I. ANNEX

ISA Contract for Exploration – Public Information Template

	Type of resource: Cobalt-rich Ferromanganese Crusts
	Name of Contractor: Japan Organization for Metals and Energy Security
	Contract Start: January 27, 2014
Sponsoring State: Japan	Contract End: January 26, 2029
	Location: Southeast of Minami-Torishima Island in the Western Pacific

Contents

Introduction

The information contained in this ISA Contract for Exploration – Public Information Template is made available to the public in response to the request by the Council of the ISA to make contracts publicly available, subject to restrictions on confidential information, industrial secrets and proprietary data.

The content of the present template is in accordance with the Regulations on Prospecting and Exploration for [*Cobalt-rich Ferromanganese Crusts in the Area*] [*ISBA/18/A/11*] (the "Regulations").

1. Contract Information

Annex III of the Regulations.

Type of resource	Cobalt-rich Ferromanganese Crusts
Name of Contractor	Japan Organization for Metals and Energy Security
Contract Start	January 27, 2014
Contract End	January 26, 2029
Location	Southeast of Minami-Torishima Island in the Western Pacific
Contract Area (km^2)	3,000

2. Coordinates and Illustrative Chart of the Exploration Area

Schedule 1 of Annex III of the Regulations.

Exploration area located between [coordinates]

1. List of coordinates

The area allocated to the Contractor is bounded by lines joining the following turning points, the coordinates of which (in accordance with the World Geodetic System WGS 84 UTM zone 57N) are listed below in decimal degrees:

Cluster	*Block No.*	*Northing UTM Zone57N*	*Easting UTM Zone57N*	*Area (km²)*	*Lat. N degrees*	*Lat. N minutes*	*Lat. N seconds*	*Long. E degrees*	*Long. E minutes*	*Long. E seconds*
C1	1 /150	2,380,000	525,000		21	31	21.1544	159	14	29.0361
		2,384,000	525,000		21	33	31.2583	159	14	29.2512
		2,384,000	530,000		21	33	30.9812	159	17	23.0999
		2,380,000	530,000	20.0	21	31	20.8779	159	17	22.8418
	2 /150	2,384,000	525,000		21	33	31.2583	159	14	29.2512
		2,388,000	525,000		21	35	41.3615	159	14	29.4668
		2,388,000	530,000		21	35	41.0840	159	17	23.3586
		2,384,000	530,000	20.0	21	33	30.9812	159	17	23.0999
	3 /150	2,388,000	525,000		21	35	41.3615	159	14	29.4668
		2,392,000	525,000		21	37	51.4643	159	14	29.6829
		2,392,000	530,000		21	37	51.1862	159	17	23.6179
		2,388,000	530,000	20.0	21	35	41.0840	159	17	23.3586
	4 /150	2,384,000	530,000		21	33	30.9812	159	17	23.0999
		2,388,000	530,000		21	35	41.0840	159	17	23.3586
		2,388,000	535,000		21	35	40.7560	159	20	17.2496
		2,384,000	535,000	20.0	21	33	30.6538	159	20	16.9478
	5 /150	2,388,000	530,000		21	35	41.0840	159	17	23.3586
		2,392,000	530,000		21	37	51.1862	159	17	23.6179
		2,392,000	535,000		21	37	50.8576	159	20	17.5521
		2,388,000	535,000	20.0	21	35	40.7560	159	20	17.2496
	6 /150	2,372,000	535,000		21	27	00.3440	159	20	16.0461
		2,376,000	535,000		21	29	10.4478	159	20	16.3460
		2,376,000	540,000		21	29	10.0714	159	23	10.1069
		2,372,000	540,000	20.0	21	26	59.9683	159	23	09.7641
	7 /150	2,376,000	535,000		21	29	10.4478	159	20	16.3460
		2,380,000	535,000		21	31	20.5511	159	20	16.6466
		2,380,000	540,000		21	31	20.1740	159	23	10.4504
		2,376,000	540,000	20.0	21	29	10.0714	159	23	10.1069
	8 /150	2,380,000	535,000		21	31	20.5511	159	20	16.6466

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,384,000	535,000		21	33	30.6538	159	20	16.9478
		2,384,000	540,000		21	33	30.2761	159	23	10.7947
		2,380,000	540,000	20.0	21	31	20.1740	159	23	10.4504
	9 /150	2,384,000	535,000		21	33	30.6538	159	20	16.9478
		2,388,000	535,000		21	35	40.7560	159	20	17.2496
		2,388,000	540,000		21	35	40.3775	159	23	11.1396
		2,384,000	540,000	20.0	21	33	30.2761	159	23	10.7947
	10 /150	2,376,000	540,000		21	29	10.0714	159	23	10.1069
		2,380,000	540,000		21	31	20.1740	159	23	10.4504
		2,380,000	545,000		21	31	19.7467	159	26	04.2531
		2,376,000	545,000	20.0	21	29	09.6449	159	26	03.8667
	11 /150	2,384,000	540,000		21	33	30.2761	159	23	10.7947
		2,388,000	540,000		21	35	40.3775	159	23	11.1396
		2,388,000	545,000		21	35	39.9486	159	26	05.0285
		2,384,000	545,000	20.0	21	33	29.8479	159	26	04.6404
	12 /150	2,388,000	540,000		21	35	40.3775	159	23	11.1396
		2,392,000	540,000		21	37	50.4784	159	23	11.4853
		2,392,000	545,000		21	37	50.0487	159	26	05.4173
		2,388,000	545,000	20.0	21	35	39.9486	159	26	05.0285
	13 /150	2,384,000	545,000		21	33	29.8479	159	26	04.6404
		2,388,000	545,000		21	35	39.9486	159	26	05.0285
		2,388,000	550,000		21	35	39.4692	159	28	58.9160
		2,384,000	550,000	20.0	21	33	29.3694	159	28	58.4849
	14 /150	2,388,000	545,000		21	35	39.9486	159	26	05.0285
		2,392,000	545,000		21	37	50.0487	159	26	05.4173
		2,392,000	550,000		21	37	49.5684	159	28	59.3481
		2,388,000	550,000	20.0	21	35	39.4692	159	28	58.9160
	15 /150	2,392,000	545,000		21	37	50.0487	159	26	05.4173
		2,396,000	545,000		21	40	00.1482	159	26	05.8070
		2,396,000	550,000		21	39	59.6671	159	28	59.7811
		2,392,000	550,000	20.0	21	37	49.5684	159	28	59.3481
	16 /150	2,368,000	550,000		21	24	48.9645	159	28	56.7692
		2,372,000	550,000		21	26	59.0666	159	28	57.1967
		2,372,000	555,000		21	26	58.5406	159	31	50.9110
		2,368,000	555,000	20.0	21	24	48.4395	159	31	50.4407
	17 /150	2,380,000	550,000		21	31	19.2690	159	28	58.0546
		2,384,000	550,000		21	33	29.3694	159	28	58.4849
		2,384,000	555,000		21	33	28.8405	159	31	52.3279
		2,380,000	555,000	20.0	21	31	18.7411	159	31	51.8546
	18 /150	2,384,000	550,000		21	33	29.3694	159	28	58.4849
		2,388,000	550,000		21	35	39.4692	159	28	58.9160

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,388,000	555,000		21	35	38.9393	159	31	52.8022
		2,384,000	555,000	20.0	21	33	28.8405	159	31	52.3279
	19 /150	2,364,000	555,000		21	22	38.3379	159	31	49.9714
		2,368,000	555,000		21	24	48.4395	159	31	50.4407
		2,368,000	560,000		21	24	47.8645	159	34	44.1107
		2,364,000	560,000	20.0	21	22	37.7639	159	34	43.5987
	20 /150	2,368,000	555,000		21	24	48.4395	159	31	50.4407
		2,372,000	555,000		21	26	58.5406	159	31	50.9110
		2,372,000	560,000		21	26	57.9645	159	34	44.6237
		2,368,000	560,000	20.0	21	24	47.8645	159	34	44.1107
	21 /150	2,372,000	555,000		21	26	58.5406	159	31	50.9110
		2,376,000	555,000		21	29	08.6411	159	31	51.3823
		2,376,000	560,000		21	29	08.0640	159	34	45.1379
		2,372,000	560,000	20.0	21	26	57.9645	159	34	44.6237
	22 /150	2,376,000	555,000		21	29	08.6411	159	31	51.3823
		2,380,000	555,000		21	31	18.7411	159	31	51.8546
		2,380,000	560,000		21	31	18.1629	159	34	45.6531
		2,376,000	560,000	20.0	21	29	08.0640	159	34	45.1379
	23 /150	2,380,000	555,000		21	31	18.7411	159	31	51.8546
		2,384,000	555,000		21	33	28.8405	159	31	52.3279
		2,384,000	560,000		21	33	28.2612	159	34	46.1695
		2,380,000	560,000	20.0	21	31	18.1629	159	34	45.6531
	24 /150	2,372,000	560,000		21	26	57.9645	159	34	44.6237
		2,376,000	560,000		21	29	08.0640	159	34	45.1379
		2,376,000	565,000		21	29	07.4366	159	37	38.8918
		2,372,000	565,000	20.0	21	26	57.3383	159	37	38.3348
	25 /150	2,376,000	560,000		21	29	08.0640	159	34	45.1379
		2,380,000	560,000		21	31	18.1629	159	34	45.6531
		2,380,000	565,000		21	31	17.5344	159	37	39.4499
		2,376,000	565,000	20.0	21	29	07.4366	159	37	38.8918
	26 /150	2,380,000	560,000		21	31	18.1629	159	34	45.6531
		2,384,000	560,000		21	33	28.2612	159	34	46.1695
		2,384,000	565,000		21	33	27.6315	159	37	40.0093
		2,380,000	565,000	20.0	21	31	17.5344	159	37	39.4499
	27 /150	2,364,000	560,000		21	22	37.7639	159	34	43.5987
		2,368,000	560,000		21	24	47.8645	159	34	44.1107
		2,368,000	565,000		21	24	47.2395	159	37	37.7790
		2,364,000	565,000	20.0	21	22	37.1400	159	37	37.2243
	28 /150	2,360,000	565,000		21	20	27.0400	159	37	36.6708
		2,364,000	565,000		21	22	37.1400	159	37	37.2243
		2,364,000	570,000		21	22	36.4662	159	40	30.8481

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,360,000	570,000	20.0	21	20	26.3675	159	40	30.2521
	29 /150	2,368,000	565,000		21	24	47.2395	159	37	37.7790
		2,372,000	565,000		21	26	57.3383	159	37	38.3348
		2,372,000	570,000		21	26	56.6620	159	40	32.0440
		2,368,000	570,000	20.0	21	24	46.5644	159	40	31.4454
	30 /150	2,352,000	570,000		21	16	06.1683	159	40	29.0637
		2,356,000	570,000		21	18	16.2682	159	40	29.6573
		2,356,000	575,000		21	18	15.5471	159	43	23.1941
		2,352,000	575,000	20.0	21	16	05.4486	159	43	22.5581
	31 /150	2,356,000	570,000		21	18	16.2682	159	40	29.6573
		2,360,000	570,000		21	20	26.3675	159	40	30.2521
		2,360,000	575,000		21	20	25.6451	159	43	23.8314
		2,356,000	575,000	20.0	21	18	15.5471	159	43	23.1941
	32 /150	2,364,000	570,000		21	22	36.4662	159	40	30.8481
		2,368,000	570,000		21	24	46.5644	159	40	31.4454
		2,368,000	575,000		21	24	45.8394	159	43	25.1100
		2,364,000	575,000	20.0	21	22	35.7425	159	43	24.4700
	33 /150	2,368,000	570,000		21	24	46.5644	159	40	31.4454
		2,372,000	570,000		21	26	56.6620	159	40	32.0440
		2,372,000	575,000		21	26	55.9356	159	43	25.7513
		2,368,000	575,000	20.0	21	24	45.8394	159	43	25.1100
	34 /150	2,364,000	575,000		21	22	35.7425	159	43	24.4700
		2,368,000	575,000		21	24	45.8394	159	43	25.1100
		2,368,000	580,000		21	24	45.0643	159	46	18.7724
		2,364,000	580,000	20.0	21	22	34.9689	159	46	18.0897
	35 /150	2,364,000	580,000		21	22	34.9689	159	46	18.0897
		2,368,000	580,000		21	24	45.0643	159	46	18.7724
		2,368,000	585,000		21	24	44.2392	159	49	12.4325
		2,364,000	585,000	20.0	21	22	34.1453	159	49	11.7073
	36 /150	2,356,000	585,000		21	18	13.9558	159	49	10.2613
		2,360,000	585,000		21	20	24.0509	159	49	10.9835
		2,360,000	590,000		21	20	23.1790	159	52	04.5561
		2,356,000	590,000	20.0	21	18	13.0856	159	52	03.7914
	37 /150	2,360,000	585,000		21	20	24.0509	159	49	10.9835
		2,364,000	585,000		21	22	34.1453	159	49	11.7073
		2,364,000	590,000		21	22	33.2718	159	52	05.3224
		2,360,000	590,000	20.0	21	20	23.1790	159	52	04.5561
	38 /150	2,364,000	585,000		21	22	34.1453	159	49	11.7073
		2,368,000	585,000		21	24	44.2392	159	49	12.4325
		2,368,000	590,000		21	24	43.3641	159	52	06.0903
		2,364,000	590,000	20.0	21	22	33.2718	159	52	05.3224

Cluster	*Block No.*	*Northing UTM Zone57N*	*Easting UTM Zone57N*	*Area (km²)*	*Lat. N degrees*	*Lat. N minutes*	*Lat. N seconds*	*Long. E degrees*	*Long. E minutes*	*Long. E seconds*
	39 /150	2,356,000	590,000		21	18	13.0856	159	52	03.7914
		2,360,000	590,000		21	20	23.1790	159	52	04.5561
		2,360,000	595,000		21	20	22.2572	159	54	58.1262
		2,356,000	595,000	20.0	21	18	12.1656	159	54	57.3190
	40 /150	2,364,000	590,000		21	22	33.2718	159	52	05.3224
		2,368,000	590,000		21	24	43.3641	159	52	06.0903
		2,368,000	595,000		21	24	42.4389	159	54	59.7456
		2,364,000	595,000	20.0	21	22	32.3484	159	54	58.9350
C2	41 /150	2,344,000	595,000		21	11	41.8871	159	54	54.9077
		2,348,000	595,000		21	13	51.9805	159	54	55.7098
		2,348,000	600,000		21	13	51.0143	159	57	49.1501
		2,344,000	600,000	20.0	21	11	40.9227	159	57	48.3058
	42 /150	2,348,000	595,000		21	13	51.9805	159	54	55.7098
		2,352,000	595,000		21	16	02.0733	159	54	56.5135
		2,352,000	600,000		21	16	01.1053	159	57	49.9961
		2,348,000	600,000	20.0	21	13	51.0143	159	57	49.1501
	43 /150	2,344,000	600,000		21	11	40.9227	159	57	48.3058
		2,348,000	600,000		21	13	51.0143	159	57	49.1501
		2,348,000	605,000		21	13	49.9986	160	0	42.5876
		2,344,000	605,000	20.0	21	11	39.9089	160	0	41.7011
	44 /150	2,348,000	600,000		21	13	51.0143	159	57	49.1501
		2,352,000	600,000		21	16	01.1053	159	57	49.9961
		2,352,000	605,000		21	16	00.0877	160	0	43.4759
		2,348,000	605,000	20.0	21	13	49.9986	160	0	42.5876
	45 /150	2,356,000	600,000		21	18	11.1958	159	57	50.8440
		2,360,000	600,000		21	20	21.2857	159	57	51.6936
		2,360,000	605,000		21	20	20.2643	160	0	45.2582
		2,356,000	605,000	20.0	21	18	10.1763	160	0	44.3661
	46 /150	2,348,000	605,000		21	13	49.9986	160	0	42.5876
		2,352,000	605,000		21	16	00.0877	160	0	43.4759
		2,352,000	610,000		21	15	59.0204	160	3	36.9528
		2,348,000	610,000	20.0	21	13	48.9333	160	3	36.0222
	47 /150	2,352,000	605,000		21	16	00.0877	160	0	43.4759
		2,356,000	605,000		21	18	10.1763	160	0	44.3661
		2,356,000	610,000		21	18	09.1070	160	3	37.8853
		2,352,000	610,000	20.0	21	15	59.0204	160	3	36.9528
	48 /150	2,356,000	605,000		21	18	10.1763	160	0	44.3661
		2,360,000	605,000		21	20	20.2643	160	0	45.2582
		2,360,000	610,000		21	20	19.1930	160	3	38.8199
		2,356,000	610,000	20.0	21	18	09.1070	160	3	37.8853
	49 /150	2,352,000	610,000		21	15	59.0204	160	3	36.9528

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,356,000	610,000		21	18	09.1070	160	3	37.8853
		2,356,000	615,000		21	18	07.9879	160	6	31.4015
		2,352,000	615,000	20.0	21	15	57.9035	160	6	30.4265
	50 /150	2,356,000	610,000		21	18	09.1070	160	3	37.8853
		2,360,000	610,000		21	20	19.1930	160	3	38.8199
		2,360,000	615,000		21	20	18.0719	160	6	32.3785
		2,356,000	615,000	20.0	21	18	07.9879	160	6	31.4015
	51 /150	2,356,000	615,000		21	18	07.9879	160	6	31.4015
		2,360,000	615,000		21	20	18.0719	160	6	32.3785
		2,360,000	620,000		21	20	16.9009	160	9	25.9338
		2,356,000	620,000	20.0	21	18	06.8191	160	9	24.9144
C3	52 /150	2,332,000	415,000		21	5	13.3739	158	10	54.0402
		2,336,000	415,000		21	7	23.4723	158	10	53.3271
		2,336,000	420,000		21	7	24.2852	158	13	46.6486
		2,332,000	420,000	20.0	21	5	14.1853	158	13	47.3197
	53 /150	2,332,000	420,000		21	5	14.1853	158	13	47.3197
		2,336,000	420,000		21	7	24.2852	158	13	46.6486
		2,336,000	425,000		21	7	25.0489	158	16	39.9723
		2,332,000	425,000	20.0	21	5	14.9475	158	16	40.6015
	54 /150	2,336,000	420,000		21	7	24.2852	158	13	46.6486
		2,340,000	420,000		21	9	34.3846	158	13	45.9759
		2,340,000	425,000		21	9	35.1496	158	16	39.3417
		2,336,000	425,000	20.0	21	7	25.0489	158	16	39.9723
	55 /150	2,328,000	425,000		21	3	04.8456	158	16	41.2294
		2,332,000	425,000		21	5	14.9475	158	16	40.6015
		2,332,000	430,000		21	5	15.6605	158	19	33.8854
		2,328,000	430,000	20.0	21	3	05.5573	158	19	34.4714
	56 /150	2,332,000	425,000		21	5	14.9475	158	16	40.6015
		2,336,000	425,000		21	7	25.0489	158	16	39.9723
		2,336,000	430,000		21	7	25.7632	158	19	33.2980
		2,332,000	430,000	20.0	21	5	15.6605	158	19	33.8854
	57 /150	2,340,000	425,000		21	9	35.1496	158	16	39.3417
		2,344,000	425,000		21	11	45.2499	158	16	38.7097
		2,344,000	430,000		21	11	45.9669	158	19	32.1197
		2,340,000	430,000	20.0	21	9	35.8653	158	19	32.7095
	58 /150	2,344,000	425,000		21	11	45.2499	158	16	38.7097
		2,348,000	425,000		21	13	55.3495	158	16	38.0765
		2,348,000	430,000		21	13	56.0679	158	19	31.5286
		2,344,000	430,000	20.0	21	11	45.9669	158	19	32.1197
	59 /150	2,328,000	430,000		21	3	05.5573	158	19	34.4714
		2,332,000	430,000		21	5	15.6605	158	19	33.8854

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,332,000	435,000		21	5	16.3244	158	22	27.1711
		2,328,000	435,000	20.0	21	3	06.2199	158	22	27.7154
	60 /150	2,332,000	430,000		21	5	15.6605	158	19	33.8854
		2,336,000	430,000		21	7	25.7632	158	19	33.2980
		2,336,000	435,000		21	7	26.4283	158	22	26.6258
		2,332,000	435,000	20.0	21	5	16.3244	158	22	27.1711
	61 /150	2,336,000	430,000		21	7	25.7632	158	19	33.2980
		2,340,000	430,000		21	9	35.8653	158	19	32.7095
		2,340,000	435,000		21	9	36.5317	158	22	26.0792
		2,336,000	435,000	20.0	21	7	26.4283	158	22	26.6258
	62 /150	2,340,000	430,000		21	9	35.8653	158	19	32.7095
		2,344,000	430,000		21	11	45.9669	158	19	32.1197
		2,344,000	435,000		21	11	46.6345	158	22	25.5315
		2,340,000	435,000	20.0	21	9	36.5317	158	22	26.0792
	63 /150	2,328,000	435,000		21	3	06.2199	158	22	27.7154
		2,332,000	435,000		21	5	16.3244	158	22	27.1711
		2,332,000	440,000		21	5	16.9390	158	25	20.4587
		2,328,000	440,000	20.0	21	3	06.8334	158	25	20.9611
	64 /150	2,332,000	435,000		21	5	16.3244	158	22	27.1711
		2,336,000	435,000		21	7	26.4283	158	22	26.6258
		2,336,000	440,000		21	7	27.0441	158	25	19.9553
		2,332,000	440,000	20.0	21	5	16.9390	158	25	20.4587
	65 /150	2,336,000	435,000		21	7	26.4283	158	22	26.6258
		2,340,000	435,000		21	9	36.5317	158	22	26.0792
		2,340,000	440,000		21	9	37.1486	158	25	19.4508
		2,336,000	440,000	20.0	21	7	27.0441	158	25	19.9553
	66 /150	2,324,000	440,000		21	0	56.7272	158	25	21.4624
		2,328,000	440,000		21	3	06.8334	158	25	20.9611
		2,328,000	445,000		21	3	07.3978	158	28	14.2085
		2,324,000	445,000	20.0	21	0	57.2906	158	28	14.6680
	67 /150	2,328,000	440,000		21	3	06.8334	158	25	20.9611
		2,332,000	440,000		21	5	16.9390	158	25	20.4587
		2,332,000	445,000		21	5	17.5045	158	28	13.7480
		2,328,000	445,000	20.0	21	3	07.3978	158	28	14.2085
	68 /150	2,332,000	440,000		21	5	16.9390	158	25	20.4587
		2,336,000	440,000		21	7	27.0441	158	25	19.9553
		2,336,000	445,000		21	7	27.6106	158	28	13.2865
		2,332,000	445,000	20.0	21	5	17.5045	158	28	13.7480
	69 /150	2,336,000	440,000		21	7	27.0441	158	25	19.9553
		2,340,000	440,000		21	9	37.1486	158	25	19.4508
		2,340,000	445,000		21	9	37.7162	158	28	12.8240

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,336,000	445,000	20.0	21	7	27.6106	158	28	13.2865
	70 /150	2,324,000	445,000		21	0	57.2906	158	28	14.6680
		2,328,000	445,000		21	3	07.3978	158	28	14.2085
		2,328,000	450,000		21	3	07.9131	158	31	07.4574
		2,324,000	450,000	20.0	21	0	57.8049	158	31	07.8752
	71 /150	2,328,000	445,000		21	3	07.3978	158	28	14.2085
		2,332,000	445,000		21	5	17.5045	158	28	13.7480
		2,332,000	450,000		21	5	18.0208	158	31	07.0388
		2,328,000	450,000	20.0	21	3	07.9131	158	31	07.4574
	72 /150	2,332,000	445,000		21	5	17.5045	158	28	13.7480
		2,336,000	445,000		21	7	27.6106	158	28	13.2865
		2,336,000	450,000		21	7	28.1279	158	31	06.6192
		2,332,000	450,000	20.0	21	5	18.0208	158	31	07.0388
	73 /150	2,336,000	445,000		21	7	27.6106	158	28	13.2865
		2,340,000	445,000		21	9	37.7162	158	28	12.8240
		2,340,000	450,000		21	9	38.2344	158	31	06.1988
		2,336,000	450,000	20.0	21	7	28.1279	158	31	06.6192
	74 /150	2,324,000	450,000		21	0	57.8049	158	31	07.8752
		2,328,000	450,000		21	3	07.9131	158	31	07.4574
		2,328,000	455,000		21	3	08.3794	158	34	00.7077
		2,324,000	455,000	20.0	21	0	58.2703	158	34	01.0837
	75 /150	2,328,000	450,000		21	3	07.9131	158	31	07.4574
		2,332,000	450,000		21	5	18.0208	158	31	07.0388
		2,332,000	455,000		21	5	18.4879	158	34	00.3309
		2,328,000	455,000	20.0	21	3	08.3794	158	34	00.7077
	76 /150	2,332,000	450,000		21	5	18.0208	158	31	07.0388
		2,336,000	450,000		21	7	28.1279	158	31	06.6192
		2,336,000	455,000		21	7	28.5959	158	33	59.9533
		2,332,000	455,000	20.0	21	5	18.4879	158	34	00.3309
C4	77 /150	2,320,000	315,000		20	58	16.6618	157	13	13.7628
		2,324,000	315,000		21	0	26.7121	157	13	12.2215
		2,324,000	320,000		21	0	28.5014	157	16	05.3441
		2,320,000	320,000	20.0	20	58	18.4476	157	16	06.8438
	78 /150	2,324,000	315,000		21	0	26.7121	157	13	12.2215
		2,328,000	315,000		21	2	36.7619	157	13	10.6770
		2,328,000	320,000		21	2	38.5545	157	16	03.8412
		2,324,000	320,000	20.0	21	0	28.5014	157	16	05.3441
	79 /150	2,320,000	320,000		20	58	18.4476	157	16	06.8438
		2,324,000	320,000		21	0	28.5014	157	16	05.3441
		2,324,000	325,000		21	0	30.2415	157	18	58.4717
		2,320,000	325,000	20.0	20	58	20.1845	157	18	59.9297

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
	80 /150	2,324,000	320,000		21	0	28.5014	157	16	05.3441
		2,328,000	320,000		21	2	38.5545	157	16	03.8412
		2,328,000	325,000		21	2	40.2979	157	18	57.0105
		2,324,000	325,000	20.0	21	0	30.2415	157	18	58.4717
	81 /150	2,316,000	325,000		20	56	10.1269	157	19	01.3847
		2,320,000	325,000		20	58	20.1845	157	18	59.9297
		2,320,000	330,000		20	58	21.8724	157	21	53.0205
		2,316,000	330,000	20.0	20	56	11.8117	157	21	54.4340
	82 /150	2,320,000	325,000		20	58	20.1845	157	18	59.9297
		2,324,000	325,000		21	0	30.2415	157	18	58.4717
		2,324,000	330,000		21	0	31.9326	157	21	51.6041
		2,320,000	330,000	20.0	20	58	21.8724	157	21	53.0205
	83 /150	2,316,000	330,000		20	56	11.8117	157	21	54.4340
		2,320,000	330,000		20	58	21.8724	157	21	53.0205
		2,320,000	335,000		20	58	23.5113	157	24	46.1160
		2,316,000	335,000	20.0	20	56	13.4475	157	24	47.4880
C5	84 /150	2,156,000	370,000		19	29	39.7617	157	45	40.3751
		2,160,000	370,000		19	31	49.8665	157	45	39.3840
		2,160,000	375,000		19	31	51.0207	157	48	30.9179
		2,156,000	375,000	20.0	19	29	40.9136	157	48	31.8710
	85 /150	2,156,000	375,000		19	29	40.9136	157	48	31.8710
		2,160,000	375,000		19	31	51.0207	157	48	30.9179
		2,160,000	380,000		19	31	52.1296	157	51	22.4552
		2,156,000	380,000	20.0	19	29	42.0203	157	51	23.3702
	86 /150	2,160,000	375,000		19	31	51.0207	157	48	30.9179
		2,164,000	375,000		19	34	01.1273	157	48	29.9628
		2,164,000	380,000		19	34	02.2384	157	51	21.5382
		2,160,000	380,000	20.0	19	31	52.1296	157	51	22.4552
	87 /150	2,164,000	375,000		19	34	01.1273	157	48	29.9628
		2,168,000	375,000		19	36	11.2333	157	48	29.0055
		2,168,000	380,000		19	36	12.3466	157	51	20.6192
		2,164,000	380,000	20.0	19	34	02.2384	157	51	21.5382
	88 /150	2,168,000	375,000		19	36	11.2333	157	48	29.0055
		2,172,000	375,000		19	38	21.3388	157	48	28.0460
		2,172,000	380,000		19	38	22.4544	157	51	19.6981
		2,168,000	380,000	20.0	19	36	12.3466	157	51	20.6192
	89 /150	2,156,000	380,000		19	29	42.0203	157	51	23.3702
		2,160,000	380,000		19	31	52.1296	157	51	22.4552
		2,160,000	385,000		19	31	53.1932	157	54	13.9957
		2,156,000	385,000	20.0	19	29	43.0818	157	54	14.8726
	90 /150	2,160,000	380,000		19	31	52.1296	157	51	22.4552

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,164,000	380,000		19	34	02.2384	157	51	21.5382
		2,164,000	385,000		19	34	03.3041	157	54	13.1169
		2,160,000	385,000	20.0	19	31	53.1932	157	54	13.9957
	91 /150	2,164,000	380,000		19	34	02.2384	157	51	21.5382
		2,168,000	380,000		19	36	12.3466	157	51	20.6192
		2,168,000	385,000		19	36	13.4145	157	54	12.2361
		2,164,000	385,000	20.0	19	34	03.3041	157	54	13.1169
	92 /150	2,168,000	380,000		19	36	12.3466	157	51	20.6192
		2,172,000	380,000		19	38	22.4544	157	51	19.6981
		2,172,000	385,000		19	38	23.5243	157	54	11.3534
		2,168,000	385,000	20.0	19	36	13.4145	157	54	12.2361
	93 /150	2,156,000	385,000		19	29	43.0818	157	54	14.8726
		2,160,000	385,000		19	31	53.1932	157	54	13.9957
		2,160,000	390,000		19	31	54.2115	157	57	05.5392
		2,156,000	390,000	20.0	19	29	44.0980	157	57	06.3780
	94 /150	2,160,000	385,000		19	31	53.1932	157	54	13.9957
		2,164,000	385,000		19	34	03.3041	157	54	13.1169
		2,164,000	390,000		19	34	04.3244	157	57	04.6986
		2,160,000	390,000	20.0	19	31	54.2115	157	57	05.5392
	95 /150	2,164,000	385,000		19	34	03.3041	157	54	13.1169
		2,168,000	385,000		19	36	13.4145	157	54	12.2361
		2,168,000	390,000		19	36	14.4369	157	57	03.8561
		2,164,000	390,000	20.0	19	34	04.3244	157	57	04.6986
	96 /150	2,152,000	390,000		19	27	33.9840	157	57	07.2149
		2,156,000	390,000		19	29	44.0980	157	57	06.3780
		2,156,000	395,000		19	29	45.0691	157	59	57.8863
		2,152,000	395,000	20.0	19	27	34.9532	157	59	58.6852
	97 /150	2,156,000	390,000		19	29	44.0980	157	57	06.3780
		2,160,000	390,000		19	31	54.2115	157	57	05.5392
		2,160,000	395,000		19	31	55.1845	157	59	57.0857
		2,156,000	395,000	20.0	19	29	45.0691	157	59	57.8863
	98 /150	2,160,000	390,000		19	31	54.2115	157	57	05.5392
		2,164,000	390,000		19	34	04.3244	157	57	04.6986
		2,164,000	395,000		19	34	05.2994	157	59	56.2832
		2,160,000	395,000	20.0	19	31	55.1845	157	59	57.0857
	99 /150	2,156,000	395,000		19	29	45.0691	157	59	57.8863
		2,160,000	395,000		19	31	55.1845	157	59	57.0857
		2,160,000	400,000		19	31	56.1123	158	2	48.6349
		2,156,000	400,000	20.0	19	29	45.9950	158	2	49.3975
	100 /150	2,160,000	395,000		19	31	55.1845	157	59	57.0857
		2,164,000	395,000		19	34	05.2994	157	59	56.2832

Cluster	*Block No.*	*Northing UTM Zone57N*	*Easting UTM Zone57N*	*Area (km^2)*	*Lat. N degrees*	*Lat. N minutes*	*Lat. N seconds*	*Long. E degrees*	*Long. E minutes*	*Long. E seconds*
		2,164,000	400,000		19	34	06.2290	158	2	47.8707
		2,160,000	400,000	20.0	19	31	56.1123	158	2	48.6349
C6	101 /150	2,172,000	610,000		19	38	24.5487	160	2	56.9883
		2,176,000	610,000		19	40	34.6601	160	2	57.8345
		2,176,000	615,000		19	40	33.6336	160	5	49.5313
		2,172,000	615,000	20.0	19	38	23.5243	160	5	48.6466
	102 /150	2,172,000	615,000		19	38	23.5243	160	5	48.6466
		2,176,000	615,000		19	40	33.6336	160	5	49.5313
		2,176,000	620,000		19	40	32.5615	160	8	41.2250
		2,172,000	620,000	20.0	19	38	22.4544	160	8	40.3019
	103 /150	2,176,000	615,000		19	40	33.6336	160	5	49.5313
		2,180,000	615,000		19	42	43.7424	160	5	50.4179
		2,180,000	620,000		19	42	42.6682	160	8	42.1502
		2,176,000	620,000	20.0	19	40	32.5615	160	8	41.2250
	104 /150	2,180,000	615,000		19	42	43.7424	160	5	50.4179
		2,184,000	615,000		19	44	53.8507	160	5	51.3065
		2,184,000	620,000		19	44	52.7743	160	8	43.0774
		2,180,000	620,000	20.0	19	42	42.6682	160	8	42.1502
	105 /150	2,172,000	620,000		19	38	22.4544	160	8	40.3019
		2,176,000	620,000		19	40	32.5615	160	8	41.2250
		2,176,000	625,000		19	40	31.4438	160	11	32.9155
		2,172,000	625,000	20.0	19	38	21.3388	160	11	31.9540
	106 /150	2,176,000	620,000		19	40	32.5615	160	8	41.2250
		2,180,000	620,000		19	42	42.6682	160	8	42.1502
		2,180,000	625,000		19	42	41.5482	160	11	33.8792
		2,176,000	625,000	20.0	19	40	31.4438	160	11	32.9155
	107 /150	2,180,000	620,000		19	42	42.6682	160	8	42.1502
		2,184,000	620,000		19	44	52.7743	160	8	43.0774
		2,184,000	625,000		19	44	51.6521	160	11	34.8450
		2,180,000	625,000	20.0	19	42	41.5482	160	11	33.8792
	108 /150	2,184,000	625,000		19	44	51.6521	160	11	34.8450
		2,188,000	625,000		19	47	01.7555	160	11	35.8130
		2,188,000	630,000		19	47	00.5851	160	14	27.6160
		2,184,000	630,000	20.0	19	44	50.4841	160	14	26.6093
	109 /150	2,184,000	630,000		19	44	50.4841	160	14	26.6093
		2,188,000	630,000		19	47	00.5851	160	14	27.6160
		2,188,000	635,000		19	46	59.3689	160	17	19.4155
		2,184,000	635,000	20.0	19	44	49.2702	160	17	18.3702
C7	110 /150	2,156,000	640,000		19	29	37.3224	160	20	02.6062
		2,160,000	640,000		19	31	47.4223	160	20	03.6735
		2,160,000	645,000		19	31	46.1322	160	22	55.1968

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,156,000	645,000	20.0	19	29	36.0349	160	22	54.0914
	111 /150	2,160,000	640,000		19	31	47.4223	160	20	03.6735
		2,164,000	640,000		19	33	57.5217	160	20	04.7432
		2,164,000	645,000		19	33	56.2290	160	22	56.3046
		2,160,000	645,000	20.0	19	31	46.1322	160	22	55.1968
	112 /150	2,156,000	645,000		19	29	36.0349	160	22	54.0914
		2,160,000	645,000		19	31	46.1322	160	22	55.1968
		2,160,000	650,000		19	31	44.7968	160	25	46.7162
		2,156,000	650,000	20.0	19	29	34.7021	160	25	45.5727
	113 /150	2,160,000	645,000		19	31	46.1322	160	22	55.1968
		2,164,000	645,000		19	33	56.2290	160	22	56.3046
		2,164,000	650,000		19	33	54.8910	160	25	47.8622
		2,160,000	650,000	20.0	19	31	44.7968	160	25	46.7162
	114 /150	2,156,000	645,000		19	29	36.0349	160	22	54.0914
		2,160,000	645,000		19	31	46.1322	160	22	55.1968
		2,160,000	655,000		19	31	43.4161	160	28	38.2316
		2,156,000	655,000	20.0	19	29	33.3242	160	28	37.0500
C8	115 /150	2,636,000	520,000		23	50	06.8848	159	11	46.9894
		2,640,000	520,000		23	52	16.9515	159	11	47.1855
		2,640,000	525,000		23	52	16.6977	159	14	43.9807
		2,636,000	525,000	20.0	23	50	06.6314	159	14	43.7357
	116 /150	2,648,000	520,000		23	56	37.0830	159	11	47.5787
		2,652,000	520,000		23	58	47.1478	159	11	47.7759
		2,652,000	525,000		23	58	46.8927	159	14	44.7188
		2,648,000	525,000	20.0	23	56	36.8283	159	14	44.4723
	117 /150	2,620,000	525,000		23	41	26.3604	159	14	42.7603
		2,624,000	525,000		23	43	36.4291	159	14	43.0034
		2,624,000	530,000		23	43	36.1210	159	17	39.6024
		2,620,000	530,000	20.0	23	41	26.0529	159	17	39.3107
	118 /150	2,624,000	525,000		23	43	36.4291	159	14	43.0034
		2,628,000	525,000		23	45	46.4971	159	14	43.2470
		2,628,000	530,000		23	45	46.1885	159	17	39.8947
		2,624,000	530,000	20.0	23	43	36.1210	159	17	39.6024
	119 /150	2,628,000	525,000		23	45	46.4971	159	14	43.2470
		2,632,000	525,000		23	47	56.5646	159	14	43.4911
		2,632,000	530,000		23	47	56.2555	159	17	40.1876
		2,628,000	530,000	20.0	23	45	46.1885	159	17	39.8947
	120 /150	2,632,000	525,000		23	47	56.5646	159	14	43.4911
		2,636,000	525,000		23	50	06.6314	159	14	43.7357
		2,636,000	530,000		23	50	06.3218	159	17	40.4811
		2,632,000	530,000	20.0	23	47	56.2555	159	17	40.1876

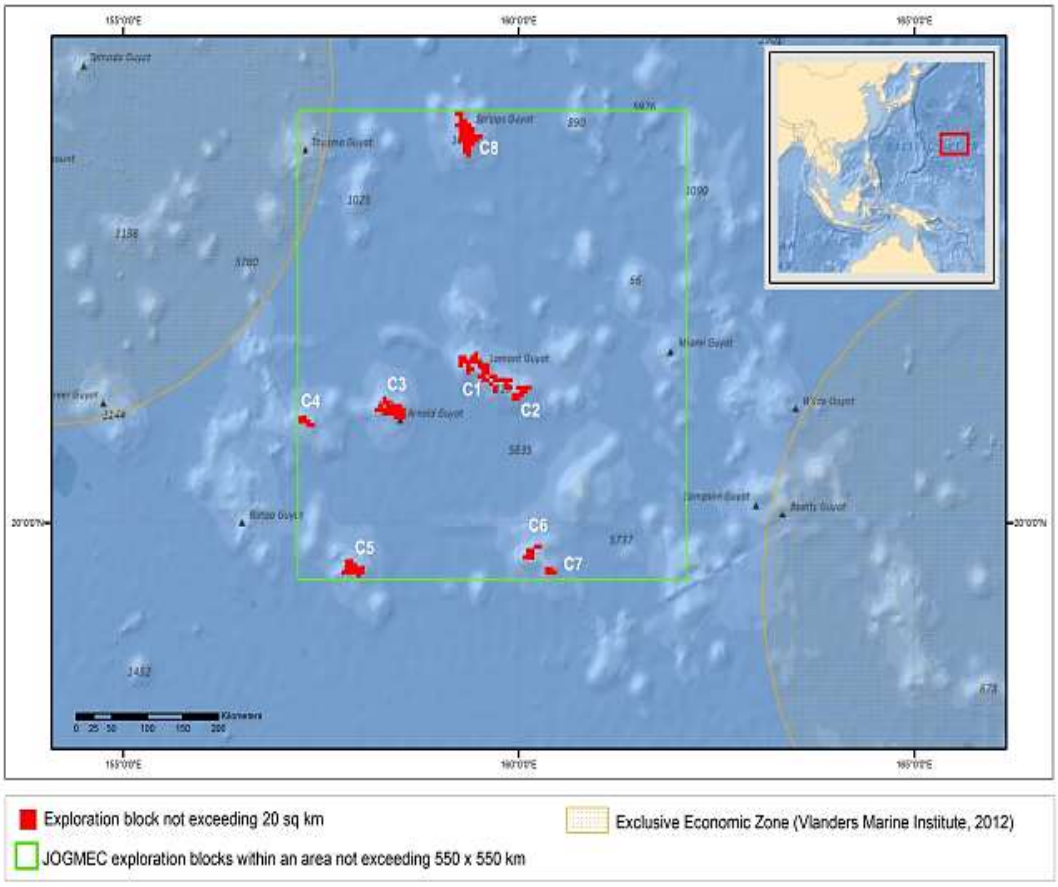
Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
	121 /150	2,636,000	525,000		23	50	06.6314	159	14	43.7357
		2,640,000	525,000		23	52	16.6977	159	14	43.9807
		2,640,000	530,000		23	52	16.3875	159	17	40.7752
		2,636,000	530,000	20.0	23	50	06.3218	159	17	40.4811
	122 /150	2,640,000	525,000		23	52	16.6977	159	14	43.9807
		2,644,000	525,000		23	54	26.7633	159	14	44.2263
		2,644,000	530,000		23	54	26.4526	159	17	41.0698
		2,640,000	530,000	20.0	23	52	16.3875	159	17	40.7752
	123 /150	2,644,000	525,000		23	54	26.7633	159	14	44.2263
		2,648,000	525,000		23	56	36.8283	159	14	44.4723
		2,648,000	530,000		23	56	36.5171	159	17	41.3651
		2,644,000	530,000	20.0	23	54	26.4526	159	17	41.0698
	124 /150	2,648,000	525,000		23	56	36.8283	159	14	44.4723
		2,652,000	525,000		23	58	46.8927	159	14	44.7188
		2,652,000	530,000		23	58	46.5809	159	17	41.6609
		2,648,000	530,000	20.0	23	56	36.5171	159	17	41.3651
	125 /150	2,608,000	530,000		23	34	55.8448	159	17	38.4389
		2,612,000	530,000		23	37	05.9147	159	17	38.7289
		2,612,000	535,000		23	37	05.5525	159	20	35.1815
		2,608,000	535,000	20.0	23	34	55.4832	159	20	34.8431
	126 /150	2,612,000	530,000		23	37	05.9147	159	17	38.7289
		2,616,000	530,000		23	39	15.9841	159	17	39.0195
		2,616,000	535,000		23	39	15.6213	159	20	35.5205
		2,612,000	535,000	20.0	23	37	05.5525	159	20	35.1815
	127 /150	2,616,000	530,000		23	39	15.9841	159	17	39.0195
		2,620,000	530,000		23	41	26.0529	159	17	39.3107
		2,620,000	535,000		23	41	25.6894	159	20	35.8602
		2,616,000	535,000	20.0	23	39	15.6213	159	20	35.5205
	128 /150	2,620,000	530,000		23	41	26.0529	159	17	39.3107
		2,624,000	530,000		23	43	36.1210	159	17	39.6024
		2,624,000	535,000		23	43	35.7569	159	20	36.2005
		2,620,000	535,000	20.0	23	41	25.6894	159	20	35.8602
	129 /150	2,624,000	530,000		23	43	36.1210	159	17	39.6024
		2,628,000	530,000		23	45	46.1885	159	17	39.8947
		2,628,000	535,000		23	45	45.8238	159	20	36.5416
		2,624,000	535,000	20.0	23	43	35.7569	159	20	36.2005
	130 /150	2,628,000	530,000		23	45	46.1885	159	17	39.8947
		2,632,000	530,000		23	47	56.2555	159	17	40.1876
		2,632,000	535,000		23	47	55.8901	159	20	36.8833
		2,628,000	535,000	20.0	23	45	45.8238	159	20	36.5416
	131 /150	2,632,000	530,000		23	47	56.2555	159	17	40.1876

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,636,000	530,000		23	50	06.3218	159	17	40.4811
		2,636,000	535,000		23	50	05.9558	159	20	37.2257
		2,632,000	535,000	20.0	23	47	55.8901	159	20	36.8833
	132 /150	2,636,000	530,000		23	50	06.3218	159	17	40.4811
		2,640,000	530,000		23	52	16.3875	159	17	40.7752
		2,640,000	535,000		23	52	16.0209	159	20	37.5687
		2,636,000	535,000	20.0	23	50	05.9558	159	20	37.2257
	133 /150	2,640,000	530,000		23	52	16.3875	159	17	40.7752
		2,644,000	530,000		23	54	26.4526	159	17	41.0698
		2,644,000	535,000		23	54	26.0854	159	20	37.9125
		2,640,000	535,000	20.0	23	52	16.0209	159	20	37.5687
	134 /150	2,604,000	535,000		23	32	45.4132	159	20	34.5055
		2,608,000	535,000		23	34	55.4832	159	20	34.8431
		2,608,000	540,000		23	34	55.0659	159	23	31.2463
		2,604,000	540,000	20.0	23	32	44.9967	159	23	30.8604
	135 /150	2,608,000	535,000		23	34	55.4832	159	20	34.8431
		2,612,000	535,000		23	37	05.5525	159	20	35.1815
		2,612,000	540,000		23	37	05.1345	159	23	31.6329
		2,608,000	540,000	20.0	23	34	55.0659	159	23	31.2463
	136 /150	2,612,000	535,000		23	37	05.5525	159	20	35.1815
		2,616,000	535,000		23	39	15.6213	159	20	35.5205
		2,616,000	540,000		23	39	15.2026	159	23	32.0204
		2,612,000	540,000	20.0	23	37	05.1345	159	23	31.6329
	137 /150	2,616,000	535,000		23	39	15.6213	159	20	35.5205
		2,620,000	535,000		23	41	25.6894	159	20	35.8602
		2,620,000	540,000		23	41	25.2700	159	23	32.4086
		2,616,000	540,000	20.0	23	39	15.2026	159	23	32.0204
	138 /150	2,620,000	535,000		23	41	25.6894	159	20	35.8602
		2,624,000	535,000		23	43	35.7569	159	20	36.2005
		2,624,000	540,000		23	43	35.3368	159	23	32.7976
		2,620,000	540,000	20.0	23	41	25.2700	159	23	32.4086
	139 /150	2,624,000	535,000		23	43	35.7569	159	20	36.2005
		2,628,000	535,000		23	45	45.8238	159	20	36.5416
		2,628,000	540,000		23	45	45.4030	159	23	33.1873
		2,624,000	540,000	20.0	23	43	35.3368	159	23	32.7976
	140 /150	2,628,000	535,000		23	45	45.8238	159	20	36.5416
		2,632,000	535,000		23	47	55.8901	159	20	36.8833
		2,632,000	540,000		23	47	55.4686	159	23	33.5779
		2,628,000	540,000	20.0	23	45	45.4030	159	23	33.1873
	141 /150	2,632,000	535,000		23	47	55.8901	159	20	36.8833
		2,636,000	535,000		23	50	05.9558	159	20	37.2257

Cluster	Block No.	Northing UTM Zone57N	Easting UTM Zone57N	Area (km^2)	Lat. N degrees	Lat. N minutes	Lat. N seconds	Long. E degrees	Long. E minutes	Long. E seconds
		2,636,000	540,000		23	50	05.5336	159	23	33.9692
		2,632,000	540,000	20.0	23	47	55.4686	159	23	33.5779
	142 /150	2,636,000	535,000		23	50	05.9558	159	20	37.2257
		2,640,000	535,000		23	52	16.0209	159	20	37.5687
		2,640,000	540,000		23	52	15.5979	159	23	34.3612
		2,636,000	540,000	20.0	23	50	05.5336	159	23	33.9692
	143 /150	2,616,000	540,000		23	39	15.2026	159	23	32.0204
		2,620,000	540,000		23	41	25.2700	159	23	32.4086
		2,620,000	545,000		23	41	24.7947	159	26	28.9558
		2,616,000	545,000	20.0	23	39	14.7281	159	26	28.5191
	144 /150	2,620,000	540,000		23	41	25.2700	159	23	32.4086
		2,624,000	540,000		23	43	35.3368	159	23	32.7976
		2,624,000	545,000		23	43	34.8607	159	26	29.3934
		2,620,000	545,000	20.0	23	41	24.7947	159	26	28.9558
	145 /150	2,624,000	540,000		23	43	35.3368	159	23	32.7976
		2,628,000	540,000		23	45	45.4030	159	23	33.1873
		2,628,000	545,000		23	45	44.9261	159	26	29.8319
		2,624,000	545,000	20.0	23	43	34.8607	159	26	29.3934
	146 /150	2,628,000	540,000		23	45	45.4030	159	23	33.1873
		2,632,000	540,000		23	47	55.4686	159	23	33.5779
		2,632,000	545,000		23	47	54.9908	159	26	30.2712
		2,628,000	545,000	20.0	23	45	44.9261	159	26	29.8319
	147 /150	2,632,000	540,000		23	47	55.4686	159	23	33.5779
		2,636,000	540,000		23	50	05.5336	159	23	33.9692
		2,636,000	545,000		23	50	05.0550	159	26	30.7114
		2,632,000	545,000	20.0	23	47	54.9908	159	26	30.2712
	148 /150	2,620,000	545,000		23	41	24.7947	159	26	28.9558
		2,624,000	545,000		23	43	34.8607	159	26	29.3934
		2,624,000	550,000		23	43	34.3285	159	29	25.9879
		2,620,000	550,000	20.0	23	41	24.2634	159	29	25.5017
	149 /150	2,624,000	545,000		23	43	34.8607	159	26	29.3934
		2,628,000	545,000		23	45	44.9261	159	26	29.8319
		2,628,000	550,000		23	45	44.3930	159	29	26.4751
		2,624,000	550,000	20.0	23	43	34.3285	159	29	25.9879
	150 /150	2,624,000	550,000		23	43	34.3285	159	29	25.9879
		2,628,000	550,000		23	45	44.3930	159	29	26.4751
		2,628,000	555,000		23	45	43.8038	159	32	23.1168
		2,624,000	555,000	20.0	23	43	33.7403	159	32	22.5809

2. Illustrative chart of the exploration area

The area allocated to the Contractor comprises 150 blocks, each with an area of 20 square kilometres, and is located over six seamounts in the Western Pacific. The blocks are grouped into eight clusters, each containing five to 40 contiguous blocks. Each block is rectangular in shape, measuring five kilometres from east to west and four kilometres from north to south. All the blocks are located entirely within a geographical area measuring not more than 545 kilometres from east to west and 550 kilometres from north to south, or 299,750 square kilometres.



[insert shapefile format]

(shapefile format as shown in the ISA https://www.isa.org.jm/maps)

3. Plan of Work

Summary of Plan of Work for Exploration including the Programme of Activities for the first and/or the current 5-year period (Regulation 18).

The Contractor will conduct exploration activities as a long-term plan covering a 15-year period. The exploration activities will take place in each block of the exploration area, mainly on the top of seamounts, where cobalt-rich ferromanganese crusts are not buried in sediments.

The objectives and survey activities are divided into three stages, as follows.

Stage and years	Exploration	Environmental survey	Research and development
Stage 1 First to fifth year	Ore reserve survey: rough resource evaluation by core sampling and acoustic survey; collection of data	Environmental baseline studies; collection of environmental data	Desk studies and pre-research and development of mining, ore dressing, and smelting technologies
Stage 2 Sixth to tenth year	Detailed evaluation of the blocks to select 1/3 of promising blocks	Environmental baseline studies	Research and development in mining, ore dressing and smelting technologies
Stage 3 Eleventh to fifteenth year	Selection of the blocks to be developed from the ten-year selection of promising blocks	Environmental impact assessment	Verification of technologies for mining, dressing and smelting recovery, and economic evaluation

After completion of stage 1, stage 2 will be revised and stage 3 will be further elaborated on.

4. Programme of Activities ~~and Exploration Expenditure~~

Section 4.1 of Annex IV of the Regulations and Schedule 2 of Annex III of the Regulations.

I. Agreed 5-year Programme of Activities

5-year Programme of Activities	First	Second	Third	Extension
General Objectives	**Objective**	**Description**		
	Resource exploration survey and compilation of their results	Core sampling, acoustic Survey, seafloor observation, automatic measurement of the thickness of cobalt crusts, and compilation of the exploration results are planned for this objective.		
	Environmental survey including baselines	Survey of surface and intermediate layer zones, survey of bottom layer zone, mooring system survey, surveys for the analysis of biological gene information, and experiments in seafloor disturbance are planned for this objective.		
	Environmental impact Assessment	Conceptual design and model examination, and simulation and evaluation are planned for this objective.		
	Research and development in mining technologies	Collection and assessment of information, and study of elemental technology are planned for this objective.		
	Processing and smelting technology development	Collection and assessment of information and test in a laboratory are planned for this objective.		
	Economic evaluation	Conceptual design and model examination are planned for this objective.		
	Compilation of survey	Design, evaluation and economic evaluation of the development system, and simulation and evaluation are planned for this objective.		
	Training	Development of training plan, ocean training and analysis training are planneed for this objective.		

5-year Programme of Activities	First	Second	Third	Extension

General Objectives	Objective	Description
	Resource exploration survey and compilation of their results	Core sampling, seafloor observation, automatic measurement of the thickness of cobalt crusts, and compilation of the exploration results are planned for this objective.
	Environmental survey including baselines	Survey of surface and intermediate layer zones, survey of bottom layer zone, and mooring system survey are planned for this objective.
	Environmental impact Assessment	Conceptual design and model examination (including biological sample analysis, genetic connectivity study, study for REMP in eastern North Pacific Ocean, and numerical models construction), and simulation and evaluation are planned for this objective.
	Research and development in mining technologies	Collection and assessment of information, study of elemental technology, and development of prototype instrument are planned for this objective.
	Processing and smelting technology development	Collection and assessment of information and test in a laboratory, and study and design of pilot plant are planned for this objective.
	Economic evaluation	More research and discussion are planned to be continued toward economic evaluation in the future.
	Compilation of survey	Review for blocks relinquishment and interim review are planned for this objective.
	Training	Development of training plan and the implementation of at-sea or on-land training are planned for this objective.

5-year Programme of Activities	First	Second	Third	Extension
General Objectives	**Objective**	**Description**		
	Resource exploration survey and compilation of their results	Additional drilling surveys are going to be conducted in a selected model Area. It is also planned to proceed with integrated data analysis of these		

		drilling data, seafloor observations, automatic measurement of the thickness of CRC, and detailed topographic data.
	Environmental survey including baselines	Survey of surface and intermediate layer zones using publicly available information, and survey of the biological communities in the bottom layer zone using genetic analysis of organisms and numerical models are planned for this objective.
	Environmental impact Assessment	Biological sample analysis, genetic connectivity study, active participation in REMP in eastern North Pacific Ocean and other discussion, and numerical models construction are planned for this objective.
	Research and development in mining technologies	Study of elemental technology for excavation, development of 20-ton class prototype instrument and implementation of excavation component tests in Japan's EEZ are planned for this objective.
	Processing and smelting technology development	Beneficiation tests for the fine samples, study for a smelting process with less emission of CO_2, and the applicability of leaching technologies to CRC are planned for this objective.
	Economic evaluation	Preliminary economic evaluation is going to be conducted on any seamount that are expected to have potential resources of CRC
	Compilation of survey	Data review is planned for this objective.
	Training	Training opportunities for developing states are planned to be provided for 15 personnel in total.

II. Results achieved during reported year [#]: [year]

Annual objectives and activities			
Year	**No.**	**Agreed Objectives**	**Objective: Completed, Modified, Postponed or Replaced**

2014/2015	1	Preparation for resource survey and consideration of mining system and processing	Objective for 2014/2015 was completed
2015/2016	2	Conduct of resource survey, environmental studies, and Training Consideration of mining system and processing	Objective for 2015/2016 was completed
2016/2017	3	Conduct of resource survey and environmental studies, and consideration of mining system and processing	Objective for 2016/2017 was completed
2017/2018	4	Conduct of resource survey and environmental survey, and consideration of mining system and processing	Objective for 2017/2018 was completed
2018/2019	5	Conduct of resource survey, environmental studies, and Training Consideration of mining system and processing	Objective for 2018/2019 was completed
2019/2020	6	1. Resource exploration survey and compilation of their results 2. Environmental survey including baselines 3. Environmental impact Assessment 4. Research and development in mining technologies 5. Processing and smelting technology development 6. Economic evaluation 7. Compilation of survey 8. Training	1. Completed 2. Completed 3. Completed 4. Completed 5. Completed 6. Postponed 7. Preparation 8. Preparation
2020/2021	7	1. Resource exploration survey and compilation of their results 2. Environmental survey including baselines 3. Environmental impact Assessment 4. Research and development in mining technologies 5. Processing and smelting technology development 6. Economic evaluation 7. Compilation of survey 8. Training	1. Completed 2. Completed 3. Completed 4. Completed 5. Completed 6. Postponed 7. Preparation 8. Postponed

2021/2022	8	1. Resource exploration survey and compilation of their results 2. Environmental survey including baselines 3. Environmental impact Assessment 4. Research and development in mining technologies 5. Processing and smelting technology development 6. Economic evaluation 7. Compilation of survey 8. Training	1. Completed 2. Completed 3. Completed 4. Completed 5. Completed 6. Postponed 7. Completed 8. Postponed
2022/2023	9	1. Resource exploration survey and compilation of their results 2. Environmental survey including baselines 3. Environmental impact Assessment 4. Research and development in mining technologies 5. Processing and smelting technology development 6. Economic evaluation 7. Compilation of survey 8. Training	1. Completed 2. Completed 3. Completed 4. Completed 5. Completed 6. Postponed 7. Preparation 8. Postponed
2023/2024	10	1. Resource exploration survey and compilation of their results 2. Environmental survey including baselines 3. Environmental impact Assessment 4. Research and development in mining technologies 5. Processing and smelting technology development 6. Economic evaluation 7. Compilation of survey 8. Training	1. Completed 2. Completed 3. Completed 4. Completed 5. Completed 6. Postponed 7. Completed 8. Completed
2024/2025	11	Conduct of resource survey and environmental survey, and consideration of mining system and processing	Objective for 2024/2025 is under implementation

5. Training Programme

Schedule 3 of Annex III of the Regulations.

I. Training Programme

Type of training	At-sea training programmes
Institutions	Japan Organization for Metals and Energy Security (Formerly Japan Oil, Gas and Metals National Corporation)
Duration	About 40 days: three days for the pre-cruise training; 30 days for the on-board training; and seven days for the post-cruise training.
Scope	Capacity building of trainees from developing states through on-board works and investigative techniques for cobalt-rich ferromanganese crusts
Fields	Each programme will have three phases: the preparation of the cruise; at-sea training on a Japanese research vessel (e.g. R/V Hakurei); and post-cruise training. The preparation of the cruise will consist of the planning of research activity and of on-board works. On-board training will include rock core sampling, environmental data collection, and the handling and analysis of samples. The post-cruise training will aim at acquiring analytical experience in deep sea mineral resources and environment, taking account of the background of trainees. The post-cruise training will be provided in cooperation with institutions in Japan which specialize in marine geology, deep sea mineral resources and environmental study (e.g. JAMSTEC and Universities).
Qualification required	Candidates should: • hold a graduate degree in science or engineering in the relevant field of geology, geophysics, mineral processing, mining, environment or have an equivalent educational background; • have at least one year of work experience in the concerned field; • have sufficient knowledge of English for daily conversation and training; • have a good mental and physical health, suitable to work at sea; • be less than 40 years of age; and have seagoing experience.
Financing	To be borne by JOGMEC

II. Trainings conducted up to reported year [#]: [year]

Start year	End Year	Name of Trainee	Nationality	Gender	Type of Programme	Details	Duration
2015	2015	Mr. Alieu Jawo	Republic of the Gambia	Male	At-sea training	Lectures, on-board	10 days of on-land

		(Dr.) Mr. Md. Shamsuzzaman	People's Republic of Bangladesh	Male	programmes	work, and field trips to learn exploration for crusts.	and 29 days of at-sea training
		Mr. Kevin Ravi Tankoo	Jamaica	Male			
2016	2016	Mr. Luis Henrique Polido de Souza	Federative Republic of Brazil	Male	At-sea training programmes	Lectures, on-board work, and field trips to learn environmental survey for crusts.	14 days of on-land and 26 days of at-sea training
		Ms. Jean Marie Bope Bope Lapwong	Democratic Republic of the Congo	Male			
		Mr. Mohamed Ahmed Moheb Mandour Eldesouky	Arab Republic of Egypt	Male			
		Mr. Viliame Momoivalu	Republic of Fiji	Male			
		Ms. Preeyaphat Kongthaworn	Kingdom of Thailand	Female			
2018	2018	Mr. Franco Eduardo Pugliese	Republic of Argentina	Male	At-sea training programmes	Lectures, on-board work, and field trips to learn exploration for crusts.	15 days of on-land and 32 days of at-sea training
		Mr. Hank George Hedge	Jamaica	Male			
		Ms. Judith Ampomah Owusu	Republic of Ghana	Female			
		(Dr.) Mr. Soe Moe Aung	Federal Republic of Myanmar	Male			
2023	2023	Mr. Pantarak Channarong	Thailand	Male	At-sea training programmes	Lectures, on-board work, and field trips to learn exploration for crusts.	23 days of on-land and 31 days of at-sea training
		Ms. Lorraine Tanke Meigan	Cameroon	Female			
		(Dr.)Ms. Lucia Villar Munoz	Chile	Female			
		Ms. Valerie Shayne Olfindo	Philippines	Female			
		Mr. A.J.M. Emdadul Haque	Bangladesh	Male			

III. <u>Completed Trainings per Year</u>

	At-sea training programmes
Year 1 (2014)	—
Year 2 (2015)	At-sea training programmes. Lectures, on-board work, and field trips to learn exploration for crusts. 10 days of on-land and 29 days of at-sea training. 3 trainees.
Year 3 (2016)	At-sea training programmes. Lectures, on-board work, and field trips to learn environmental survey for crusts. 14 days of on-land and 26 days of at-sea training. 5 trainees.
Year 4 (2017)	—
Year 5 (2018)	At-sea training programmes. Lectures, on-board work, and field trips to learn exploration for crusts. 15 days of on-land and 32 days of at-sea training. 4 trainees.
Year 6 (2019)	—
Year 7 (2020)	—
Year 8 (2021)	—
Year 9 (2022)	—
Year 10 (2023)	At-sea training programmes. Lectures, on-board work, and field trips to learn exploration for crusts. 23 days of on-land and 31 days of at-sea training. 5 trainees.

6. Standard clauses

Annex IV of the Regulations.