vessel Surveys of Gray Whales in the Piltun and Offshore Feeding Areas and in Waters of the Arkutun-Dagi License Area in July–October 2007

Month	Piltun area	Morskoiy Offshore area	Arkutun-Dagi section
	number of whales / date	number of whales / date	number of whales / date
July		18 ² (7/31)	-- (7/30)
August	45 ¹ (8/5)	43 ³ (8/15)	-- 2 (8/16)* 2 (8/25)
September	45 (9/7)	28 (9/1) 34 ⁴ (9/15)	1 (9/6) 2 3 ⁵ (9/14) – (9/30)
October	30 (10/4)	36 (10/1)	

* – This sighting of 2 gray whales were spotted was located outside the boundaries of the survey area.

¹ MMOs indicated that 15 gray whales were possible resights during this survey.

² MMOs indicated that 8 gray whales were possible resights during this survey.

³ MMOs indicated that 17 gray whales were possible resights during this survey.

⁴ MMOs indicated that 5 gray whales were possible resights during this survey.

⁵ MMOs indicated that 1 gray whale was possible resights during this survey.

Table 4

Time Spent on Conducting Onshore Vehicle Surveys of Gray Whales in the Piltun Area in June-October 2007 and Total Results of These Surveys

Month	Odoptu-Piltun section (MS No. 1–8)					
	Complete surveys within the section		Partial surveys		Number of whale sightings	Total number of whales counted
	<i>n</i>	<i>h:min</i>	<i>n</i>	<i>h:min</i>		
June	3 (2)*	7:09	0	0:00	24	28
July	3 (2)*	7:09	8	6:33	86	97
August	10 (10)*	23:50	7	9:31	335	407
September	9 (8)*	21:27	6	5:22	282	340
October	4 (4)*	9:32	2	1:47	48	58
Total:	29 (26)*	69:07	23	23:13	775	930

* – in parentheses: including surveys synchronized with surveys in the Astokh-Chayvo section.

Month	Astokh-Chayvo section (MS No. 9–13)					
	Complete surveys within the section		Partial surveys		Number of whale sightings	Total number of whales counted
	<i>n</i>	<i>h:min</i>	<i>n</i>	<i>h:min</i>		
June	4 (2)*	6:08	2	1:32	9	10
July	8 (2)*	12:16	5	4:32	95	126
August	17 (10)*	25:52	2	2:08	377	502
September	11 (8)*-	16:52	7	6:56	252	303
October	4 (4)*	6:08	3	2:26	104	126
Total:	44 (26)*	67:12	19	17:34	837	1067

* - in parentheses: including surveys synchronized with surveys in the Odoptu-Piltun section.

Month	Total in the Piltun feeding area							
	Complete synchronous surveys in the whole area		Complete asynchronous surveys in one section		Partial surveys in sections		Total number of whale sightings	Total number of whales counted
	<i>n</i>	<i>h:min</i>	<i>n</i>	<i>h:min</i>	<i>n</i>	<i>h:min</i>		
June	2	7:50	3	5:27	2	1:32	33	38
July	2	7:50	7	11:35	13	11:05	181	223
August	10	39:10	7	10:32	9	11:39	712	909
September	8	31:20	4	6:59	13	12:18	534	643
October	4	15:40	0	0:00	5	4:13	152	184
Total:	26	101:50	21	34:33	42	40:47	1612	1997

Notes:

The times indicated in the table include only the time spent directly on observations; time spent in getting to the survey points and traveling from one point to another is not included.

Complete synchronous surveys are those during which monitoring was done on the same day at all monitoring stations in both sections (MS 1–8 in the Odoptu-Piltun section and 9–13 in the Astokh-Chayvo section) with synchronization of the times of their beginning or end at adjacent stations 8 and 9 near the mouth of Piltun Bay; complete asynchronous surveys in one of the sections are complete surveys within one section or the other the times of which did not coincide in the time of a complete survey in the other section (these surveys were usually performed on different dates due to local weather conditions). Partial surveys are those that for some reason were not completed, i.e., observations were not conducted at all monitoring stations. In this case, the number of gray whale sightings and the number of counted animals include all recorded whales and groups of whales with the exception of, including those spotted outside the 1-minute sector scanning periods ("out of scan") and those recorded repeatedly during surveys with meteorological conditions of sea state > 3 and wind speed >= 10 m/s.

Table 5

Results of Onshore Surveys of Gray Whales in the Piltun Area
in June–October 2007. based on all onshore survey data with gray whales spotted outside the 1-minute sector scanning periods (“out of scan”) and those recorded during surveys with meteorological conditions of sea state > 3 and wind speed >= 10 m/s excluded.

Survey date	Odoptu-Piltun Section (OPS)								Astokh-Chayvo Section (ACS)					Total		
	Monitoring station number								Monitoring station number					OPS	ACS	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13			
June																
23	0	0	0	0	0	0	3	4	2	0	0			7	(2)	
24	0	0	2	1	2	1	0	1	0	0	1	0	0	7	1	8
25									2	0	0	0	0		2	
27												0	1		(1)	
28									1	0	1	0	0		2	
29	0	2	2	0	1	2	2	5	0	0	2	0	0	14	2	16
July																
1	0	3	3	0	0	2	1	0	0	0	2	3	0	9	5	14
2								5	6	0	0	0	0	(5)	6	
8									5	6	4	3	0		18	
9	0	1	0	1	3	1	0	4	5	3	4	3	0	10	15	25
10				3	1	3	11	8	3	1	2	0	0	(26)	6	
11									0	3	3	3	1		10	
12											2	3	1		(6)	
14	0	2	5	3	2	0	5	4		3	1	1	0	21	(5)	
17	2	4	2											(8)		
24												2	0		(2)	
26	1											0	0	(1)	(0)	
27	1	0	3	3										(7)		
28					3	0	4	3	2		0	3	5	(10)	(10)	
29									17	9	0	0	0		26	
30	0	0							9	5	2	1	0	(0)	17	
31	0	0												(0)		

August																
3	0	3	0	0	1	4	6	7	14	7	5	6	0	21	32	53
4	0	5	4	3	5	3	7	14	11	5	9	1	0	41	26	67

5	0	3	2	5	8	9			4	2	3	8	0	(27)	17	
6	0		3	3	1	7	12	11	11	1	6	5	3	(37)	26	
7	0		2	2	5	7	4	3	11	7	1	2	2	(23)	23	
11										3	2	5	3		(13)	
15							7	2	7	3	12	15	5	(9)	42	
16	2	5	4	0	5	5	5	4	0	5	0	10	0	30	15	45
17	2	1	2	8	8	1	5	10	11	6	3	6	2	37	28	65
18	1	2	1	1	1	0	3	1	9	5	0	11	4	10	29	39
19			2	3	3	2	3	3	8	7	0			(16)	(15)	
21	0	1	3											(4)		
23									2	3	7	14	2		28	
24	1	1	1	1	0	3	5	6	10	7	6	11	3	18	37	55
25	0	0	1	3	0	2	1	12	13	5	7	7	4	19	36	55
26									15	2	5	3	3		28	
28	0	1	1	1	11	8	5	5	11	3	3	7	4	32	28	60
29								4	6	1	4	6	3	(4)	20	
30	1	3	4	2	4	9	7	10	9	2	0	3	4	40	18	58
31	1	4	5	2	1	8	10	8	17	7	3	7	7	39	41	80
September																
1	3	4	7	6	0					1	1	0	6	(20)	(8)	
5										0	3	2	3		(8)	
7	0	1	1	1							1	6	2	(3)	(9)	
8	0	2	4	3	2	10	16	8	14	3	2	5	0	45	24	69
9	0	2	1	0	2	5	12	7	14	6	1	3	3	29	27	56
10						4	11	8	6	1	1	4	1	(23)	13	
11									7	2	0	4	1		14	
12	0	4												(4)		
13	0	5	7	7	1	1	4	7	6	5	0	0	3	32	14	46
14	0	1	8	6	2	3	7	14	20	1	1	2	3	41	27	68
15	3								18	3	1	1	4	(3)	27	
16												2	1		(3)	
17	0	0	4	4	2	3	1	16	17	4	1	3	3	30	28	58
18	0	1	3	1	5	4	3	15	16	3	1	1	3	32	24	56
20	0	0	4	5	6	0	6	4	11	1	2	7	5	25	26	51
24										1	2	8	1		(12)	
26	0	2	4	1	0	1	2	9				4	2	19	(6)	
27						4	9	3	5	3	1	5		(16)	(14)	
30	0	0	1	1	1	2	0	13	8	2	3	1	5	18	19	37
October																
1								7	9	2	0			(7)	(11)	
3	0	1	2	0	0	1	1	10	17	1	3	7	2	15	30	45
4	0	1	1	0	0	1	1	15	19	0	4	3	3	19	29	48
6												2	5		(7)	
7	0	0	0	0	0						3	5	4	(0)	(12)	
16	0	0	1	2	1	2	2	3	8	3	5	3	0	11	19	30
17	0	2	2	0	0	0	1	1	9	1	3	4	1	6	18	24

* – the results of partial surveys are shown in italics in parentheses.

Table 6

Number of Gray Whales Recorded in the Piltun Area in June–October 2007 in Segments of Water Area
Between Monitoring Stations

(based on complete synchronized onshore survey data with the exception of the whales spotted
outside the 1-minute sector scanning periods ("out of scan") and those recorded during surveys with
meteorological conditions of sea state > 3 and wind speed >= 10 m/s.)

Parameter	Segments of water area between monitoring stations															Total
	<1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	>13		
June (2 complete synchronized surveys)																
Total number of whales	0	1	3	3	2	3	1	5	3	0	3	0	0	0	24	
Average number of	0	0.5	1.5	1.5	1	1.5	0.5	2.5	1.5	0	1.5	0	0	0	12	
%	0	42	12	12	8.3	12	42	20	12	0	125	0	0	0	100	
July (2 complete synchronized surveys)																
Total number of whales	0	1	5	1	2	3	3	1	5	4	4	7	3	0	39	
Average number of	0	0.5	2.5	0.5	1	1.5	1.5	0.5	2.5	2	2	3.5	1.5	0	19.5	
%	0	26	128	26	5.1	7.7	7.7	26	128	10.3	10.3	17.8	7.7	0	100	
August (12 10 complete synchronized surveys)																
Total number of whales	2	7	39	20	23	30	64	60	79	104	28	50	70	1	577	
Average number of	0.2	0.7	3.9	2.0	2.3	3.0	6.4	6.0	7.9	10.4	2.8	5.0	7.0	0.1	57.7	
%	0.3	1.2	6.8	3.5	4.0	5.2	11.1	10.4	13.7	18.0	4.8	8.7	12.1	0.2	100	
September (8 complete synchronized surveys)																
Total number of whales	0	1	18	47	18	21	43	37	132	60	14	10	37	3	441	
Average number of	0.0	0.1	2.2	5.9	2.2	2.6	5.4	4.6	16.5	7.5	1.8	1.3	4.6	0.4	55.1	
%	0	0.2	4.1	10.6	4.1	4.8	9.7	8.4	29.9	13.6	3.2	2.3	8.4	0.7	100	
October (4 complete synchronized surveys)																
Total number of whales	0	1	6	2	4	0	6	14	33	42	9	10	19	1	147	
Average number of	0.0	0.2	1.5	0.5	1.0	0.0	1.5	3.5	8.3	10.5	2.3	2.5	4.8	0.2	36.8	
%	0	0.7	4.1	1.4	2.7	0	4.1	9.5	22.4	28.6	6.1	6.8	12.9	0.7	100	
Grand total in June–October (26 complete synchronized surveys)																
Total number of whales	2	11	71	73	49	57	117	117	252	210	58	77	129	5	1228	
Average number of	0.1	0.4	2.7	2.8	1.9	2.2	4.5	4.5	9.7	8.1	2.2	2.9	5.0	0.2	47.2	
%	0.2	0.9	5.8	5.9	4.0	4.7	9.5	9.5	20.5	17.1	4.7	6.3	10.5	0.4	100	

Table 7

Correlation Table of Seasonal Changes in Distribution of Gray Whales in the Piltun Area in June–October 2007
(based on complete synchronized onshore survey data)

Date	Arrival period				Main feeding period																								Departure period				
	June		July		August												September												October				
	24	29	1	9	3	4	6	7	16	17	18	24	25	28	30	31	8	9	13	14	17	18	20	30	3	4	16	17					
6/24	1.00	0.87	0.88	0.85	0.71	0.90	0.88	0.86	0.94	0.93	0.83	0.82	0.80	0.90	0.86	0.8	0.86	0.79	0.92	0.87	0.76	0.80	0.93	0.76	0.73	0.70	0.81	0.78					
6/29	0.87	1.00	0.88	0.76	0.8	0.87	0.94	0.90	0.96	0.84	0.79	0.83	0.77	0.94	0.96	0.81	0.94	0.86	0.81	0.83	0.72	0.78	0.87	0.73	0.69	0.65	0.76	0.70					
7/1	0.88	0.86	1.00	0.79	0.7	0.81	0.84	0.77	0.92	0.78	0.84	0.82	0.78	0.85	0.82	0.8	0.81	0.74	0.70	0.71	0.62	0.66	0.84	0.65	0.68	0.61	0.78	0.72					
7/9	0.88	0.76	0.79	1.00	0.9	0.97	0.91	0.92	0.90	0.96	0.98	0.98	0.96	0.93	0.82	0.91	0.91	0.90	0.90	0.95	0.94	0.94	0.96	0.98	0.97	0.98	1.00	0.98					
8/3	0.76	0.83	0.78	0.94	0.0	0.97	0.95	0.97	0.85	0.95	0.91	0.94	0.97	0.97	0.94	0.90	0.97	0.95	0.87	0.95	0.96	0.97	0.91	0.98	0.96	0.98	0.98	0.98	0.94	0.93			
8/4	0.90	0.87	0.8	0.97	0.9	1.00	0.97	0.95	0.95	0.95	0.96	0.97	0.97	0.98	0.93	0.9	0.98	0.97	0.95	0.95	0.96	0.97	0.95	0.98	0.96	0.98	0.98	0.94	0.93	0.97	0.94		
8/6	0.88	0.94	0.84	0.91	0.9	0.97	1.00	0.97	0.97	0.93	0.93	0.97	0.93	0.95	0.97	0.9	0.99	0.97	0.88	0.94	0.88	0.92	0.95	0.90	0.88	0.86	0.92	0.85	0.92	0.85	0.85		
8/7	0.86	0.90	0.77	0.92	0.9	0.95	0.97	1.00	0.94	0.96	0.92	0.95	0.94	0.98	0.96	0.9	0.99	0.95	0.95	0.95	0.95	0.97	0.95	0.98	0.91	0.90	0.93	0.93	0.90	0.93	0.90		
8/16	0.94	0.96	0.92	0.90	0.8	0.95	0.97	0.94	1.00	0.94	0.91	0.93	0.85	0.98	0.96	0.9	0.96	0.92	0.88	0.91	0.83	0.86	0.90	0.83	0.83	0.78	0.86	0.85	0.78	0.86	0.85		
8/17	0.93	0.84	0.78	0.96	0.9	0.95	0.93	0.96	0.94	1.00	0.93	0.94	0.95	0.96	0.88	0.91	0.94	0.91	0.98	0.95	0.94	0.95	0.95	0.95	0.91	0.90	0.95	0.93	0.90	0.95	0.93	0.93	
8/18	0.83	0.79	0.84	0.98	0.9	0.96	0.93	0.92	0.91	0.93	1.00	0.95	0.95	0.94	0.85	0.91	0.92	0.92	0.87	0.92	0.92	0.93	0.95	0.95	0.96	0.93	0.97	0.97	0.93	0.97	0.97	0.97	
8/24	0.82	0.83	0.82	0.98	0.9	0.97	0.97	0.95	0.93	0.94	0.95	1.00	0.95	0.96	0.85	0.91	0.96	0.95	0.87	0.94	0.93	0.94	0.95	0.95	0.96	0.93	0.98	0.93	0.98	0.93	0.98	0.97	
8/25	0.80	0.77	0.78	0.99	0.9	0.97	0.93	0.94	0.85	0.95	0.98	0.95	1.00	0.94	0.85	0.91	0.94	0.94	0.85	0.95	0.97	0.97	0.95	0.98	0.95	0.98	0.95	1.00	0.95	0.95	0.95	0.95	
8/28	0.90	0.94	0.88	0.93	0.9	0.95	0.95	0.95	0.95	0.96	0.94	0.95	0.94	1.00	0.97	0.91	0.99	0.97	0.93	0.95	0.90	0.93	0.95	0.91	0.88	0.86	0.93	0.93	0.90	0.93	0.90	0.90	
8/30	0.86	0.95	0.82	0.82	0.91	0.93	0.97	0.96	0.96	0.88	0.85	0.85	0.85	0.97	1.00	0.91	0.97	0.95	0.88	0.91	0.83	0.87	0.91	0.84	0.78	0.76	0.83	0.78	0.78	0.83	0.78	0.78	
8/31	0.87	0.85	0.82	0.95	0.9	0.95	0.95	0.95	0.95	0.96	0.95	0.96	0.96	0.95	0.95	0.0	0.98	0.95	0.93	0.97	0.94	0.96	0.97	0.95	0.93	0.91	0.95	0.93	0.91	0.95	0.93	0.93	
9/8	0.86	0.94	0.8	0.91	0.9	0.98	0.95	0.95	0.96	0.96	0.94	0.92	0.96	0.94	0.95	0.97	0.91	1.00	0.95	0.91	0.96	0.91	0.94	0.95	0.91	0.90	0.87	0.92	0.85	0.92	0.85	0.85	
9/9	0.79	0.85	0.74	0.90	0.91	0.97	0.97	0.95	0.92	0.91	0.92	0.95	0.94	0.97	0.95	0.91	0.99	1.00	0.85	0.95	0.94	0.97	0.92	0.95	0.92	0.91	0.92	0.85	0.92	0.85	0.85	0.85	
9/13	0.92	0.81	0.70	0.90	0.8	0.95	0.88	0.95	0.85	0.95	0.87	0.87	0.85	0.93	0.88	0.91	0.91	0.85	1.00	0.95	0.93	0.94	0.95	0.92	0.86	0.86	0.85	0.85	0.87	0.85	0.85	0.85	
9/14	0.87	0.83	0.7	0.95	0.91	0.95	0.94	0.95	0.91	0.95	0.92	0.94	0.96	0.96	0.91	0.9	0.96	0.96	0.95	1.00	0.95	0.95	0.96	0.96	0.94	0.94	0.95	0.95	0.93	0.95	0.93	0.93	
9/17	0.76	0.72	0.62	0.94	0.91	0.96	0.85	0.95	0.83	0.94	0.92	0.93	0.97	0.90	0.83	0.91	0.91	0.94	0.93	0.95	1.00	1.00	0.91	0.95	0.97	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
9/18	0.80	0.78	0.66	0.94	0.9	0.97	0.92	0.97	0.86	0.95	0.93	0.94	0.97	0.93	0.87	0.91	0.94	0.97	0.94	0.95	1.00	1.00	0.92	0.95	0.96	0.97	0.96	0.97	0.96	0.97	0.96	0.97	0.97
9/20	0.93	0.87	0.84	0.96	0.9	0.98	0.95	0.95	0.96	0.96	0.95	0.96	0.95	0.98	0.91	0.9	0.95	0.92	0.95	0.96	0.91	0.92	1.00	0.92	0.90	0.87	0.95	0.93	0.90	0.93	0.93	0.93	
9/30	0.76	0.73	0.65	0.95	0.91	0.95	0.90	0.95	0.83	0.93	0.95	0.95	0.95	0.91	0.84	0.91	0.91	0.95	0.92	0.95	0.96	0.95	0.95	0.92	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
10/3	0.73	0.69	0.68	0.97	0.91	0.94	0.85	0.91	0.83	0.91	0.95	0.95	0.95	0.85	0.78	0.91	0.90	0.92	0.86	0.94	0.97	0.95	0.90	0.95	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
10/4	0.70	0.65	0.61	0.95	0.91	0.93	0.86	0.90	0.78	0.90	0.93	0.93	0.95	0.86	0.78	0.9	0.87	0.91	0.86	0.94	0.95	0.97	0.87	0.95	0.95	1.00	0.97	0.95	0.95	0.95	0.95	0.95	0.95
10/16	0.81	0.76	0.78	1.00	0.91	0.97	0.92	0.93	0.85	0.95	0.97	0.95	1.00	0.93	0.83	0.91	0.92	0.92	0.85	0.95	0.96	0.95	0.95	0.95	0.95	0.95	0.97	1.00	0.95	0.95	0.95	0.95	0.95
10/17	0.78	0.70	0.72	0.99	0.9	0.94	0.85	0.90	0.85	0.93	0.97	0.97	0.95	0.90	0.78	0.91	0.89	0.85	0.87	0.93	0.95	0.94	0.93	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00

Table 8

Distribution of Gray Whales in the Piltun Area by Distance from Shore,
June-October 2007

(based on all onshore survey data with gray whales spotted outside the 1-minute sector scanning periods ("out of scan") and those recorded during surveys with meteorological conditions of sea state > 3 and wind speed ≥ 10 m/s excluded.)

Distance (km)	Number of whales by months (%)				
	June-July	August	September	October	Average for the season
Odoptu-Piltun Section					
0-0.5	4.8	8.1	4.7	1.7	6.0
0.5-1	7.2	25.6	17.4	5.2	18.8
1-2	59.2	44.2	46.2	60.3	48.0
2-3	26.4	16.5	26.2	19.0	21.5
3-5	1.6	5.4	4.7	13.8	5.2
5-10	0.8	0.2	0.9	0.0	0.5
Astokh-Chayvo Section					
0-0.5	0.0	8.4	3.3	1.6	5.1
0.5-1	10.3	21.7	9.2	3.2	14.5
1-2	48.5	50.2	47.2	47.6	48.8
2-3	32.4	15.7	31.4	43.7	25.6
3-5	6.6	3.8	8.3	4.0	5.4
5-10	2.2	0.2	0.7	0.0	0.6
Piltun area as a whole					
0-0.5	2.3	8.3	4.0	1.6	5.5
0.5-1	8.8	23.4	13.5	3.8	16.5
1-2	53.6	47.5	46.7	51.6	48.4
2-3	29.5	16.1	28.6	35.9	23.7
3-5	4.2	4.5	6.4	7.1	5.3
5-10	1.5	0.2	0.8	0.0	0.6

Table 9

Distribution of Gray Whales in the Piltun Area by Sea Depth,
June-October 2007

(based on all onshore survey data with gray whales spotted outside the 1-minute sector scanning periods ("out of scan") and those recorded during surveys with meteorological conditions of sea state > 3 and wind speed >= 10 m/s excluded.

Depth (m)	Number of whales by months (%)				
	June-July:	August	September	October	Average for the season
Odoptu-Piltun Section					
0-5	4.0	9.3	4.7	6.9	6.8
6-10	24.0	43.7	35.9	36.2	37.7
11-15	56.8	35.6	47.1	39.7	42.9
16-20	13.6	10.1	10.6	17.2	11.2
21-25	0.8	1.0	1.2	0.0	1.0
26-30	0.8	0.2	0.0	0.0	0.2
31-35	0.0	0.0	0.6	0.0	0.2
Astokh-Chayvo Section					
0-5	5.9	18.5	8.9	3.2	12.4
6-10	45.6	54.0	42.2	48.4	48.9
11-15	39.0	23.3	40.9	40.5	32.3
16-20	7.4	4.2	7.6	7.9	6.0
21-25	2.2	0.0	0.3	0.0	0.4
Piltun area as a whole					
0-5	5.0	14.4	6.7	4.3	9.8
6-10	35.2	49.4	38.9	44.6	43.7
11-15	47.5	28.8	44.2	40.2	37.3
16-20	10.3	6.8	9.2	10.9	8.4
21-25	1.5	0.4	0.8	0.0	0.7
26-30	0.4	0.1	0.0	0.0	0.1
31-35	0.0	0.0	0.3	0.0	0.1

Table 10

Number of Gray Whales in Groups Recorded in Waters of Northeastern Sakhalin in August–October 2007 During Systematic Vessel Surveys in the First Half of Each Month. The number of groups that were indicated by MMO as possible resights are shown in ().

Number of whales in group	Piltun area		Offshore area		Arkutun-Dagi section	
	Number of groups	% of Total	Number of groups	% of Total	Number of groups	% of Total
July						
2	-	-	1	20.0	-	-
3	-	-	2 (1)	40.0	-	-
5	-	-	2 (1)	40.0	-	-
August						
1	16 (5)	57.1	4 (2)	30.8	2	66.7
2	9 (3)	32.1	2 (1)	15.4	1	33.3
3	1	3.6	3	23.1	–	–
4	2 (1)	7.1	–	–	–	–
5	–	–	2 (1)	15.4	–	–
8	–	–	2 (1)	15.4	–	–
September						
1	12	46.1	24	63.2	4 (1)	100
2	11	42.3	7 (1)	18.4	–	–
3	2	7.7	6 (1)	15.8	–	–
5	1	3.9	–	–	–	–
6	–	–	1	2.6	–	–
October						
1	25	73.5	12	63.2	–	–
2	4	11.8	5	26.3	–	–
3	4	11.8	–	–	–	–
4	–	–	1	5.3	–	–
7	1	2.9	–	–	–	–
10	–	–	1	5.3	–	–
Based on all systematic and “opportunistic” survey data during the whole season						
Number of whales in group		Number of groups		% of Total		
1		510		54.6		
2		240		25.6		
3		109		11.7		
4		46		4.9		
5		16		1.7		
6		7		0.8		
7		3		0.3		
8		3		0.3		
10		1		0.1		
12		1		0.1		

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Distribution and abundance of korean stock gray whales
In the waters of northeastern sakhalin
During june – october 2007

Rev 01

Table 11

Number of Gray Whales in Groups Recorded in the Piltun Feeding Area in 2007
(based on onshore survey data with gray whales spotted outside the 1-minute sector scanning periods ("out of scan") and those recorded during surveys with meteorological conditions of sea state > 3 and wind speed >= 10 m/s excluded.)

Month	Group size (number of individuals)									
	1		2		3		4		5	
	% of sightings	% of sightings gray whales	% of sightings	% of sightings gray whales	% of sightings	% of sightings gray whales	% of sightings	% of sightings gray whales	% of sightings	% of sightings gray whales
June	84.85	73.68	15.15	26.32	0.00	0.00	0.00	0.00	0.00	0.00
July	77.90	63.23	20.99	34.08	1.10	2.69	0.00	0.00	0.00	0.00
August	77.25	60.51	18.54	29.04	3.65	8.58	0.42	1.32	0.14	0.55
September	82.58	68.58	14.79	24.57	2.25	5.60	0.37	1.24	0.00	0.00
October	82.24	67.93	15.13	25.00	1.97	4.89	0.66	2.17	0.00	0.00
Total for the season:	79.71	64.35	17.18	27.74	2.67	6.46	0.37	1.20	0.06	0.25



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Table 12

Vehicle scan survey shore stations maximum sighting distance that is set to 0.1 reticle radial distance from each shore station, to a maximum of 8 km distance. Gray whale sightings beyond the indicated maximum sighting distance for a shore station are excluded from the WGW density analysis.

Station	Station Height (m)	WGW Maximum Sighting Distance (m)
1	13.1	7068.2
2	18.1	8000.0
3	27.0	8000.0
4	14.6	7529.6
5	9.0	5703.1
6	8.0	5341.2
7	9.9	6017.9
8	7.0	4964.9
9	6.0	4572.2
10	7.0	4964.9
11	7.7	5229.9
12	9.8	5983.4
13	7.0	4964.9



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Table 13

Daily WGW Abundances in the Piltun feeding area based on full shore-based surveys that were conducted during the month of August 2007. Values calculated for “Raw Data” were based on all onshore survey data with gray whales spotted outside the 1-minute sector scanning periods (“out of scan”) and those recorded during surveys with meteorological conditions of sea state > 3 and wind speed ≥ 10 m/s excluded. Abundances based on “Estimated Density” were based on the Raw Data that were further filtered by removing sightings beyond the observation station truncation distance and sightings in grid cells that had < 0.1 km² area surveyed by the observation station when the truncation distance was considered.

Date	Abundance (Raw Data)	Abundance (Estimated density)
August 3	53	77.8
August 4	67	95.8
August 16	45	60.4
August 17	65	92.4
August 18	39	64.5
August 24	55	86.5
August 25	55	70.1
August 28	60	76.9
August 30	58	57.7
August 31	80	124.4



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Table 14
Piltun Area

Year	Data	Total
2004	Average of Whales	85.2
	Min of Whales	47.0
	Max of Whales	135.2
	StdDev of Whales	22.1
	Complete surveys	17.0
2005	Average of Whales	105.3
	Min of Whales	67.6
	Max of Whales	128.8
	StdDev of Whales	17.9
	Complete surveys	16.0
2006	Average of Whales	101.6
	Min of Whales	68.5
	Max of Whales	123.4
	StdDev of Whales	20.1
	Complete surveys	5.0
2007	Average of Whales	75.8
	Min of Whales	46.5
	Max of Whales	124.4
	StdDev of Whales	19.5
	Complete surveys	18.0