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Report and recommendations of the Legal and Technical Commission to the Council of the International Seabed Authority relating to an application for the approval of a plan of work for exploration for cobalt-rich ferromanganese crusts by the Government of the Republic of Korea

I. Introduction

1. On 10 May 2016, the Secretary-General of the International Seabed Authority received an application for the approval of a plan of work for exploration for cobalt-rich ferromanganese crusts in the Area. The application was submitted, pursuant to the Regulations on Prospecting and Exploration for Cobalt-rich Ferromanganese Crusts in the Area (“the Regulations”, ISBA/18/A/11, annex), by the Government of the Republic of Korea.

2. In accordance with regulation 22 (c) of the Regulations, by a note verbale dated 12 May 2016, the Secretary-General notified the members of the Authority of the receipt of the application and circulated information of a general nature concerning it. The Secretary-General also placed consideration of the application as an item on the agenda of the meetings of the Legal and Technical Commission held from 4 to 13 July 2016.

II. Methodology and consideration of the application by the Legal and Technical Commission

A. General methodology applied by the Commission in consideration of the application

3. In its consideration of the application, the Commission noted that, in keeping with the scheme established in article 6 of annex III to the United Nations Convention on the Law of the Sea, it was first required to make an objective determination as to whether the applicant had fulfilled the requirements contained in the Regulations, particularly with respect to the form of applications, namely,



whether the applicant had provided the necessary undertakings and assurances specified in regulation 15; and whether it had the necessary financial and technical capability to carry out the proposed plan of work for exploration and, as appropriate, had satisfactorily discharged its obligations under any previous contract with the Authority. The Commission is then required to determine, in accordance with regulation 23, paragraph 4, and its procedures, whether the proposed plan of work will provide for effective protection of human health and safety, effective protection and preservation of the marine environment, and ensure that installations are not established where interference may be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity. Regulation 23, paragraph 5, goes on to provide that if the Commission makes the determinations specified in paragraph 3 and determines that the proposed plan of work for exploration meets the requirements of paragraph 4, the Commission shall recommend approval of the plan of work for exploration to the Council.

4. In considering the proposed plan of work for exploration for cobalt-rich ferromanganese crusts, the Commission took into account the principles, policies and objectives relating to activities in the Area as provided for in Part XI of and annex III to the Convention and in the Agreement relating to the implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982.

5. The Commission considered the application in closed meetings on 5, 8 and 11 July 2016.

6. Prior to commencing a detailed examination of the application, the Commission invited a delegation to make a presentation of the application. The delegation included the Permanent Representative of the Republic of Korea to the Authority, Jong Seon Lim; and the Deputy Director of the Marine Development Division of the Ministry of Oceans and Fisheries, Min Jeong Seo. Joining them were Jai Woon Moon, Kyu Son Seung, Se-Jong Ju, Youngtak Ko, Jonguk Kim and Sang Joon Pak, Principal Research Scientists from the Korea Institute of Ocean Science and Technology. Members of the Commission then asked questions to clarify certain aspects of the application before convening in closed session to examine the application in detail. Following its initial consideration, the Commission decided to request the Chair of the Commission to transmit a list of questions to the applicant in writing through the Secretary-General. The written responses provided by the applicant were taken into account by the Commission in its subsequent consideration of the application at its meetings in July.

III. Summary of basic information regarding the application

A. Identification of the applicant

7. The name and address of the applicant are as follows:

- (a) Name: Ministry of Oceans and Fisheries,
Government of the Republic of Korea;
- (b) Street address: Sejong Government Complex
94, Dasom 2-ro, Sejong-si,
Republic of Korea 30110;

- (c) Postal address: as above;
 - (d) Telephone number: +82-44-200-5240;
 - (e) Facsimile number: +82-44-200-5239;
 - (f) E-mail address: hmw91@korea.kr.
8. The applicant's designated representative is:
- (a) Name: Kim Youngsuk, Minister
 - (b) Street address of applicant's designated representative: as above
 - (c) Postal address: as above;
 - (d) Telephone number: as above;
 - (e) Facsimile number: as above;
 - (f) E-mail address: as above.
9. The applicant's place of registration and principal place of business/domicile: Sejong Government Complex, 94, Dasom 2-ro, Sejong-si, Republic of Korea.
10. The applicant is a State party to the Convention.
11. The date of deposit of the instrument of ratification of the United Nations Convention on the Law of the Sea by the Republic of Korea is 29 January 1996; and the date of its consent to be bound by the Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982 is 29 January 1996.

B. Area of application

12. The area under application is located east of the Northern Mariana Islands and covers a total of 3,000 km². The area consists of 150 blocks, each with an area of 20 km². Each block is rectangular in shape and measures either 5 km by 4 km (or 4 km by 5 km) or 10 km by 2 km (or 2 km by 10 km), in respect of width and length. The blocks are distributed over 9 seamounts and grouped into 13 clusters, each containing 5 to 21 contiguous blocks. All the blocks are geographically confined within an area of 550 km by 550 km. The coordinates and general location of the area under application are shown in the annexes to the present document. The application area is in the International Seabed Area.

C. Other information

13. The application was received on 10 May 2016.
14. The previous contracts with the Authority are as follows:
- (a) The Government of the Republic of Korea has two exploration contracts with the Authority, one for exploration for polymetallic nodules which entered into force on 27 April 2001 and the other for exploration for polymetallic sulphides which entered into force on 24 June 2014;

(b) The reports submitted to the Authority in connection with the contracts for exploration for polymetallic nodules and polymetallic sulphides are listed in the application;

(c) The Government of the Republic of Korea submitted an application to the Authority for approval of the extension of an approved plan of work for exploration for polymetallic nodules that expired on 26 April 2016;

(d) Regarding the decision by the Assembly (see ISBA/19/A/12) to institute an annual overhead charge of US\$ 47,000 to cover the costs incurred by the Authority in the administration and supervision of the exploration contracts, the Government of the Republic of Korea agreed to incorporate clauses 10.5 and 10.6 of the standard clauses for exploration contracts in the exploration contract for polymetallic nodules, on 17 June 2014 and had paid the overhead charges of US\$ 47,000 for each of the two contracts with the Authority since 2015.

15. The applicant attached a written undertaking signed by the applicant's designated representative, in compliance with regulation 15 of the Regulations.

16. The applicant elects to offer an equity interest in a joint venture arrangement, in accordance with regulation 19 of the Regulations.

17. The applicant has paid a fee of \$500,000, in accordance with regulation 21.1 of the Regulations.

IV. Examination of information and technical data submitted by the applicant

18. The following technical documents and information were submitted in the application:

(a) Information relating to the area under application:

(i) Charts of the location of the blocks under application;

(ii) A list of the coordinates of the corners of blocks;

(b) A certificate of financial capability;

(c) Information to enable the Council to determine whether the applicant is financially capable of carrying out the proposed plan of work for exploration;

(d) Information to enable the Council to determine whether the applicant is technically capable of carrying out the proposed plan of work for exploration;

(e) Plan of work for exploration;

(f) Training programme;

(g) Written undertakings by the applicant.

V. Consideration of financial and technical qualifications of the applicant

A. Financial capacity

19. The applicant declared its financial capacity to carry out the proposed plan of work for exploration and fulfil its financial obligations to the Authority.

20. In evaluating the financial capacity of the applicant, the Commission noted that, in accordance with regulation 13.3 of the Regulations, it had been provided with a statement signed by the applicant's designated representative certifying that the applicant would have the necessary funds to meet the estimated minimum expenditure under the proposed plan of work for exploration and would fulfil its financial obligations to the Authority.

B. Technical capacity

21. In evaluating the technical capacity of the applicant, the Commission noted that the applicant had provided information in relation to relevant activities, including multiple marine scientific surveys conducted since 1999 for cobalt-rich ferromanganese crusts in the western Pacific, including in the proposed application area, employing the most sophisticated and cutting-edge technology, such as a remotely operated vehicle, a television monitored grab and deep-towed side scan sonar. The applicant indicated that three research institutes, namely, the Korea Institute of Ocean Science and Technology, the Korea Research Institute of Ships and Ocean Engineering and the Korea Institute of Geoscience and Mineral Resources, had been actively conducting marine scientific studies of deep seabed minerals for more than 25 years and that over 100 scientists, in collaboration with universities and industries, had been actively investigating deep seabed mineral resources and mining technologies. In addition, the applicant stated that it had been fulfilling satisfactorily its obligations as a pioneer investor and current contractor with the Authority for the exploration of polymetallic nodules and polymetallic sulphides. The Commission noted that the applicant further provided a general description of the equipment and methods that would be used to carry out the proposed plan of work for exploration.

22. The applicant will conduct geological, geophysical and environmental tests to select prospective mining sites. An economic evaluation study to analyse the economic aspects and assess the technological aspects of mining will be conducted at the end of the 15-year period. The applicant further indicated that it would develop a new technology for non-destructive measurement of cobalt-rich ferromanganese crust thickness, and work on ore processing technology. This will help in the selection of mining areas and the completion of areas to be relinquished, in accordance with the Regulations.

23. The applicant provided information relating to the prevention, reduction and control of hazards to and possible impacts on the marine environment. This included the description of a programme for oceanographic and environmental baseline studies which was designed mainly on the basis of the Recommendations for the guidance of contractors for the assessment of the possible environmental impacts arising from exploration for marine minerals in the Area ([ISBA/19/LTC/8](#)). The

oceanographic and environmental studies would be carried out in three different stages over the next 15 years. The applicant stated that most of the proposed activities were classified as “activities not requiring environmental impact assessment”, as identified by the Commission in the Recommendations. The applicant also stated that the exploration-related sources of impacts on the biological environment were expected to be temporary and localized. If necessary, the applicant would carry out an environmental impact assessment for the towing sledge and/or seabed drilling systems during the first five-year period and for the hyperbenthic sledge. The applicant further stated that it would apply the precautionary approach and best environmental practice to prevent, reduce and control pollution and other hazards to the marine environment arising from its activities in the Area. Furthermore, the applicant is willing to facilitate cooperation with the Authority, other contractors, States neighbouring its proposed exploration area and experts to increase the chance of accessibility to state-of-the-art standardized sampling methods and taxonomy.

VI. Consideration of data and information submitted for approval of the plan of work for exploration

24. In accordance with regulation 20 of the Regulations, the applicant submitted the following information for approval of the plan of work for exploration:

- (a) A general description and a schedule of the proposed exploration programme, including the programme of activities for the immediate five-year period;
- (b) A description of the programme for oceanographic and environmental baseline studies, in accordance with the Regulations and any environmental rules, regulations and procedures established by the Authority, that would enable an assessment of the potential environmental impact, including, but not restricted to, the impact on biodiversity of the proposed exploration activities, taking into account any recommendations issued by the Legal and Technical Commission;
- (c) A preliminary assessment of the possible impact of the proposed exploration activities on the marine environment;
- (d) A description of proposed measures for the prevention, reduction and control of pollution and other hazards to, as well as possible impacts on, the marine environment;
- (e) Data necessary for the Council to make the determination, as required by regulation 13, paragraph 1;
- (f) A schedule of anticipated yearly expenditure in respect of the programme of activities for the immediate five-year period.

VII. Training programme

25. The Commission noted that the applicant stated that, in accordance with regulation 29 and section 8 of annex IV to the Regulations, the contractor would organize and provide trainees with opportunities to participate in the following training programmes during the first five-year period of the contract:

- (a) An at-sea exploration training programme;
- (b) An internship programme on the marine environment or geosciences.

VIII. Conclusion and recommendations

26. Having examined the particulars submitted by the applicant, summarized in sections III to VII above, the Commission is satisfied that the application has been duly submitted in accordance with the Regulations and that the applicant is a qualified applicant within the meaning of annex III, article 4, of the Convention. The Commission is further satisfied that the applicant:

- (a) Has complied with the provisions of the Regulations;
- (b) Has given the undertakings and assurances specified in regulation 15 of the Regulations;
- (c) Possesses the financial and technical capability to carry out the proposed plan of work for exploration.

27. The Commission states that none of the conditions in regulation 23.6 of the Regulations apply.

28. With respect to the proposed plan of work for exploration, the Commission is satisfied that the proposed plan of work for exploration will:

- (a) Provide for effective protection of human health and safety;
- (b) Provide for effective protection and preservation of the marine environment;
- (c) Ensure that installations are not established where interference may be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity.

29. Accordingly, pursuant to regulation 23.5, the Commission recommends to the Council approval of the plan of work for exploration for cobalt-rich ferromanganese crusts submitted by the Government of the Republic of Korea.

Annex I

**Application for approval of a plan of work for exploration
for cobalt-rich ferromanganese crusts
by the Government of the Republic of Korea**

Attachment 5

**Geographical coordinates of the 150 blocks under application
(WGS 84)**

Cluster	Block	AREA	Northing UTM Zone 56N	Eastng UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
KC-1	1	20.0	2,185,361.53	562,903.81	19	45	46.63	153	36	1.59
			2,185,361.53	572,903.00	19	45	45.39	153	41	45.18
			2,183,361.53	572,903.00	19	44	40.33	153	41	44.90
			2,183,361.53	562,903.81	19	44	41.57	153	36	1.35
	2	20.0	2,183,361.53	561,903.81	19	44	41.68	153	35	26.99
			2,183,361.53	571,903.81	19	44	40.46	153	41	10.57
			2,181,361.53	571,903.81	19	43	35.40	153	41	10.29
			2,181,361.53	561,903.81	19	43	36.62	153	35	26.75
	3	20.0	2,181,361.53	561,903.81	19	43	36.62	153	35	26.75
			2,181,361.53	571,903.81	19	43	35.40	153	41	10.29
			2,179,361.53	571,903.81	19	42	30.34	153	41	10.02
			2,179,361.53	561,903.81	19	42	31.56	153	35	26.51
	4	20.0	2,179,361.53	569,903.81	19	42	30.60	153	40	1.32
			2,177,361.53	569,903.81	19	41	25.53	153	40	1.05
			2,177,361.53	559,903.81	19	41	26.72	153	34	17.58
			2,179,361.53	559,903.81	19	42	31.78	153	34	17.81
	5	20.0	2,177,361.53	558,903.81	19	41	26.83	153	33	43.23
			2,177,361.53	568,903.81	19	41	25.66	153	39	26.70
			2,175,361.53	568,903.81	19	40	20.60	153	39	26.43
			2,175,361.53	558,903.81	19	40	21.76	153	33	43.01
	6	20.0	2,175,361.53	556,903.81	19	40	21.97	153	32	34.32
			2,175,361.53	566,903.81	19	40	20.85	153	38	17.75
			2,173,361.53	566,903.81	19	39	15.78	153	38	17.49
			2,173,361.53	556,903.81	19	39	16.91	153	32	34.10
	7	20.0	2,173,361.53	555,903.81	19	39	17.01	153	31	59.76
			2,173,361.53	565,903.81	19	39	15.90	153	37	43.15
			2,171,361.53	565,903.81	19	38	10.84	153	37	42.90
			2,171,361.53	555,903.81	19	38	11.95	153	31	59.55
	8	20.0	2,171,361.53	564,903.81	19	38	10.96	153	37	8.57
			2,169,361.53	564,903.81	19	37	5.90	153	37	8.32
			2,169,361.53	554,903.81	19	37	6.99	153	31	25.00
			2,171,361.53	554,903.81	19	38	12.05	153	31	25.21
	9	20.0	2,169,361.53	560,903.81	19	37	6.35	153	34	50.99
			2,169,361.53	562,903.81	19	37	6.13	153	35	59.65
			2,159,361.53	562,903.81	19	31	40.81	153	35	58.45
			2,159,361.53	560,903.81	19	31	41.04	153	34	49.83
	10	20.0	2,169,361.53	560,903.81	19	37	6.35	153	34	50.99
			2,159,361.53	560,903.81	19	31	41.04	153	34	49.83
			2,159,361.53	558,903.81	19	31	41.25	153	33	41.20

Cluster	Block	AREA	Northing UTM Zone 56N	Eastng UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
			2,169,361.53	558,903.81	19	37	6.57	153	33	42.33
11	20.0	2,169,361.53	558,903.81	19	37	6.57	153	33	42.33	
			2,159,361.53	558,903.81	19	31	41.25	153	33	41.20
			2,159,361.53	556,903.81	19	31	41.46	153	32	32.58
			2,169,361.53	556,903.81	19	37	6.78	153	32	33.67
12	20.0	2,159,361.53	556,903.81	19	31	41.46	153	32	32.58	
			2,159,361.53	554,903.81	19	31	41.66	153	31	23.95
			2,169,361.53	554,903.81	19	37	6.99	153	31	25.00
			2,169,361.53	556,903.81	19	37	6.78	153	32	33.67
13	20.0	2,170,361.53	554,903.81	19	37	39.52	153	31	25.11	
			2,160,361.53	554,903.81	19	32	14.20	153	31	24.06
			2,160,361.53	552,903.81	19	32	14.39	153	30	15.43
			2,170,361.53	552,903.81	19	37	39.71	153	30	16.44
14	20.0	2,169,361.53	552,903.81	19	37	7.18	153	30	16.34	
			2,159,361.53	552,903.81	19	31	41.86	153	30	15.33
			2,159,361.53	550,903.81	19	31	42.05	153	29	6.70
			2,169,361.53	550,903.81	19	37	7.37	153	29	7.67
15	20.0	2,167,361.53	550,903.81	19	36	2.31	153	29	7.48	
			2,157,361.53	550,903.81	19	30	36.98	153	29	6.51
			2,157,361.53	548,903.81	19	30	37.16	153	27	57.89
			2,167,361.53	548,903.81	19	36	2.49	153	27	58.82
16	20.0	2,166,361.53	548,903.81	19	35	29.96	153	27	58.73	
			2,156,361.53	548,903.81	19	30	4.63	153	27	57.79
			2,156,361.53	546,903.81	19	30	4.80	153	26	49.18
			2,166,361.53	546,903.81	19	35	30.13	153	26	50.08
17	20.0	2,166,361.53	546,903.81	19	35	30.13	153	26	50.08	
			2,156,361.53	546,903.81	19	30	4.80	153	26	49.18
			2,156,361.53	544,903.81	19	30	4.97	153	25	40.57
			2,166,361.53	544,903.81	19	35	30.30	153	25	41.42
18	20.0	2,166,361.53	542,903.81	19	35	30.46	153	24	32.77	
			2,156,361.53	542,903.81	19	30	5.13	153	24	31.95
			2,156,361.53	544,903.81	19	30	4.97	153	25	40.57
			2,166,361.53	544,903.81	19	35	30.30	153	25	41.42
KC-2	19	20.0	2,187,550.94	368,109.39	19	46	45.53	151	44	27.54
			2,187,550.94	372,109.39	19	46	46.48	151	46	44.97
			2,192,550.94	372,109.39	19	49	29.11	151	46	43.73
			2,192,550.94	368,109.39	19	49	28.16	151	44	26.26
20	20.0	2,192,550.94	368,109.39	19	49	28.16	151	44	26.26	
			2,192,550.94	364,109.39	19	49	27.17	151	42	8.78

Cluster	Block	AREA	Northing UTM Zone 56N	Easting UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
			2,187,550.94	364,109.39	19	46	44.55	151	42	10.10
			2,187,550.94	368,109.39	19	46	45.53	151	44	27.54
21	20.0	2,183,550.94	364,109.39	19	44	34.45	151	42	11.15	
			2,183,550.94	369,109.39	19	44	35.67	151	45	2.91
			2,187,550.94	369,109.39	19	46	45.77	151	45	1.90
			2,187,550.94	364,109.39	19	46	44.55	151	42	10.10
22	20.0	2,183,550.94	364,109.39	19	44	34.45	151	42	11.15	
			2,178,550.94	364,109.39	19	41	51.83	151	42	12.47
			2,178,550.94	368,109.39	19	41	52.80	151	44	29.83
			2,183,550.94	368,109.39	19	44	35.43	151	44	28.56
23	20.0	2,189,550.94	362,109.39	19	47	49.10	151	41	0.85	
			2,179,550.94	362,109.39	19	42	23.85	151	41	3.52
			2,179,550.94	364,109.39	19	42	24.35	151	42	12.20
			2,189,550.94	364,109.39	19	47	49.60	151	42	9.57
24	20.0	2,189,550.94	360,109.39	19	47	48.59	151	39	52.13	
			2,179,550.94	360,109.39	19	42	23.34	151	39	54.83
			2,179,550.94	362,109.39	19	42	23.85	151	41	3.52
			2,189,550.94	362,109.39	19	47	49.10	151	41	0.85
25	20.0	2,179,550.94	360,109.39	19	42	23.34	151	39	54.83	
			2,179,550.94	364,109.39	19	42	24.35	151	42	12.20
			2,174,550.94	364,109.39	19	39	41.73	151	42	13.51
			2,174,550.94	360,109.39	19	39	40.72	151	39	56.18
26	20.0	2,188,550.94	360,109.39	19	47	16.06	151	39	52.40	
			2,178,550.94	360,109.39	19	41	50.82	151	39	55.10
			2,178,550.94	358,109.39	19	41	50.31	151	38	46.42
			2,188,550.94	358,109.39	19	47	15.54	151	38	43.68
27	20.0	2,178,550.94	358,109.39	19	41	50.31	151	38	46.42	
			2,168,550.94	358,109.39	19	36	25.06	151	38	49.15
			2,168,550.94	360,109.39	19	36	25.58	151	39	57.79
			2,178,550.94	360,109.39	19	41	50.82	151	39	55.10
28	20.0	2,186,550.94	356,109.39	19	46	9.97	151	37	35.52	
			2,176,550.94	356,109.39	19	40	44.74	151	37	38.30
			2,176,550.94	358,109.39	19	40	45.26	151	38	46.97
			2,186,550.94	358,109.39	19	46	10.50	151	38	44.23
29	20.0	2,166,550.94	356,109.39	19	35	19.50	151	37	41.06	
			2,166,550.94	358,109.39	19	35	20.01	151	38	49.69
			2,176,550.94	358,109.39	19	40	45.26	151	38	46.97
			2,176,550.94	356,109.39	19	40	44.74	151	37	38.30
30	20.0	2,183,550.94	354,109.39	19	44	31.87	151	36	27.65	

Cluster	Block	AREA	Northing UTM Zone 56N	Easting UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
			2,173,550.94	354,109.39	19	39	6.64	151	36	30.47
			2,173,550.94	356,109.39	19	39	7.16	151	37	39.13
			2,183,550.94	356,109.39	19	44	32.40	151	37	36.35
31	20.0	2,173,550.94	354,109.39	19	39	6.64	151	36	30.47	
		2,163,550.94	354,109.39	19	33	41.40	151	36	33.26	
		2,163,550.94	356,109.39	19	33	41.92	151	37	41.88	
		2,173,550.94	356,109.39	19	39	7.16	151	37	39.13	
32	20.0	2,172,550.94	352,109.39	19	38	33.58	151	35	22.09	
		2,172,550.94	354,109.39	19	38	34.11	151	36	30.75	
		2,182,550.94	354,109.39	19	43	59.35	151	36	27.93	
		2,182,550.94	352,109.39	19	43	58.81	151	35	19.24	
33	20.0	2,162,550.94	352,109.39	19	33	8.34	151	35	24.92	
		2,162,550.94	354,109.39	19	33	8.87	151	36	33.54	
		2,172,550.94	354,109.39	19	38	34.11	151	36	30.75	
		2,172,550.94	352,109.39	19	38	33.58	151	35	22.09	
34	20.0	2,182,550.94	350,109.39	19	43	58.27	151	34	10.55	
		2,172,550.94	350,109.39	19	38	33.04	151	34	13.43	
		2,172,550.94	352,109.39	19	38	33.58	151	35	22.09	
		2,182,550.94	352,109.39	19	43	58.81	151	35	19.24	
35	20.0	2,168,550.94	347,109.39	19	36	22.12	151	32	31.63	
		2,168,550.94	352,109.39	19	36	23.48	151	35	23.23	
		2,172,550.94	352,109.39	19	38	33.58	151	35	22.09	
		2,172,550.94	347,109.39	19	38	32.21	151	32	30.45	
36	20.0	2,168,550.94	347,109.39	19	36	22.12	151	32	31.63	
		2,164,550.94	347,109.39	19	34	12.03	151	32	32.80	
		2,164,550.94	352,109.39	19	34	13.39	151	35	24.36	
		2,168,550.94	352,109.39	19	36	23.48	151	35	23.23	
KC-3	37	20.0	2,258,404.68	257,834.69	20	24	30.83	150	40	45.83
			2,254,404.68	257,834.69	20	22	20.81	150	40	47.77
			2,254,404.68	252,834.69	20	22	18.49	150	37	55.43
			2,258,404.68	252,834.69	20	24	28.51	150	37	53.45
38	20.0	2,254,404.68	265,834.69	20	22	24.42	150	45	23.53	
			2,249,404.68	265,834.69	20	19	41.89	150	45	25.88
			2,249,404.68	261,834.69	20	19	40.10	150	43	8.04
			2,254,404.68	261,834.69	20	22	22.63	150	43	5.65
39	20.0	2,254,404.68	261,834.69	20	22	22.63	150	43	5.65	
			2,249,404.68	261,834.69	20	19	40.10	150	43	8.04
			2,249,404.68	257,834.69	20	19	38.29	150	40	50.20
			2,254,404.68	257,834.69	20	22	20.81	150	40	47.77

Cluster	Block	AREA	Northing UTM Zone 56N	Easting UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
40	20.0	2,254,404.68	257,834.69	20	22	20.81	150	40	47.77	
		2,249,404.68	257,834.69	20	19	38.29	150	40	50.20	
		2,249,404.68	253,834.69	20	19	36.45	150	38	32.37	
		2,254,404.68	253,834.69	20	22	18.96	150	38	29.90	
41	20.0	2,249,404.68	259,834.69	20	19	39.20	150	41	59.12	
		2,244,404.68	259,834.69	20	16	56.68	150	42	1.52	
		2,244,404.68	255,834.69	20	16	54.85	150	39	43.72	
		2,249,404.68	255,834.69	20	19	37.37	150	39	41.28	
42	20.0	2,249,404.68	255,834.69	20	19	37.37	150	39	41.28	
		2,244,404.68	255,834.69	20	16	54.85	150	39	43.72	
		2,244,404.68	251,834.69	20	16	53.00	150	37	25.93	
		2,249,404.68	251,834.69	20	19	35.51	150	37	23.45	
43	20.0	2,244,404.68	254,834.69	20	16	54.39	150	39	9.28	
		2,239,404.68	254,834.69	20	14	11.87	150	39	11.72	
		2,239,404.68	250,834.69	20	14	10.02	150	36	53.97	
		2,244,404.68	250,834.69	20	16	52.53	150	36	51.49	
KC-4A	44	2,173,172.10	259,843.99	19	38	21.20	150	42	35.34	
		2,173,172.10	264,843.99	19	38	23.36	150	45	26.89	
		2,169,172.10	264,843.99	19	36	13.33	150	45	28.70	
		2,169,172.10	259,843.99	19	36	11.17	150	42	37.18	
45	20.0	2,171,172.10	266,843.99	19	37	19.19	150	46	36.41	
		2,181,172.10	266,843.99	19	42	44.28	150	46	31.93	
		2,181,172.10	264,843.99	19	42	43.42	150	45	23.27	
		2,171,172.10	264,843.99	19	37	18.34	150	45	27.80	
46	20.0	2,172,172.10	266,843.99	19	37	51.70	150	46	35.97	
		2,172,172.10	268,843.99	19	37	52.55	150	47	44.59	
		2,182,172.10	268,843.99	19	43	17.64	150	47	40.14	
		2,182,172.10	266,843.99	19	43	16.79	150	46	31.48	
47	20.0	2,182,172.10	268,843.99	19	43	17.64	150	47	40.14	
		2,182,172.10	270,843.99	19	43	18.48	150	48	48.80	
		2,172,172.10	270,843.99	19	37	53.38	150	48	53.21	
		2,172,172.10	268,843.99	19	37	52.55	150	47	44.59	
48	20.0	2,182,172.10	270,843.99	19	43	18.48	150	48	48.80	
		2,182,172.10	272,843.99	19	43	19.31	150	49	57.46	
		2,172,172.10	272,843.99	19	37	54.21	150	50	1.83	
		2,172,172.10	270,843.99	19	37	53.38	150	48	53.21	
49	20.0	2,181,172.10	272,843.99	19	42	46.80	150	49	57.89	
		2,181,172.10	274,843.99	19	42	47.63	150	51	6.55	
		2,171,172.10	274,843.99	19	37	22.53	150	51	10.88	

Cluster	Block	AREA	Northing UTM Zone 56N	Easting UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
			2,171,172.10	272,843.99	19	37	21.70	150	50	2.26
KC-4B	50	20.0	2,176,172.10	274,843.99	19	40	5.08	150	51	8.72
			2,176,172.10	279,843.99	19	40	7.11	150	54	0.32
			2,172,172.10	279,843.99	19	37	57.06	150	54	2.01
			2,172,172.10	274,843.99	19	37	55.04	150	51	10.45
51	20.0	2,190,672.10	258,843.99	19	47	49.63	150	41	52.89	
			2,190,672.10	253,843.99	19	47	47.39	150	39	1.17
			2,194,672.10	253,843.99	19	49	57.41	150	38	59.26
			2,194,672.10	258,843.99	19	49	59.65	150	41	51.02
52	20.0	2,194,672.10	253,843.99	19	49	57.41	150	38	59.26	
			2,190,672.10	253,843.99	19	47	47.39	150	39	1.17
			2,190,672.10	248,843.99	19	47	45.11	150	36	9.47
			2,194,672.10	248,843.99	19	49	55.13	150	36	7.52
53	20.0	2,188,672.10	263,843.99	19	46	46.80	150	44	45.52	
			2,183,672.10	263,843.99	19	44	4.26	150	44	47.81
			2,183,672.10	259,843.99	19	44	2.52	150	42	30.49
			2,188,672.10	259,843.99	19	46	45.06	150	42	28.16
54	20.0	2,190,672.10	259,843.99	19	47	50.07	150	42	27.23	
			2,185,672.10	259,843.99	19	45	7.54	150	42	29.56
			2,185,672.10	255,843.99	19	45	5.76	150	40	12.22
			2,190,672.10	255,843.99	19	47	48.29	150	40	9.86
55	20.0	2,190,672.10	251,843.99	19	47	46.48	150	37	52.49	
			2,190,672.10	255,843.99	19	47	48.29	150	40	9.86
			2,185,672.10	255,843.99	19	45	5.76	150	40	12.22
			2,185,672.10	251,843.99	19	45	3.96	150	37	54.89
56	20.0	2,190,672.10	251,843.99	19	47	46.48	150	37	52.49	
			2,185,672.10	251,843.99	19	45	3.96	150	37	54.89
			2,185,672.10	247,843.99	19	45	2.13	150	35	37.57
			2,190,672.10	247,843.99	19	47	44.65	150	35	35.13
57	20.0	2,185,672.10	251,843.99	19	45	3.96	150	37	54.89	
			2,181,672.10	251,843.99	19	42	53.94	150	37	56.81
			2,181,672.10	246,843.99	19	42	51.65	150	35	5.19
			2,185,672.10	246,843.99	19	45	1.67	150	35	3.24
58	20.0	2,181,672.10	246,843.99	19	42	51.65	150	35	5.19	
			2,181,672.10	250,843.99	19	42	53.48	150	37	22.49
			2,176,672.10	250,843.99	19	40	10.96	150	37	24.89
			2,176,672.10	246,843.99	19	40	9.13	150	35	7.63
59	20.0	2,176,672.10	250,843.99	19	40	10.96	150	37	24.89	
			2,172,672.10	250,843.99	19	38	0.94	150	37	26.80

Cluster	Block	AREA	Northing UTM Zone 56N	Easting UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
			2,172,672.10	245,843.99	19	37	58.65	150	34	35.27
			2,176,672.10	245,843.99	19	40	8.67	150	34	33.32
60	20.0	2,173,672.10	250,843.99	19	38	33.44	150	37	26.32	
			2,173,672.10	252,843.99	19	38	34.35	150	38	34.94
			2,163,672.10	252,843.99	19	33	9.29	150	38	39.67
			2,163,672.10	250,843.99	19	33	8.39	150	37	31.10
61	20.0	2,172,672.10	245,843.99	19	37	58.65	150	34	35.27	
			2,172,672.10	250,843.99	19	38	0.94	150	37	26.80
			2,168,672.10	250,843.99	19	35	50.92	150	37	28.71
			2,168,672.10	245,843.99	19	35	48.63	150	34	37.22
62	20.0	2,168,672.10	250,843.99	19	35	50.92	150	37	28.71	
			2,163,672.10	250,843.99	19	33	8.39	150	37	31.10
			2,163,672.10	246,843.99	19	33	6.57	150	35	13.94
			2,168,672.10	246,843.99	19	35	49.09	150	35	11.52
63	20.0	2,163,672.10	246,843.99	19	33	6.57	150	35	13.94	
			2,163,672.10	256,843.99	19	33	11.06	150	40	56.84
			2,161,672.10	256,843.99	19	32	6.05	150	40	57.77
			2,161,672.10	246,843.99	19	32	1.56	150	35	14.91
KC-5A	64	20.0	2,238,411.76	202,448.07	20	13	12.91	150	9	8.62
			2,238,411.76	207,448.07	20	13	15.67	150	12	0.72
			2,234,411.76	207,448.07	20	11	5.71	150	12	3.05
			2,234,411.76	202,448.07	20	11	2.94	150	9	10.98
65	20.0	2,237,411.76	207,448.07	20	12	43.18	150	12	1.30	
			2,237,411.76	211,448.07	20	12	45.36	150	14	18.99
			2,232,411.76	211,448.07	20	10	2.90	150	14	21.85
			2,232,411.76	207,448.07	20	10	0.72	150	12	4.21
66	20.0	2,233,411.76	211,448.07	20	10	35.39	150	14	21.28	
			2,233,411.76	215,448.07	20	10	37.54	150	16	38.94
			2,228,411.76	215,448.07	20	7	55.06	150	16	41.75
			2,228,411.76	211,448.07	20	7	52.92	150	14	24.14
67	20.0	2,228,411.76	215,448.07	20	7	55.06	150	16	41.75	
			2,228,411.76	219,448.07	20	7	57.18	150	18	59.38
			2,223,411.76	219,448.07	20	5	14.70	150	19	2.15
			2,223,411.76	215,448.07	20	5	12.59	150	16	44.56
68	20.0	2,228,411.76	215,448.07	20	7	55.06	150	16	41.75	
			2,223,411.76	215,448.07	20	5	12.59	150	16	44.56
			2,223,411.76	211,448.07	20	5	10.45	150	14	26.99
			2,228,411.76	211,448.07	20	7	52.92	150	14	24.14
69	20.0	2,218,411.76	216,448.07	20	2	30.64	150	17	21.75	

Cluster	Block	AREA	Northing UTM Zone 56N	Eastng UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
			2,223,411.76	216,448.07	20	5	13.12	150	17	18.96
			2,223,411.76	220,448.07	20	5	15.22	150	19	36.54
			2,218,411.76	220,448.07	20	2	32.74	150	19	39.30
70	20.0	2,223,411.76	212,448.07	20	5	10.99	150	15	1.38	
		2,223,411.76	216,448.07	20	5	13.12	150	17	18.96	
		2,218,411.76	216,448.07	20	2	30.64	150	17	21.75	
		2,218,411.76	212,448.07	20	2	28.52	150	15	4.21	
71	20.0	2,218,411.76	218,448.07	20	2	31.69	150	18	30.52	
		2,218,411.76	222,448.07	20	2	33.77	150	20	48.07	
		2,213,411.76	222,448.07	19	59	51.29	150	20	50.80	
		2,213,411.76	218,448.07	19	59	49.21	150	18	33.29	
72	20.0	2,213,411.76	219,448.07	19	59	49.74	150	19	7.67	
		2,213,411.76	223,448.07	19	59	51.80	150	21	25.18	
		2,208,411.76	223,448.07	19	57	9.32	150	21	27.89	
		2,208,411.76	219,448.07	19	57	7.25	150	19	10.42	
73	20.0	2,208,411.76	223,448.07	19	57	9.32	150	21	27.89	
		2,203,411.76	223,448.07	19	54	26.83	150	21	30.59	
		2,203,411.76	219,448.07	19	54	24.77	150	19	13.16	
		2,208,411.76	219,448.07	19	57	7.25	150	19	10.42	
74	20.0	2,205,411.76	219,448.07	19	55	29.76	150	19	12.06	
		2,201,411.76	219,448.07	19	53	19.78	150	19	14.25	
		2,201,411.76	214,448.07	19	53	17.17	150	16	22.49	
		2,205,411.76	214,448.07	19	55	27.15	150	16	20.26	
KC-5B	75	20.0	2,233,411.76	200,448.07	20	10	29.33	150	8	2.75
			2,228,411.76	200,448.07	20	7	46.88	150	8	5.72
			2,228,411.76	196,448.07	20	7	44.63	150	5	48.12
			2,233,411.76	196,448.07	20	10	27.07	150	5	45.11
76	20.0	2,228,411.76	200,448.07	20	7	46.88	150	8	5.72	
			2,224,411.76	200,448.07	20	5	36.92	150	8	8.08
			2,224,411.76	195,448.07	20	5	34.10	150	5	16.13
			2,228,411.76	195,448.07	20	7	44.06	150	5	13.72
77	20.0	2,228,411.76	195,448.07	20	7	44.06	150	5	13.72	
			2,224,411.76	195,448.07	20	5	34.10	150	5	16.13
			2,224,411.76	190,448.07	20	5	31.24	150	2	24.18
			2,228,411.76	190,448.07	20	7	41.19	150	2	21.73
78	20.0	2,224,411.76	198,448.07	20	5	35.79	150	6	59.30	
			2,219,411.76	198,448.07	20	2	53.34	150	7	2.27
			2,219,411.76	194,448.07	20	2	51.08	150	4	44.75
			2,224,411.76	194,448.07	20	5	33.53	150	4	41.74

Cluster	Block	AREA	Northing UTM Zone 56N	Easting UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
79	20.0	2,224,411.76	194,448.07	20	5	33.53	150	4	41.74	
		2,219,411.76	194,448.07	20	2	51.08	150	4	44.75	
		2,219,411.76	190,448.07	20	2	48.80	150	2	27.23	
		2,224,411.76	190,448.07	20	5	31.24	150	2	24.18	
80	20.0	2,226,411.76	190,448.07	20	6	36.21	150	2	22.96	
		2,221,411.76	190,448.07	20	3	53.77	150	2	26.01	
		2,221,411.76	186,448.07	20	3	51.45	150	0	8.48	
		2,226,411.76	186,448.07	20	6	33.89	150	0	5.39	
81	20.0	2,221,411.76	186,448.07	20	3	51.45	150	0	8.48	
		2,221,411.76	190,448.07	20	3	53.77	150	2	26.01	
		2,216,411.76	190,448.07	20	1	11.33	150	2	29.05	
		2,216,411.76	186,448.07	20	1	9.02	150	0	11.56	
82	20.0	2,216,411.76	188,448.07	20	1	10.18	150	1	20.31	
		2,216,411.76	193,448.07	20	1	13.05	150	4	12.17	
		2,212,411.76	193,448.07	19	59	3.09	150	4	14.58	
		2,212,411.76	188,448.07	19	59	0.23	150	1	22.75	
83	20.0	2,212,411.76	191,448.07	19	59	1.95	150	3	5.85	
		2,212,411.76	196,448.07	19	59	4.79	150	5	57.68	
		2,208,411.76	196,448.07	19	56	54.83	150	6	0.06	
		2,208,411.76	191,448.07	19	56	51.99	150	3	8.27	
84	20.0	2,210,411.76	196,448.07	19	57	59.81	150	5	58.87	
		2,210,411.76	200,448.07	19	58	2.04	150	8	16.33	
		2,205,411.76	200,448.07	19	55	19.58	150	8	19.26	
		2,205,411.76	196,448.07	19	55	17.35	150	6	1.84	
KC-6A	85	2,264,502.63	154,090.52	20	26	51.04	149	41	6.46	
		2,264,502.63	158,090.52	20	26	53.65	149	43	24.28	
		2,259,502.63	158,090.52	20	24	11.27	149	43	27.72	
		2,259,502.63	154,090.52	20	24	8.66	149	41	9.94	
86	20.0	2,265,502.63	150,090.52	20	27	20.87	149	38	47.93	
		2,265,502.63	154,090.52	20	27	23.52	149	41	5.76	
		2,260,502.63	154,090.52	20	24	41.14	149	41	9.24	
		2,260,502.63	150,090.52	20	24	38.50	149	38	51.46	
87	20.0	2,265,502.63	146,090.52	20	27	18.20	149	36	30.11	
		2,265,502.63	150,090.52	20	27	20.87	149	38	47.93	
		2,260,502.63	150,090.52	20	24	38.50	149	38	51.46	
		2,260,502.63	146,090.52	20	24	35.83	149	36	33.67	
88	20.0	2,259,502.63	154,090.52	20	24	8.66	149	41	9.94	
		2,259,502.63	158,090.52	20	24	11.27	149	43	27.72	
		2,254,502.63	158,090.52	20	21	28.88	149	43	31.16	

<i>Cluster</i>	<i>Block</i>	<i>AREA</i>	<i>Northing UTM Zone 56N</i>	<i>Easting UTM Zone 56N</i>	<i>Lat. N deg.</i>	<i>Lat. N min.</i>	<i>Lat. N sec.</i>	<i>Lat. N deg.</i>	<i>Lat. N min.</i>	<i>Lat. N sec.</i>
			2,254,502.63	154,090.52	20	21	26.28	149	41	13.41
89	20.0	2,260,502.63	150,090.52	20	24	38.50	149	38	51.46	
			2,260,502.63	154,090.52	20	24	41.14	149	41	9.24
			2,255,502.63	154,090.52	20	21	58.76	149	41	12.72
90	20.0	2,255,502.63	150,090.52	20	21	56.13	149	38	54.97	
			2,254,502.63	155,090.52	20	21	26.94	149	41	47.85
			2,254,502.63	160,090.52	20	21	30.17	149	44	40.03
			2,250,502.63	160,090.52	20	19	20.26	149	44	42.75
			2,250,502.63	155,090.52	20	19	17.03	149	41	50.61
91	20.0	2,249,502.63	161,090.52	20	18	48.42	149	45	17.86	
			2,249,502.63	165,090.52	20	18	50.96	149	47	35.58
			2,244,502.63	165,090.52	20	16	8.56	149	47	38.92
			2,244,502.63	161,090.52	20	16	6.03	149	45	21.25
92	20.0	2,250,502.63	157,090.52	20	19	18.33	149	42	59.47	
			2,250,502.63	161,090.52	20	19	20.90	149	45	17.18
			2,245,502.63	161,090.52	20	16	38.51	149	45	20.57
			2,245,502.63	157,090.52	20	16	35.94	149	43	2.89
93	20.0	2,244,502.63	161,090.52	20	16	6.03	149	45	21.25	
			2,244,502.63	166,090.52	20	16	9.19	149	48	13.34
			2,240,502.63	166,090.52	20	13	59.27	149	48	16.00
			2,240,502.63	161,090.52	20	13	56.11	149	45	23.95
94	20.0	2,240,502.63	163,090.52	20	13	57.38	149	46	32.77	
			2,240,502.63	167,090.52	20	13	59.90	149	48	50.42
			2,235,502.63	167,090.52	20	11	17.50	149	48	53.72
			2,235,502.63	163,090.52	20	11	14.99	149	46	36.11
95	20.0	2,240,502.63	159,090.52	20	13	54.84	149	44	15.13	
			2,240,502.63	163,090.52	20	13	57.38	149	46	32.77
			2,235,502.63	163,090.52	20	11	14.99	149	46	36.11
			2,235,502.63	159,090.52	20	11	12.45	149	44	18.51
96	20.0	2,235,502.63	162,090.52	20	11	14.35	149	46	1.71	
			2,235,502.63	166,090.52	20	11	16.87	149	48	19.32
			2,230,502.63	166,090.52	20	8	34.47	149	48	22.63
			2,230,502.63	162,090.52	20	8	31.96	149	46	5.06
KC-6B	97	20.0	2,240,837.94	135,415.91	20	13	50.04	149	30	40.35
			2,236,837.94	135,415.91	20	11	40.16	149	30	43.25
			2,236,837.94	130,415.91	20	11	36.72	149	27	51.29
			2,240,837.94	130,415.91	20	13	46.60	149	27	48.35
98	20.0	2,236,837.94	140,415.91	20	11	43.55	149	33	35.22	
			2,232,837.94	140,415.91	20	9	33.66	149	33	38.07

<i>Cluster</i>	<i>Block</i>	<i>AREA</i>	<i>Northing UTM Zone 56N</i>	<i>Easting UTM Zone 56N</i>	<i>Lat. N deg.</i>	<i>Lat. N min.</i>	<i>Lat. N sec.</i>	<i>Lat. N deg.</i>	<i>Lat. N min.</i>	<i>Lat. N sec.</i>
			2,232,837.94	135,415.91	20	9	30.28	149	30	46.14
			2,236,837.94	135,415.91	20	11	40.16	149	30	43.25
99	20.0	2,236,837.94	135,415.91	20	11	40.16	149	30	43.25	
			2,232,837.94	135,415.91	20	9	30.28	149	30	46.14
			2,232,837.94	130,415.91	20	9	26.84	149	27	54.22
			2,236,837.94	130,415.91	20	11	36.72	149	27	51.29
100	20.0	2,235,837.94	125,415.91	20	11	0.77	149	25	0.08	
			2,235,837.94	130,415.91	20	11	4.25	149	27	52.02
			2,231,837.94	130,415.91	20	8	54.38	149	27	54.95
			2,231,837.94	125,415.91	20	8	50.90	149	25	3.05
101	20.0	2,239,837.94	130,415.91	20	13	14.13	149	27	49.08	
			2,235,837.94	130,415.91	20	11	4.25	149	27	52.02
			2,235,837.94	125,415.91	20	11	0.77	149	25	0.08
			2,239,837.94	125,415.91	20	13	10.64	149	24	57.10
KC-7A	102	20.0	1,860,507.34	422,870.23	16	49	35.55	152	16	33.85
			1,855,507.34	422,870.23	16	46	52.85	152	16	34.47
			1,855,507.34	418,870.23	16	46	52.36	152	14	19.35
			1,860,507.34	418,870.23	16	49	35.06	152	14	18.70
103	20.0	1,863,507.34	424,870.23	16	51	13.40	152	17	41.06	
			1,853,507.34	424,870.23	16	45	48.00	152	17	42.27
			1,853,507.34	422,870.23	16	45	47.76	152	16	34.71
			1,863,507.34	422,870.23	16	51	13.17	152	16	33.48
104	20.0	1,864,507.34	426,870.23	16	51	46.17	152	18	48.53	
			1,854,507.34	426,870.23	16	46	20.77	152	18	49.70
			1,854,507.34	424,870.23	16	46	20.54	152	17	42.15
			1,864,507.34	424,870.23	16	51	45.94	152	17	40.94
105	20.0	1,865,507.34	428,870.23	16	52	18.94	152	19	56.00	
			1,855,507.34	428,870.23	16	46	53.53	152	19	57.14
			1,855,507.34	426,870.23	16	46	53.31	152	18	49.58
			1,865,507.34	426,870.23	16	52	18.71	152	18	48.41
106	20.0	1,855,507.34	430,870.23	16	46	53.75	152	21	4.70	
			1,855,507.34	428,870.23	16	46	53.53	152	19	57.14
			1,865,507.34	428,870.23	16	52	18.94	152	19	56.00
			1,865,507.34	430,870.23	16	52	19.15	152	21	3.60
107	20.0	1,866,507.34	430,870.23	16	52	51.69	152	21	3.48	
			1,866,507.34	432,870.23	16	52	51.91	152	22	11.08
			1,856,507.34	432,870.23	16	47	26.50	152	22	12.16
			1,856,507.34	430,870.23	16	47	26.29	152	21	4.59
108	20.0	1,870,507.34	426,870.23	16	55	1.42	152	18	47.82	

Cluster	Block	AREA	Northing UTM Zone 56N	Eastng UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
			1,870,507.34	430,870.23	16	55	1.86	152	21	3.04
			1,865,507.34	430,870.23	16	52	19.15	152	21	3.60
			1,865,507.34	426,870.23	16	52	18.71	152	18	48.41
KC-7B	109	20.0	1,900,688.97	390,610.03	17	11	18.30	151	58	16.78
			1,898,688.97	390,610.03	17	10	13.23	151	58	17.14
			1,898,688.97	380,610.03	17	10	11.42	151	52	38.69
			1,900,688.97	380,610.03	17	11	16.49	151	52	38.30
	110	20.0	1,901,688.97	380,610.03	17	11	49.03	151	52	38.10
			1,896,688.97	380,610.03	17	9	6.35	151	52	39.08
			1,896,688.97	376,610.03	17	9	5.59	151	50	23.71
			1,901,688.97	376,610.03	17	11	48.26	151	50	22.70
	111	20.0	1,899,688.97	376,610.03	17	10	43.19	151	50	23.11
			1,894,688.97	376,610.03	17	8	0.52	151	50	24.12
			1,894,688.97	372,610.03	17	7	59.73	151	48	8.77
			1,899,688.97	372,610.03	17	10	42.40	151	48	7.72
	112	20.0	1,894,688.97	374,610.03	17	8	0.12	151	49	16.44
			1,889,688.97	374,610.03	17	5	17.45	151	49	17.47
			1,889,688.97	370,610.03	17	5	16.65	151	47	2.15
			1,894,688.97	370,610.03	17	7	59.32	151	47	1.09
	113	20.0	1,889,688.97	371,610.03	17	5	16.85	151	47	35.98
			1,889,688.97	373,610.03	17	5	17.25	151	48	43.64
			1,879,688.97	373,610.03	16	59	51.90	151	48	45.69
			1,879,688.97	371,610.03	16	59	51.50	151	47	38.06
	114	20.0	1,887,688.97	373,610.03	17	4	12.18	151	48	44.05
			1,887,688.97	375,610.03	17	4	12.57	151	49	51.70
			1,877,688.97	375,610.03	16	58	47.22	151	49	53.72
			1,877,688.97	373,610.03	16	58	46.83	151	48	46.10
	115	20.0	1,877,688.97	373,610.03	16	58	46.83	151	48	46.10
			1,877,688.97	377,610.03	16	58	47.60	151	51	1.34
			1,872,688.97	377,610.03	16	56	4.92	151	51	2.33
			1,872,688.97	373,610.03	16	56	4.15	151	48	47.12
	116	20.0	1,872,688.97	375,610.03	16	56	4.54	151	49	54.73
			1,872,688.97	377,610.03	16	56	4.92	151	51	2.33
			1,862,688.97	377,610.03	16	50	39.56	151	51	4.30
			1,862,688.97	375,610.03	16	50	39.18	151	49	56.73
	117	20.0	1,869,688.97	375,610.03	16	54	26.93	151	49	55.33
			1,859,688.97	375,610.03	16	49	1.57	151	49	57.33
			1,859,688.97	373,610.03	16	49	1.19	151	48	49.76
			1,869,688.97	373,610.03	16	54	26.54	151	48	47.73

Cluster	Block	AREA	Northing UTM Zone 56N	Easting UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
118	20.0	1,859,688.97	376,610.03	16	49	1.76	151	50	31.11	
		1,854,688.97	376,610.03	16	46	19.08	151	50	32.09	
		1,854,688.97	372,610.03	16	46	18.31	151	48	17.00	
		1,859,688.97	372,610.03	16	49	0.99	151	48	15.98	
KC-8	119	20.0	1,911,637.05	176,357.11	17	16	0.92	149	57	22.77
			1,911,637.05	186,357.11	17	16	5.97	150	3	0.99
			1,909,637.05	186,357.11	17	15	0.98	150	3	2.03
			1,909,637.05	176,357.11	17	14	55.93	149	57	23.83
120	20.0	1,909,637.05	181,357.11	17	14	58.47	150	0	12.93	
			1,909,637.05	185,357.11	17	15	0.48	150	2	28.21
			1,904,637.05	185,357.11	17	12	17.99	150	2	30.79
			1,904,637.05	181,357.11	17	12	15.99	150	0	15.55
121	20.0	1,909,637.05	177,357.11	17	14	56.44	149	57	57.65	
			1,909,637.05	181,357.11	17	14	58.47	150	0	12.93
			1,904,637.05	181,357.11	17	12	15.99	150	0	15.55
			1,904,637.05	177,357.11	17	12	13.96	149	58	0.30
122	20.0	1,904,637.05	182,357.11	17	12	16.49	150	0	49.36	
			1,904,637.05	186,357.11	17	12	18.48	150	3	4.61
			1,899,637.05	186,357.11	17	9	35.99	150	3	7.18
			1,899,637.05	182,357.11	17	9	34.00	150	0	51.96
123	20.0	1,904,637.05	178,357.11	17	12	14.47	149	58	34.11	
			1,904,637.05	182,357.11	17	12	16.49	150	0	49.36
			1,899,637.05	182,357.11	17	9	34.00	150	0	51.96
			1,899,637.05	178,357.11	17	9	31.99	149	58	36.75
124	20.0	1,899,637.05	182,357.11	17	9	34.00	150	0	51.96	
			1,899,637.05	186,357.11	17	9	35.99	150	3	7.18
			1,894,637.05	186,357.11	17	6	53.50	150	3	9.74
			1,894,637.05	182,357.11	17	6	51.52	150	0	54.56
125	20.0	1,899,637.05	178,357.11	17	9	31.99	149	58	36.75	
			1,899,637.05	182,357.11	17	9	34.00	150	0	51.96
			1,894,637.05	182,357.11	17	6	51.52	150	0	54.56
			1,894,637.05	178,357.11	17	6	49.51	149	58	39.38
126	20.0	1,904,637.05	176,357.11	17	12	13.45	149	57	26.49	
			1,904,637.05	178,357.11	17	12	14.47	149	58	34.11
			1,894,637.05	178,357.11	17	6	49.51	149	58	39.38
			1,894,637.05	176,357.11	17	6	48.50	149	57	31.79
127	20.0	1,897,637.05	176,357.11	17	8	25.98	149	57	30.21	
			1,892,637.05	176,357.11	17	5	43.50	149	57	32.85
			1,892,637.05	172,357.11	17	5	41.46	149	55	17.69
			1,897,637.05	172,357.11	17	8	23.94	149	55	15.02

Cluster	Block	AREA	Northing UTM Zone 56N	Eastng UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.
128	20.0	1,892,637.05	174,357.11	17	5	42.49	149	56	25.27	
		1,887,637.05	170,357.11	17	2	57.96	149	54	12.80	
		1,892,637.05	170,357.11	17	5	40.43	149	54	10.12	
		1,887,637.05	174,357.11	17	3	0.01	149	56	27.92	
129	20.0	1,890,637.05	170,357.11	17	4	35.44	149	54	11.19	
		1,885,637.05	170,357.11	17	1	52.97	149	54	13.87	
		1,885,637.05	166,357.11	17	1	50.90	149	51	58.76	
		1,890,637.05	166,357.11	17	4	33.36	149	51	56.05	
130	20.0	1,886,637.05	166,357.11	17	2	23.39	149	51	58.22	
		1,882,637.05	166,357.11	17	0	13.42	149	52	0.39	
		1,882,637.05	161,357.11	17	0	10.80	149	49	11.54	
		1,886,637.05	161,357.11	17	2	20.77	149	49	9.34	
131	20.0	1,882,637.05	163,357.11	17	0	11.85	149	50	19.08	
		1,877,637.05	163,357.11	16	57	29.39	149	50	21.80	
		1,877,637.05	159,357.11	16	57	27.28	149	48	6.76	
		1,882,637.05	159,357.11	17	0	9.74	149	48	4.00	
132	20.0	1,879,637.05	159,357.11	16	58	32.27	149	48	5.66	
		1,874,637.05	159,357.11	16	55	49.81	149	48	8.41	
		1,874,637.05	155,357.11	16	55	47.68	149	45	53.39	
		1,879,637.05	155,357.11	16	58	30.13	149	45	50.60	
133	20.0	1,874,637.05	159,357.11	16	55	49.81	149	48	8.41	
		1,869,637.05	159,357.11	16	53	7.35	149	48	11.15	
		1,869,637.05	155,357.11	16	53	5.23	149	45	56.16	
		1,874,637.05	155,357.11	16	55	47.68	149	45	53.39	
134	20.0	1,869,637.05	157,357.11	16	53	6.29	149	47	3.65	
		1,869,637.05	161,357.11	16	53	8.40	149	49	18.64	
		1,864,637.05	161,357.11	16	50	25.94	149	49	21.36	
		1,864,637.05	157,357.11	16	50	23.83	149	47	6.40	
135	20.0	1,866,637.05	161,357.11	16	51	30.92	149	49	20.27	
		1,866,637.05	165,357.11	16	51	33.00	149	51	35.25	
		1,861,637.05	165,357.11	16	48	50.53	149	51	37.93	
		1,861,637.05	161,357.11	16	48	48.46	149	49	22.99	
136	20.0	1,865,637.05	165,357.11	16	51	0.51	149	51	35.79	
		1,865,637.05	169,357.11	16	51	2.56	149	53	50.76	
		1,860,637.05	169,357.11	16	48	20.09	149	53	53.41	
		1,860,637.05	165,357.11	16	48	18.04	149	51	38.47	
137	20.0	1,862,637.05	169,357.11	16	49	25.08	149	53	52.35	
		1,862,637.05	173,357.11	16	49	27.11	149	56	7.31	
		1,857,637.05	173,357.11	16	46	44.62	149	56	9.92	
		1,857,637.05	169,357.11	16	46	42.60	149	53	54.99	

Cluster	Block	AREA	Northing UTM Zone 56N	Eastng UTM Zone 56N	Lat. N deg.	Lat. N min.	Lat. N sec.	Lat. N deg.	Lat. N min.	Lat. N sec.	
138	20.0	1,862,637.05	173,357.11	16	49	27.11	149	56	7.31		
		1,862,637.05	177,357.11	16	49	29.11	149	58	22.28		
		1,857,637.05	177,357.11	16	46	46.62	149	58	24.86		
		1,857,637.05	173,357.11	16	46	44.62	149	56	9.92		
139	20.0	1,863,637.05	177,357.11	16	50	1.60	149	58	21.76		
		1,863,637.05	181,357.11	16	50	3.58	150	0	36.74		
		1,858,637.05	181,357.11	16	47	21.09	150	0	39.29		
		1,858,637.05	177,357.11	16	47	19.12	149	58	24.34		
KC-9	140	20.0	1,732,187.44	389,036.82	15	39	55.19	151	57	52.68	
		1,732,187.44	394,036.82	15	39	55.97	152	0	40.62		
		1,728,187.44	394,036.82	15	37	45.80	152	0	41.24		
		1,728,187.44	389,036.82	15	37	45.03	151	57	53.34		
141	20.0	1,728,187.44	391,036.82	15	37	45.34	151	59	0.50		
		1,728,187.44	395,036.82	15	37	45.95	152	1	14.82		
		1,723,187.44	395,036.82	15	35	3.24	152	1	15.59		
		1,723,187.44	391,036.82	15	35	2.63	151	59	1.30		
142	20.0	1,723,187.44	391,036.82	15	35	2.63	151	59	1.30		
		1,723,187.44	395,036.82	15	35	3.24	152	1	15.59		
		1,718,187.44	395,036.82	15	32	20.53	152	1	16.36		
		1,718,187.44	391,036.82	15	32	19.92	151	59	2.10		
143	20.0	1,728,187.44	389,036.82	15	37	45.03	151	57	53.34		
		1,728,187.44	391,036.82	15	37	45.34	151	59	0.50		
		1,718,187.44	391,036.82	15	32	19.92	151	59	2.10		
		1,718,187.44	389,036.82	15	32	19.61	151	57	54.97		
144	20.0	1,718,187.44	388,036.82	15	32	19.45	151	57	21.40		
		1,718,187.44	392,036.82	15	32	20.08	151	59	35.66		
		1,713,187.44	392,036.82	15	29	37.37	151	59	36.45		
		1,713,187.44	388,036.82	15	29	36.75	151	57	22.22		
145	20.0	1,713,187.44	388,036.82	15	29	36.75	151	57	22.22		
		1,713,187.44	392,036.82	15	29	37.37	151	59	36.45		
		1,708,187.44	392,036.82	15	26	54.66	151	59	37.24		
		1,708,187.44	388,036.82	15	26	54.04	151	57	23.03		
146	20.0	1,718,187.44	386,036.82	15	32	19.13	151	56	14.27		
		1,718,187.44	388,036.82	15	32	19.45	151	57	21.40		
		1,708,187.44	388,036.82	15	26	54.04	151	57	23.03		
		1,708,187.44	386,036.82	15	26	53.72	151	56	15.93		
147	20.0	1,708,187.44	386,036.82	15	26	53.72	151	56	15.93		
		1,708,187.44	390,036.82	15	26	54.35	151	58	30.14		
		1,703,187.44	390,036.82	15	24	11.64	151	58	30.93		

<i>Cluster</i>	<i>Block</i>	<i>AREA</i>	<i>Northing UTM Zone 56N</i>	<i>Easting UTM Zone 56N</i>	<i>Lat. N deg.</i>	<i>Lat. N min.</i>	<i>Lat. N sec.</i>	<i>Lat. N deg.</i>	<i>Lat. N min.</i>	<i>Lat. N sec.</i>
			1,703,187.44	386,036.82	15	24	11.01	151	56	16.76
148	20.0		1,708,187.44	386,036.82	15	26	53.72	151	56	15.93
			1,703,187.44	386,036.82	15	24	11.01	151	56	16.76
			1,703,187.44	382,036.82	15	24	10.36	151	54	2.58
			1,708,187.44	382,036.82	15	26	53.07	151	54	1.73
149	20.0		1,703,187.44	387,036.82	15	24	11.17	151	56	50.30
			1,698,187.44	387,036.82	15	21	28.46	151	56	51.12
			1,698,187.44	383,036.82	15	21	27.82	151	54	36.97
			1,703,187.44	383,036.82	15	24	10.52	151	54	36.13
150	20.0		1,703,187.44	383,036.82	15	24	10.52	151	54	36.13
			1,698,187.44	383,036.82	15	21	27.82	151	54	36.97
			1,698,187.44	379,036.82	15	21	27.15	151	52	22.83
			1,703,187.44	379,036.82	15	24	9.86	151	52	21.95

Annex II

