

BAB 6

KESIMPULAN DAN SARAN

6.1. Kesimpulan

1. Faktor utama yang memiliki pengaruh dalam proyek seismik laut untuk proyek lepas pantai Alexandria dan lepas pantai laut Barents adalah:

- a. Kegagalan sistem navigasi.
- b. Perencanaan *shooting* yang kurang efisien.
- c. Kesalahan operator *acquisition*.
- d. Kegagalan peralatan *source*.

2. Tindakan yang diambil untuk mengatasi tiga resiko utama setiap proyek:

Untuk proyek lepas pantai Alexandria:

a. Perencanaan shooting yang kurang efisien

Penggunaan perangkat lunak (*software*) untuk merencanakan *shooting* selama proyek berlangsung, pembaharuan informasi tentang lingkungan sekitar survei dilakukan selama survei agar perencanaan survei dapat dilakukan seoptimal mungkin.

b. Kegagalan sistem navigasi

Pengecekan peralatan navigasi sebelum digunakan sesuai dengan prosedur yang berlaku.

c. Kesalahan operator *Acquisition*

Pelatihan yang memadai dan penggunaan *check list* untuk kegiatan yang berulang-ulang.

Untuk proyek laut Barents:

a. Kegagalan sistem navigasi

Pengecekan peralatan navigasi secara menyeluruh sebelum digunakan sesuai dengan prosedur yang berlaku.

b. Perencanaan *shooting* yang kurang efisien.

Karena di laut Barents terdapat aktivitas survei seismik yang lain, maka perlu diusahakan koordinasi yang baik dengan kapal seismik tersebut agar tidak saling mengganggu dan perencanaan *shooting* dapat dioptimalkan sebaik mungkin.

c. Kegagalan peralatan *source*

Pemeriksaan rutin dan pengecekan ulang peralatan *source* sebelum digunakan.

6.2. Saran

Penggunaan analisis yang menyeluruh sebelum pelaksanaan survei akan membantu selama pelaksanaan survei itu sendiri, segala kemungkinan yang akan terjadi dapat diprediksi sebelumnya dan data yang digunakan dapat berasal dari survei sebelumnya, meskipun konfigurasi survei berbeda, namun data lingkungan sekitar tidak akan banyak berubah.

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Lampiran 1: *Daily log*

Daily log - Offshore Alexandria Project				
No	Date	Event	Duration (hour)	Risk Group
1	14-Feb-11	bad weather affecting steering	1.5	A
2	14-Feb-11	Source array 1 problem	1.5	K
3	15-Feb-11	operator trying to fix streamer 9 problem	1	J
4	16-Feb-11	Marginal weather - difficult to steer	1.5	D
5	16-Feb-11	Weather standby	5	D
6	17-Feb-11	Bubble change on S11	0.6	I
7	17-Feb-11	Removing fishing line launching FRC	1	C
8	17-Feb-11	Reducing speed due to fishing boat	0.5	B
9	19-Feb-11	Maintain speed due to fishing boat ahead - lack of guard vessel	1.5	C
10	19-Feb-11	Standby for weather	30	D
11	21-Feb-11	Reinitialized acoustic	1	F
12	21-Feb-11	Streamer 6 problem - not being noticed by operator	6	J
13	22-Feb-11	Source array problem	1	K
14	22-Feb-11	Missing acoustic unit - not being noticed by operator	1	G
15	22-Feb-11	Streamer 1 problem - spotted online	3	I
16	22-Feb-11	TS-dip aborted due to workboat problem	1	F
17	22-Feb-11	Removing Fishing Gear and clearing fishing boat	1	A
18	23-Feb-11	Streamer 1 problem - spotted online	0.75	I
19	23-Feb-11	Guard vessel clearing the fishing boat	2	C
20	23-Feb-11	manual steering d/t rip current	0.5	D
21	24-Feb-11	Source GPS problem	0.5	F
22	24-Feb-11	Troubleshooting S009	1	J
23	24-Feb-11	Removing fishing gear from streamer 1	0.5	A
24	24-Feb-11	Maintenance source array 2	1.5	K
25	24-Feb-11	rip current affecting steering for coverage	0.5	D
26	25-Feb-11	1 source acoustic non operational	0.25	F
27	25-Feb-11	bad weather affecting steering	0.5	D
28	27-Feb-11	one GPS system down (CNAV)	1	F

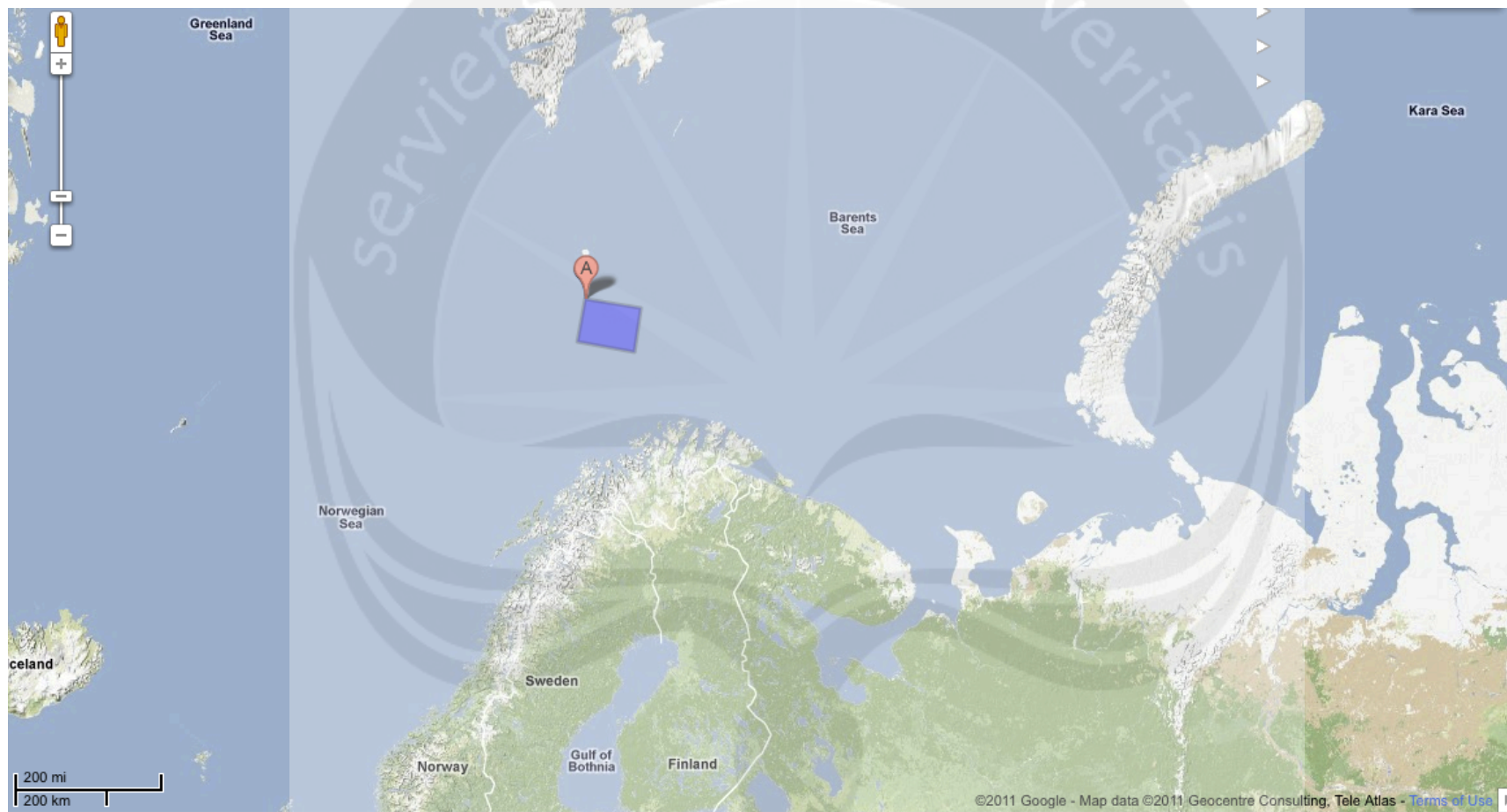
29	2-Mar-11	Slowing down due to fishing boat	0.5	B
30	11-Mar-11	Bad weather causing streamer 6 parting	12	D
31	13-Mar-11	Slowing down for clearing fishing boat	0.4	C
32	13-Mar-11	Acoustic problem -software hung up	1	G
33	14-Mar-11	Change shooting plan due to reconfiguration	6	H
34	14-Mar-11	Slowing down due to fishing boat	0.2	B
35	15-Mar-11	Slowing down due to fishing boat - lack of guard vessel	0.4	C
36	15-Mar-11	Source array 6 maintenance	2	K
37	16-Mar-11	Slowing down due to fishing activity	0.5	B
38	16-Mar-11	Slowing down due to fishing boat - lack of guard vessel	1	C
39	16-Mar-11	Changing acoustic	0.5	F
40	16-Mar-11	Slowing down due to fishing boat	0.5	B
41	17-Mar-11	Section change on S03	1	I
42	17-Mar-11	Slowing down due to fishing boat	1	B
43	17-Mar-11	Slowing down due to lots fishing gear - lack of guard vessel	2	C
44	17-Mar-11	No aim point on acquisition machine	0.5	J
45	18-Mar-11	Restarting nav software	0.5	F
46	18-Mar-11	Slowing down due to fishing boat - lack of guard vessel	1	C
47	18-Mar-11	testing source software	1	K
48	19-Mar-11	Line change extended due to prospect layout	3	H
49	19-Mar-11	Slowing down due to fishing boat	1	B
50	20-Mar-11	Line change extended due to shape of the prospect	2	H
51	21-Mar-11	Slowing down due to fishing activity	2	A
52	21-Mar-11	Extended line change due to shape and avoid platform	0.8	H
53	21-Mar-11	Streamer 8 problem (earth leakage)	1	I
54	21-Mar-11	Extended line change due to shape and avoid platform	0.6	H
55	21-Mar-11	Slowing down due to fishing boat - lack of guard vessel	1	B
56	22-Mar-11	Extended line change due to shape and avoid platform	0.8	H
57	22-Mar-11	Slowing down due to Streamer 5 problem - operator can't fix it on board	4	J

58	22-Mar-11	Slowing down due to fishing boat	1	B
59	22-Mar-11	Extended line change d/t shape of the prospect	1	H
60	23-Mar-11	Extended line change d/t shape of the prospect	0.5	H
61	23-Mar-11	Extended line change d/t shape of the prospect	0.5	H
62	24-Mar-11	Problem on S008	3	I
63	24-Mar-11	Extended line change d/t shape of the prospect	0.5	H
64	24-Mar-11	Extended line change d/t shape of the prospect	0.5	H
65	24-Mar-11	Extended line change d/t shape of the prospect	0.5	H
66	25-Mar-11	Extended line change d/t shape of the prospect	0.5	H
67	25-Mar-11	Extended linechange d/t fishing boat	1	C
68	26-Mar-11	Source 1 maintenance	1	K
69	26-Mar-11	Streamer 5 troubleshooting	1	I
70	26-Mar-11	Slowing down due to fishing boat - lack of guard vessel	1	C
71	27-Mar-11	Streamer 1 and 2 coming close together	3	G
72	27-Mar-11	Slowing down due to fishing boat - lack of guard vessel	0.5	C
73	28-Mar-11	Source array 1 maintenance	1	K
74	28-Mar-11	Limited speed due to excessive noise on S03	3	I
75	28-Mar-11	Extended linechange d/t wb fixing S03	1	I
76	29-Mar-11	Slow speed d/t fishing activity - fishing boat ahead but lack of vessel guard	1	B
77	29-Mar-11	Slowing down due to fishing object	1	A
78	29-Mar-11	Linechange extended due to fix streamer 3 problem	1	I
79	31-Mar-11	Restarting nav software	0.5	F
80	2-Apr-11	Slowing down d/t fishing activity	0.5	A
81	2-Apr-11	Bad weather affecting coverage	2	D
82	2-Apr-11	Down for weather	10	D
83	7-Apr-11	Changing acoustic	0.5	F
84	7-Apr-11	bad weather affecting steering	1	D
85	9-Apr-11	Changing acoustic	0.5	F
86	9-Apr-11	Changing S005 acquisition equipments	1.5	I

87	9-Apr-11	Slowing down due to fishing boat - lack of guard vessel	1	C
88	10-Apr-11	S008 developed parity error online	2	J
89	11-Apr-11	Slowing down due to fishing boat - lack of guard vessel	0.25	C
90	12-Apr-11	bad weather affecting steering	0.2	D
91	12-Apr-11	Down for weather	10	D
92	13-Apr-11	Acquisition software problem	0.25	J
93	13-Apr-11	extended linechange d/t line layout	1	H
94	15-Apr-11	Slowing down due to fishing boat - lack of guard vessel	0.5	B
95	15-Apr-11	extended linechange d/t line layout	1	H
96	15-Apr-11	Slowing down due to fishing boat	0.5	B
97	21-Apr-11	Operator error causing nav system down.	6	G
98	22-Apr-11	bad weather affecting steering	0.3	D
99	24-Apr-11	Source array 1 problem	0.6	K
100	25-Apr-11	Operator error causing acquisition system went offline	6	J
101	27-Apr-11	Operator mistakenly mark equipment status, unnecessary decision made to pick up equipment	8	J
102	1-May-11	Fishing gear spotted, slowing down	2	A
103	1-May-11	nav operator mistakenly put shot points	0.5	G
104	2-May-11	problems on S002, operator cant fix it online	1	J
105	8-May-11	GPS system down online	0.3	F
106	18-May-11	Compressor vault online	8	L
107	18-May-11	Whale spotted, pause seismic source	1.5	E

Daily log - Barents Sea				
No	Date	Event	Duration (hour)	Risk Group
1	10-Jul-11	Air pressure problem online	0.5	L
2	14-Jul-11	Down for weather	24	D
3	16-Jul-11	GPS system down	0.1	F
4	19-Jul-11	Down for weather	5	D
5	22-Jul-11	Down for weather	6	D
6	25-Jul-11	Gun 1 and 2 on array 1 disabled d.t failure	0,5	K
7	26-Jul-11	Bad weather affects coverage	0.3	D
8	31-Jul-11	Bad weather affects steering	0.5	D
9	2-Aug-11	Seismic interference from another seismic vessels.	5	H
10	5-Aug-11	Bad weather affects steering	0.5	D
11	15-Aug-11	Slowing down due to gun mis firing	0.5	K
12	15-Aug-11	Slowing down due to compressor failure	0.5	L
13	15-Aug-11	Source 3 maintenance	2	K
14	15-Aug-11	Changing some acoustic	1.5	F
15	17-Aug-11	Sequence sratched due to excessive seismic interference	6	H
16	19-Aug-11	Down for weather	18	D
17	20-Aug-11	Array 1 and 2 maintenance	1	K
18	21-Aug-11	Array 5 and 6 maintenance	1	K
19	22-Aug-11	Slowing down d.t Acquisition operator reboot their system,	0.5	J
20	26-Aug-11	Aborted line due to excessive seismic interference	6	H
21	27-Aug-11	Array 1 maintenance	1	K
22	27-Aug-11	Array 3 maintenance	1	K
23	27-Aug-11	Array 2 maintenance	1	K
24	1-Sep-11	Nav gps drop out	0.1	F
25	1-Sep-11	Array 5 maintenance	0.5	K
26	2-Sep-11	Array 6 maintenance	0.6	K
27	2-Sep-11	Array 4 maintenance	0,6	K

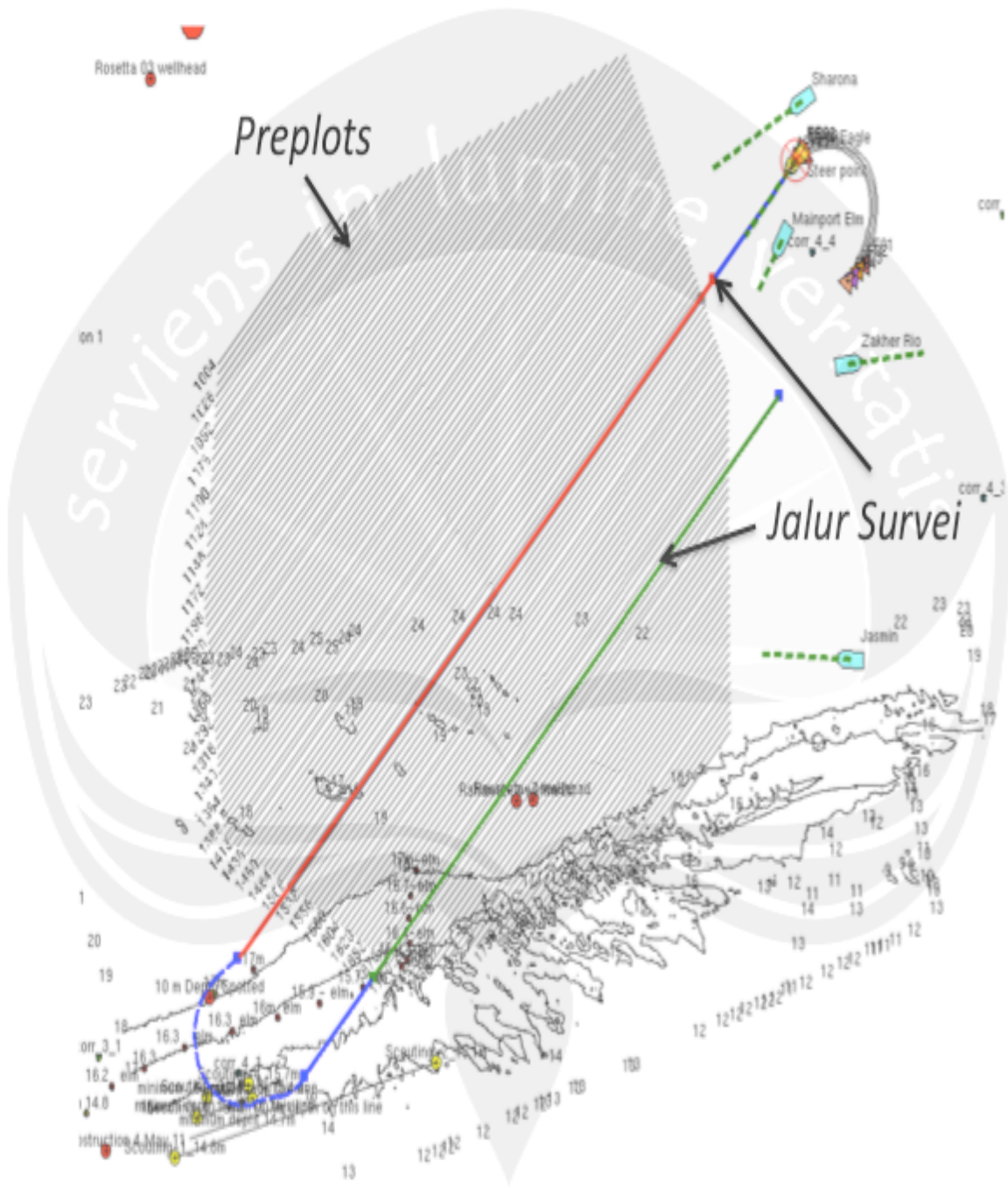
Lampiran 2: Lokasi Proyek Laut Barents



Lampiran 3: Lokasi Proyek Laut Barents (Pembesaran)



Lampiran 4: Contoh *Preplots* dan Jalur Survei Dalam Proyek Lepas Pantai Alexandria.



Lampiran 5: Lokasi survei Lepas Pantai Alexandria

