SAKHIGOPAL-B & NORTHERN EXTENSION COAL BLOCK SUMMARY

PART A

Sr. No	Features	Details
1.	**Location**	
	Coal Block	**Sakhigopal-B & Northern Extension**
	Latitude	20° 57' 41" N - 21° 00' 46" N (Provisional)
	Longitude	85° 12' 36" E - 85° 15' 22" E (Provisional)
	Topo Sheet No.	73 H/1; RF 1: 50000
	Coalfield	Talchir Coalfield
	Villages	Kankilli, Dharamapur, Scotlandpur, Rasalpur, Kishoripala, Barnali, Banamalipur, Sareila, Ramachandrapur, Kakurhi, Kishoripal
	Tehsil/Taluka	Talcher
	District	Angul
	State	Odisha
2.	**Connectivity with Block**	
	Nearest Rail Head	Talcher on Bhubaneswar-Sambalpur Broad Gauge line of the South Eastern Railway
	Road	NH-23 passes through the north eastern part of the block which connects Banarpal on NH-42 and Pallahrah on NH-6. The block is then connected to Manguli Chak via Banarpal on NH-5 and thereafter to Bhubaneswar via Cuttack (165 km) and in otherside it is connected to Rourkela via Pallahrah on NH-6. The block is connected via Angul to Sambalpur by NH 42.
	Airport	Bhubaneswar
3.	**Area**	
	Geological Block Area	19.50 sq. km (As per shape file, Refer note below)
	Green Cover %	Approx. 2% (As per FSI)
	Non-Forest Area	Approx. 98%
4.	**Climate and Topography**	
	Average Annual Rainfall	Annual average of 1277mm
	Temperature (Min. — Max.)	10.6ºC to 45.5ºC during summer i.e. March to May of the year and from 6.7ºC to 34.9ºC during winter i.e. December to February of the year
	Local Surface Drainage Channels	No significant nalla flows through the block. However a Bangru Nala is to the Northern boundary and Brahmani River is at the Easten Boundary of the block with several ponds in entire block

	Rivers	Bangru Nala is to the Northern boundary and Brahmani River is at the Easten Boundary of the block
5.	**Exploration**	
	Status	Partially Explored
	Exploration Agency	CMPDI
	Total Number of Boreholes with meterage	100 Boreholes, 25086.05m
	Borehole Density	Approx. 5 borehole per sq. km.
	General Dip of Seams	Local variation dipping towards North and NE 1 in 4.5 (12º27') to 1 in 5.5 (10º18')
	General Strike Direction	**Northern part**: Generally E-W to NW-SE, **North Central part:** shows anticlinal form strike varying from NE-SW to NW-SE and E-W with a rolling dip direction varying from south easterly to southerly to south westerly, **Southern part:** strike of the strata is East West almost to NW-SE with southerly to south- westerly dip.
	Faults	The block is traversed by 15 faults viz., F1-F1 to F15-F15. 6 of the faults throw northerly with slight variations, 3 of them throw southerly with slight variations which cause preservation of the southerly dipping seams due to repetition of strata. Three of the faults throw North-Easterly, two of the faults southwesterly and one fault throws easterly. Throw of the faults varies from 0m to 200m.
6.	**Coal Seams & Reserve (Proved:475.353, Indicated: 702.1973, Inferred: 79.913)**	

	Coal Seams	Thickness Range (m)	Depth Range (m)	Geological Reserve (MT)	Grade
	XV	0.58 -3.61	40.21-55.29	10.033	G9-G14
	XIV	0.22-3.27	33.52-52.50	5.200	G9-G14
	XIII	0.06-14.94	6.60-127.94	23.979	G7-G14
	XII	0.05-9.29	15.62-134.74	17.530	G9-G17
	XI	0.12-13.46	26.36-149.36	14.244	G9-G14
	X	0.12-10.19	14.42-170.43	4.868	G9-G14
	IX	0.11-4.82	31.49-198.36	12.850	G9-G14
	VIII	0.08-6	21.38-231.42	11.257	G9-G14
	VII	0.19-4.85	35.00-230.79	14.757	G9-G17
	VIB	0.17-10.66	17.0-287.00	28.181	G9-G14
	VIA	0.16-11.42	28.31-302.78	49.440	G7-G17
	V	0.09-13.59	8.22-306.84	75.636	G7-G14
	L2	0.1-3.99	27.78-355.50	32.039	G9-G17
	IV	0.68-19.02	47.64-366.72	110.523	G9-G14
	L1	0.14-5.1	67.60-378.65	23.963	G9-G14
	III	0.25-15.86	89.52-394.42	316.304	G9-G14
	II	2.24-46.22	120.00-375.94	481.546	G9-G14
	IIB	0.28-4.58	194.2 – 277.35	25.114	G7-G14
	Total			1257.46	

7.	**Surface Constraints**	As per SoI topo sheet, Dayanidhipur Reserve Forest in the West-Central part and presence of open to mixed jungle coupled with dense sal jungle in the central and south western part of the block. A canal is passing through the block. Railway siding is running along the canal in N-S direction from the middle of the block.
8.	**Grade of Coal**	G11 (Provisional) based on weighted average grade of grade-wise net proved data given in the GR.
9.	**Decision Support System (DSS) Analysis**	Hydrology info: The polygon touches major river(s)-Brahmani river Wildlife info: The polygon touches Wildlife Habitat(s)-Sloth Bear
10.	**Eco Sensitive Zone (ESZ) Analysis**	Northern boundary of the block is approx. 4.5 km from the boundary of the tiger corridor connecting Simlipal and Satkosia to the north. SW boundary of the block is approx. 40 km from the boundary of the tiger corridor connecting Simlipal and Satkosia to the west. Approx. 27 km from the boundary of the ESZ of Mahanadi Elephant Region.

Note:

1. The above data is compiled from Geological Report, Mining Plan and the data furnished by the prior allottee in Annexure-I/II, as available. For clarifications with regard to above data, please refer aforesaid source documents.

2. The boundary of the block has been taken from GR after conversion to WGS84 system by feature matching. The block boundary is provisional and the cardinal points, bounding co-ordinates are approximate.

3. There is a difference in area in the shape file and GR. Area in the shape file is based on feature mapped plan of the block as given in the GR. So, the area is tentative and field DGPS survey is required to ascertain the exact area.

4. The summary has been compiled from "Geological Report on Sakhigopal-B Block & Northern Extension, Talcher Coalfield, District- Angul, Odisha, CMPDIL-2012".

Disclaimer:

1. The analysis is done on Beta-version (Trial Version) of Decision Support System (DSS) of FSI/ MOEF.
2. The Decision Rules for various parameters of this DSS System are controlled by FSI.
3. CMPDI only runs this DSS to obtain the status of any block based on these Decision Rules.
4. The database of the Decision Rules is updated by FSI from time to time.
5. CMPDI does not own any responsibility for variation in the results which are based on the decision Rules of the FSI DSS in case of any updation of the database at FSI end.
6. ESZ analysis and tiger habitat/ corridor given here is based on the information available in public domain. Bidders are encouraged to verify this information and any other information additionally available

Sakhigopal-B & Northern Extension Block, Talcher Coalfield

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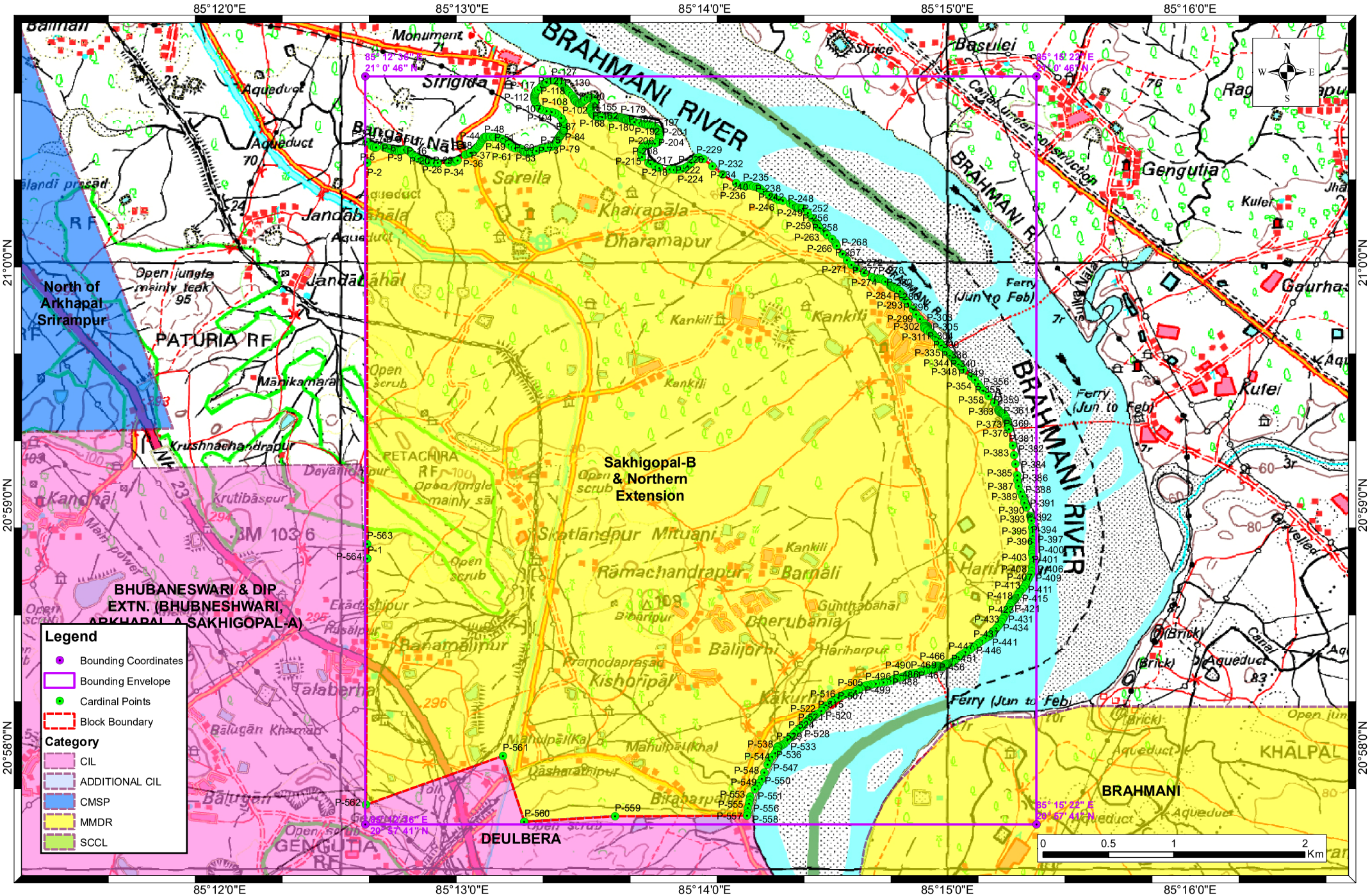

Note: Coordinates are in WGS84 datum.

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-1	85° 12' 36.525" E	20° 58' 46.720" N
P-2	85° 12' 36.409" E	21° 0' 24.647" N
P-3	85° 12' 36.336" E	21° 0' 29.823" N
P-4	85° 12' 37.579" E	21° 0' 28.817" N
P-5	85° 12' 38.258" E	21° 0' 28.456" N
P-6	85° 12' 38.717" E	21° 0' 28.416" N
P-7	85° 12' 40.562" E	21° 0' 28.487" N
P-8	85° 12' 41.149" E	21° 0' 28.383" N
P-9	85° 12' 41.485" E	21° 0' 28.302" N
P-10	85° 12' 41.902" E	21° 0' 28.091" N
P-11	85° 12' 42.432" E	21° 0' 27.814" N
P-12	85° 12' 43.080" E	21° 0' 27.760" N
P-13	85° 12' 43.477" E	21° 0' 27.676" N
P-14	85° 12' 43.874" E	21° 0' 27.515" N
P-15	85° 12' 44.453" E	21° 0' 27.508" N
P-16	85° 12' 44.915" E	21° 0' 27.686" N
P-17	85° 12' 45.497" E	21° 0' 27.838" N
P-18	85° 12' 46.423" E	21° 0' 27.813" N
P-19	85° 12' 46.655" E	21° 0' 27.727" N
P-20	85° 12' 46.964" E	21° 0' 27.523" N
P-21	85° 12' 47.341" E	21° 0' 27.193" N
P-22	85° 12' 47.732" E	21° 0' 26.616" N
P-23	85° 12' 48.211" E	21° 0' 26.208" N
P-24	85° 12' 48.518" E	21° 0' 26.012" N
P-25	85° 12' 49.165" E	21° 0' 25.598" N
P-26	85° 12' 50.010" E	21° 0' 25.300" N
P-27	85° 12' 50.357" E	21° 0' 25.179" N
P-28	85° 12' 50.638" E	21° 0' 25.081" N
P-29	85° 12' 51.361" E	21° 0' 24.723" N
P-30	85° 12' 51.672" E	21° 0' 24.671" N
P-31	85° 12' 52.883" E	21° 0' 24.582" N
P-32	85° 12' 53.814" E	21° 0' 24.592" N
P-33	85° 12' 53.814" E	21° 0' 24.615" N
P-34	85° 12' 56.658" E	21° 0' 24.617" N
P-35	85° 12' 58.098" E	21° 0' 24.865" N
P-36	85° 12' 58.830" E	21° 0' 25.216" N
P-37	85° 13' 0.735" E	21° 0' 26.619" N
P-38	85° 13' 1.276" E	21° 0' 26.883" N
P-39	85° 13' 1.807" E	21° 0' 27.094" N
P-40	85° 13' 1.998" E	21° 0' 27.170" N
P-41	85° 13' 3.027" E	21° 0' 27.794" N
P-42	85° 13' 3.588" E	21° 0' 28.274" N
P-43	85° 13' 4.038" E	21° 0' 28.837" N
P-44	85° 13' 4.371" E	21° 0' 29.253" N
P-45	85° 13' 4.614" E	21° 0' 29.655" N
P-46	85° 13' 4.857" E	21° 0' 30.058" N
P-47	85° 13' 5.080" E	21° 0' 30.570" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-48	85° 13' 5.396" E	21° 0' 30.855" N
P-49	85° 13' 5.674" E	21° 0' 30.990" N
P-50	85° 13' 5.995" E	21° 0' 31.059" N
P-51	85° 13' 6.593" E	21° 0' 31.069" N
P-52	85° 13' 6.997" E	21° 0' 31.047" N
P-53	85° 13' 7.709" E	21° 0' 31.009" N
P-54	85° 13' 8.018" E	21° 0' 30.967" N
P-55	85° 13' 8.755" E	21° 0' 30.865" N
P-56	85° 13' 9.359" E	21° 0' 30.749" N
P-57	85° 13' 9.807" E	21° 0' 30.545" N
P-58	85° 13' 10.312" E	21° 0' 30.088" N
P-59	85° 13' 10.766" E	21° 0' 29.799" N
P-60	85° 13' 11.543" E	21° 0' 29.178" N
P-61	85° 13' 12.369" E	21° 0' 28.516" N
P-62	85° 13' 13.084" E	21° 0' 28.209" N
P-63	85° 13' 14.468" E	21° 0' 28.112" N
P-64	85° 13' 14.580" E	21° 0' 28.066" N
P-65	85° 13' 15.008" E	21° 0' 27.689" N
P-66	85° 13' 15.170" E	21° 0' 27.510" N
P-67	85° 13' 15.332" E	21° 0' 27.332" N
P-68	85° 13' 15.652" E	21° 0' 27.247" N
P-69	85° 13' 16.161" E	21° 0' 27.163" N
P-70	85° 13' 16.369" E	21° 0' 27.129" N
P-71	85° 13' 16.663" E	21° 0' 27.124" N
P-72	85° 13' 16.957" E	21° 0' 27.118" N
P-73	85° 13' 17.460" E	21° 0' 27.196" N
P-74	85° 13' 18.266" E	21° 0' 27.578" N
P-75	85° 13' 19.404" E	21° 0' 28.107" N
P-76	85° 13' 20.020" E	21° 0' 28.283" N
P-77	85° 13' 21.204" E	21° 0' 28.414" N
P-78	85° 13' 22.118" E	21° 0' 28.570" N
P-79	85° 13' 22.711" E	21° 0' 28.839" N
P-80	85° 13' 23.167" E	21° 0' 29.324" N
P-81	85° 13' 23.466" E	21° 0' 29.727" N
P-82	85° 13' 23.721" E	21° 0' 30.653" N
P-83	85° 13' 23.929" E	21° 0' 30.956" N
P-84	85° 13' 24.044" E	21° 0' 31.123" N
P-85	85° 13' 24.169" E	21° 0' 31.306" N
P-86	85° 13' 24.294" E	21° 0' 31.488" N
P-87	85° 13' 24.341" E	21° 0' 31.546" N
P-88	85° 13' 24.550" E	21° 0' 31.810" N
P-89	85° 13' 24.852" E	21° 0' 32.108" N
P-90	85° 13' 24.962" E	21° 0' 32.208" N
P-91	85° 13' 25.069" E	21° 0' 32.461" N
P-92	85° 13' 25.092" E	21° 0' 32.574" N
P-93	85° 13' 25.114" E	21° 0' 32.684" N
P-94	85° 13' 25.124" E	21° 0' 32.734" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-95	85° 13' 25.126" E	21° 0' 32.848" N
P-96	85° 13' 25.116" E	21° 0' 33.124" N
P-97	85° 13' 25.090" E	21° 0' 33.409" N
P-98	85° 13' 25.044" E	21° 0' 33.917" N
P-99	85° 13' 25.050" E	21° 0' 34.349" N
P-100	85° 13' 24.994" E	21° 0' 34.693" N
P-101	85° 13' 24.927" E	21° 0' 34.868" N
P-102	85° 13' 24.653" E	21° 0' 35.559" N
P-103	85° 13' 24.547" E	21° 0' 35.666" N
P-104	85° 13' 23.633" E	21° 0' 36.584" N
P-105	85° 13' 22.945" E	21° 0' 36.952" N
P-106	85° 13' 22.178" E	21° 0' 37.215" N
P-107	85° 13' 20.804" E	21° 0' 37.422" N
P-108	85° 13' 19.708" E	21° 0' 37.704" N
P-109	85° 13' 19.055" E	21° 0' 38.071" N
P-110	85° 13' 18.313" E	21° 0' 38.986" N
P-111	85° 13' 17.933" E	21° 0' 39.750" N
P-112	85° 13' 17.794" E	21° 0' 40.321" N
P-113	85° 13' 17.773" E	21° 0' 40.732" N
P-114	85° 13' 17.803" E	21° 0' 41.020" N
P-115	85° 13' 17.859" E	21° 0' 41.363" N
P-116	85° 13' 17.926" E	21° 0' 41.535" N
P-117	85° 13' 17.993" E	21° 0' 41.707" N
P-118	85° 13' 18.068" E	21° 0' 41.875" N
P-119	85° 13' 18.189" E	21° 0' 42.146" N
P-120	85° 13' 18.383" E	21° 0' 42.412" N
P-121	85° 13' 18.795" E	21° 0' 42.810" N
P-122	85° 13' 19.345" E	21° 0' 43.450" N
P-123	85° 13' 20.258" E	21° 0' 44.151" N
P-124	85° 13' 20.457" E	21° 0' 44.273" N
P-125	85° 13' 20.721" E	21° 0' 44.464" N
P-126	85° 13' 20.861" E	21° 0' 44.526" N
P-127	85° 13' 22.044" E	21° 0' 44.996" N
P-128	85° 13' 22.703" E	21° 0' 45.054" N
P-129	85° 13' 23.388" E	21° 0' 44.822" N
P-130	85° 13' 23.969" E	21° 0' 44.541" N
P-131	85° 13' 24.457" E	21° 0' 44.142" N
P-132	85° 13' 25.212" E	21° 0' 43.382" N
P-133	85° 13' 25.388" E	21° 0' 43.143" N
P-134	85° 13' 25.550" E	21° 0' 42.910" N
P-135	85° 13' 25.746" E	21° 0' 42.696" N
P-136	85° 13' 25.934" E	21° 0' 42.489" N
P-137	85° 13' 26.156" E	21° 0' 42.295" N
P-138	85° 13' 26.541" E	21° 0' 41.890" N
P-139	85° 13' 27.086" E	21° 0' 41.236" N
P-140	85° 13' 27.606" E	21° 0' 40.553" N
P-141	85° 13' 27.680" E	21° 0' 40.300" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-142	85° 13' 27.877" E	21° 0' 40.087" N
P-143	85° 13' 28.065" E	21° 0' 39.879" N
P-144	85° 13' 28.501" E	21° 0' 39.492" N
P-145	85° 13' 28.724" E	21° 0' 39.335" N
P-146	85° 13' 29.001" E	21° 0' 39.292" N
P-147	85° 13' 29.270" E	21° 0' 39.374" N
P-148	85° 13' 29.497" E	21° 0' 39.503" N
P-149	85° 13' 29.739" E	21° 0' 39.754" N
P-150	85° 13' 29.883" E	21° 0' 39.907" N
P-151	85° 13' 30.102" E	21° 0' 40.078" N
P-152	85° 13' 30.346" E	21° 0' 40.215" N
P-153	85° 13' 31.121" E	21° 0' 40.548" N
P-154	85° 13' 31.591" E	21° 0' 40.725" N
P-155	85° 13' 31.998" E	21° 0' 40.745" N
P-156	85° 13' 32.437" E	21° 0' 40.537" N
P-157	85° 13' 32.522" E	21° 0' 40.434" N
P-158	85° 13' 32.631" E	21° 0' 40.136" N
P-159	85° 13' 32.679" E	21° 0' 39.904" N
P-160	85° 13' 32.679" E	21° 0' 39.842" N
P-161	85° 13' 32.683" E	21° 0' 39.520" N
P-162	85° 13' 32.238" E	21° 0' 38.600" N
P-163	85° 13' 32.019" E	21° 0' 38.410" N
P-164	85° 13' 31.826" E	21° 0' 38.211" N
P-165	85° 13' 31.659" E	21° 0' 37.971" N
P-166	85° 13' 31.603" E	21° 0' 37.697" N
P-167	85° 13' 31.686" E	21° 0' 37.422" N
P-168	85° 13' 32.171" E	21° 0' 36.741" N
P-169	85° 13' 32.368" E	21° 0' 36.534" N
P-170	85° 13' 32.706" E	21° 0' 36.275" N
P-171	85° 13' 33.080" E	21° 0' 36.079" N
P-172	85° 13' 33.356" E	21° 0' 35.962" N
P-173	85° 13' 33.624" E	21° 0' 35.926" N
P-174	85° 13' 34.615" E	21° 0' 35.936" N
P-175	85° 13' 36.481" E	21° 0' 35.922" N
P-176	85° 13' 37.035" E	21° 0' 35.920" N
P-177	85° 13' 37.581" E	21° 0' 35.967" N
P-178	85° 13' 38.134" E	21° 0' 35.930" N
P-179	85° 13' 39.119" E	21° 0' 35.769" N
P-180	85° 13' 39.299" E	21° 0' 35.723" N
P-181	85° 13' 39.533" E	21° 0' 35.664" N
P-182	85° 13' 39.704" E	21° 0' 35.576" N
P-183	85° 13' 40.050" E	21° 0' 35.463" N
P-184	85° 13' 40.326" E	21° 0' 35.366" N
P-185	85° 13' 40.529" E	21° 0' 35.310" N
P-186	85° 13' 40.673" E	21° 0' 35.258" N
P-187	85° 13' 40.852" E	21° 0' 35.194" N
P-188	85° 13' 40.941" E	21° 0' 35.173" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-189	85° 13' 41.318" E	21° 0' 35.089" N
P-190	85° 13' 41.585" E	21° 0' 34.958" N
P-191	85° 13' 41.723" E	21° 0' 34.919" N
P-192	85° 13' 42.591" E	21° 0' 34.737" N
P-193	85° 13' 43.838" E	21° 0' 34.448" N
P-194	85° 13' 44.796" E	21° 0' 34.238" N
P-195	85° 13' 45.227" E	21° 0' 34.161" N
P-196	85° 13' 45.652" E	21° 0' 34.139" N
P-197	85° 13' 46.062" E	21° 0' 34.063" N
P-198	85° 13' 46.749" E	21° 0' 33.909" N
P-199	85° 13' 47.300" E	21° 0' 33.714" N
P-200	85° 13' 47.790" E	21° 0' 33.446" N
P-201	85° 13' 48.201" E	21° 0' 33.053" N
P-202	85° 13' 48.388" E	21° 0' 32.840" N
P-203	85° 13' 48.498" E	21° 0' 32.590" N
P-204	85° 13' 48.577" E	21° 0' 32.020" N
P-205	85° 13' 48.717" E	21° 0' 31.507" N
P-206	85° 13' 48.684" E	21° 0' 30.942" N
P-207	85° 13' 48.634" E	21° 0' 30.380" N
P-208	85° 13' 48.376" E	21° 0' 29.872" N
P-209	85° 13' 48.227" E	21° 0' 29.738" N
P-210	85° 13' 47.521" E	21° 0' 29.384" N
P-211	85° 13' 46.004" E	21° 0' 29.209" N
P-212	85° 13' 45.012" E	21° 0' 28.856" N
P-213	85° 13' 44.548" E	21° 0' 28.445" N
P-214	85° 13' 44.264" E	21° 0' 27.889" N
P-215	85° 13' 44.241" E	21° 0' 27.351" N
P-216	85° 13' 44.241" E	21° 0' 26.812" N
P-217	85° 13' 44.415" E	21° 0' 26.083" N
P-218	85° 13' 46.073" E	21° 0' 24.623" N
P-219	85° 13' 46.452" E	21° 0' 24.379" N
P-220	85° 13' 47.820" E	21° 0' 23.709" N
P-221	85° 13' 48.811" E	21° 0' 23.372" N
P-222	85° 13' 51.257" E	21° 0' 23.007" N
P-223	85° 13' 52.329" E	21° 0' 22.919" N
P-224	85° 13' 53.299" E	21° 0' 22.933" N
P-225	85° 13' 54.054" E	21° 0' 23.095" N
P-226	85° 13' 54.940" E	21° 0' 23.331" N
P-227	85° 13' 55.638" E	21° 0' 23.743" N
P-228	85° 13' 56.591" E	21° 0' 24.627" N
P-229	85° 13' 57.858" E	21° 0' 25.759" N
P-230	85° 13' 58.515" E	21° 0' 26.006" N
P-231	85° 13' 59.641" E	21° 0' 25.601" N
P-232	85° 14' 1.912" E	21° 0' 23.805" N
P-233	85° 14' 4.315" E	21° 0' 21.746" N
P-234	85° 14' 7.739" E	21° 0' 19.599" N
P-235	85° 14' 9.497" E	21° 0' 18.974" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-236	85° 14' 10.111" E	21° 0' 18.871" N
P-237	85° 14' 10.764" E	21° 0' 19.148" N
P-238	85° 14' 11.136" E	21° 0' 19.136" N
P-239	85° 14' 11.325" E	21° 0' 19.062" N
P-240	85° 14' 12.005" E	21° 0' 18.772" N
P-241	85° 14' 12.870" E	21° 0' 18.709" N
P-242	85° 14' 13.214" E	21° 0' 18.500" N
P-243	85° 14' 13.825" E	21° 0' 18.196" N
P-244	85° 14' 14.535" E	21° 0' 17.540" N
P-245	85° 14' 16.064" E	21° 0' 16.610" N
P-246	85° 14' 17.172" E	21° 0' 15.947" N
P-247	85° 14' 18.230" E	21° 0' 15.443" N
P-248	85° 14' 19.240" E	21° 0' 15.218" N
P-249	85° 14' 20.946" E	21° 0' 14.587" N
P-250	85° 14' 21.884" E	21° 0' 14.133" N
P-251	85° 14' 22.587" E	21° 0' 13.615" N
P-252	85° 14' 22.871" E	21° 0' 13.498" N
P-253	85° 14' 23.044" E	21° 0' 13.492" N
P-254	85° 14' 23.693" E	21° 0' 13.462" N
P-255	85° 14' 24.047" E	21° 0' 13.431" N
P-256	85° 14' 24.211" E	21° 0' 13.344" N
P-257	85° 14' 25.469" E	21° 0' 12.267" N
P-258	85° 14' 26.569" E	21° 0' 10.974" N
P-259	85° 14' 27.594" E	21° 0' 9.867" N
P-260	85° 14' 27.840" E	21° 0' 9.459" N
P-261	85° 14' 27.854" E	21° 0' 9.272" N
P-262	85° 14' 27.919" E	21° 0' 8.944" N
P-263	85° 14' 28.356" E	21° 0' 8.577" N
P-264	85° 14' 29.521" E	21° 0' 7.631" N
P-265	85° 14' 30.238" E	21° 0' 6.802" N
P-266	85° 14' 31.497" E	21° 0' 5.779" N
P-267	85° 14' 32.212" E	21° 0' 4.822" N
P-268	85° 14' 32.536" E	21° 0' 4.451" N
P-269	85° 14' 32.670" E	21° 0' 4.144" N
P-270	85° 14' 34.080" E	21° 0' 2.028" N
P-271	85° 14' 35.195" E	21° 0' 0.571" N
P-272	85° 14' 36.314" E	20° 59' 59.410" N
P-273	85° 14' 37.566" E	20° 59' 58.477" N
P-274	85° 14' 39.395" E	20° 59' 57.386" N
P-275	85° 14' 41.356" E	20° 59' 56.392" N
P-276	85° 14' 41.897" E	20° 59' 56.008" N
P-277	85° 14' 42.770" E	20° 59' 55.960" N
P-278	85° 14' 42.857" E	20° 59' 55.957" N
P-279	85° 14' 43.177" E	20° 59' 55.947" N
P-280	85° 14' 43.610" E	20° 59' 55.924" N
P-281	85° 14' 44.013" E	20° 59' 55.691" N
P-282	85° 14' 44.708" E	20° 59' 55.202" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-283	85° 14' 45.789" E	20° 59' 54.397" N
P-284	85° 14' 46.140" E	20° 59' 54.145" N
P-285	85° 14' 46.338" E	20° 59' 54.033" N
P-286	85° 14' 46.552" E	20° 59' 53.863" N
P-287	85° 14' 46.776" E	20° 59' 53.771" N
P-288	85° 14' 46.940" E	20° 59' 53.729" N
P-289	85° 14' 47.198" E	20° 59' 53.645" N
P-290	85° 14' 47.431" E	20° 59' 53.522" N
P-291	85° 14' 47.894" E	20° 59' 53.183" N
P-292	85° 14' 48.279" E	20° 59' 52.866" N
P-293	85° 14' 48.906" E	20° 59' 51.806" N
P-294	85° 14' 48.947" E	20° 59' 51.637" N
P-295	85° 14' 49.005" E	20° 59' 51.445" N
P-296	85° 14' 49.124" E	20° 59' 51.251" N
P-297	85° 14' 49.729" E	20° 59' 50.545" N
P-298	85° 14' 50.196" E	20° 59' 49.842" N
P-299	85° 14' 51.432" E	20° 59' 48.397" N
P-300	85° 14' 52.264" E	20° 59' 47.132" N
P-301	85° 14' 53.271" E	20° 59' 45.980" N
P-302	85° 14' 54.304" E	20° 59' 44.907" N
P-303	85° 14' 55.006" E	20° 59' 44.281" N
P-304	85° 14' 55.057" E	20° 59' 44.193" N
P-305	85° 14' 55.056" E	20° 59' 44.165" N
P-306	85° 14' 55.055" E	20° 59' 44.104" N
P-307	85° 14' 55.054" E	20° 59' 44.026" N
P-308	85° 14' 55.045" E	20° 59' 43.945" N
P-309	85° 14' 55.018" E	20° 59' 43.899" N
P-310	85° 14' 54.966" E	20° 59' 43.867" N
P-311	85° 14' 54.871" E	20° 59' 43.870" N
P-312	85° 14' 54.785" E	20° 59' 43.920" N
P-313	85° 14' 54.690" E	20° 59' 43.990" N
P-314	85° 14' 54.596" E	20° 59' 44.054" N
P-315	85° 14' 54.493" E	20° 59' 44.139" N
P-316	85° 14' 54.425" E	20° 59' 44.184" N
P-317	85° 14' 54.390" E	20° 59' 44.187" N
P-318	85° 14' 54.347" E	20° 59' 44.205" N
P-319	85° 14' 54.252" E	20° 59' 44.208" N
P-320	85° 14' 54.173" E	20° 59' 44.179" N
P-321	85° 14' 54.130" E	20° 59' 44.131" N
P-322	85° 14' 54.120" E	20° 59' 44.031" N
P-323	85° 14' 54.187" E	20° 59' 43.866" N
P-324	85° 14' 54.469" E	20° 59' 43.615" N
P-325	85° 14' 54.880" E	20° 59' 43.256" N
P-326	85° 14' 55.180" E	20° 59' 43.074" N
P-327	85° 14' 55.670" E	20° 59' 42.751" N
P-328	85° 14' 56.004" E	20° 59' 42.522" N
P-329	85° 14' 56.304" E	20° 59' 42.252" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-330	85° 14' 56.569" E	20° 59' 42.005" N
P-331	85° 14' 56.800" E	20° 59' 41.795" N
P-332	85° 14' 57.124" E	20° 59' 41.411" N
P-333	85° 14' 57.345" E	20° 59' 41.116" N
P-334	85° 14' 57.727" E	20° 59' 40.549" N
P-335	85° 14' 58.196" E	20° 59' 40.015" N
P-336	85° 14' 58.561" E	20° 59' 39.427" N
P-337	85° 14' 59.046" E	20° 59' 38.818" N
P-338	85° 14' 59.661" E	20° 59' 38.165" N
P-339	85° 15' 0.217" E	20° 59' 37.669" N
P-340	85° 15' 0.714" E	20° 59' 37.279" N
P-341	85° 15' 0.952" E	20° 59' 36.955" N
P-342	85° 15' 1.302" E	20° 59' 36.532" N
P-343	85° 15' 1.514" E	20° 59' 36.201" N
P-344	85° 15' 1.701" E	20° 59' 35.916" N
P-345	85° 15' 1.794" E	20° 59' 35.748" N
P-346	85° 15' 1.982" E	20° 59' 35.561" N
P-347	85° 15' 2.067" E	20° 59' 35.481" N
P-348	85° 15' 2.342" E	20° 59' 35.291" N
P-349	85° 15' 2.710" E	20° 59' 34.992" N
P-350	85° 15' 3.035" E	20° 59' 34.710" N
P-351	85° 15' 3.393" E	20° 59' 34.248" N
P-352	85° 15' 3.751" E	20° 59' 33.823" N
P-353	85° 15' 4.032" E	20° 59' 33.517" N
P-354	85° 15' 5.923" E	20° 59' 31.762" N
P-355	85° 15' 6.812" E	20° 59' 30.908" N
P-356	85° 15' 7.578" E	20° 59' 29.924" N
P-357	85° 15' 8.232" E	20° 59' 28.990" N
P-358	85° 15' 8.976" E	20° 59' 28.294" N
P-359	85° 15' 10.074" E	20° 59' 26.873" N
P-360	85° 15' 11.542" E	20° 59' 25.232" N
P-361	85° 15' 12.627" E	20° 59' 23.512" N
P-362	85° 15' 12.704" E	20° 59' 23.420" N
P-363	85° 15' 12.745" E	20° 59' 23.269" N
P-364	85° 15' 12.890" E	20° 59' 23.087" N
P-365	85° 15' 13.069" E	20° 59' 22.883" N
P-366	85° 15' 13.344" E	20° 59' 22.754" N
P-367	85° 15' 13.560" E	20° 59' 22.695" N
P-368	85° 15' 13.681" E	20° 59' 22.687" N
P-369	85° 15' 13.852" E	20° 59' 22.543" N
P-370	85° 15' 14.039" E	20° 59' 22.291" N
P-371	85° 15' 14.276" E	20° 59' 21.880" N
P-372	85° 15' 14.589" E	20° 59' 21.250" N
P-373	85° 15' 14.781" E	20° 59' 20.764" N
P-374	85° 15' 14.942" E	20° 59' 20.498" N
P-375	85° 15' 14.958" E	20° 59' 20.364" N
P-376	85° 15' 14.963" E	20° 59' 20.093" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-377	85° 15' 14.960" E	20° 59' 19.911" N
P-378	85° 15' 14.949" E	20° 59' 19.689" N
P-379	85° 15' 14.972" E	20° 59' 19.477" N
P-380	85° 15' 15.003" E	20° 59' 19.207" N
P-381	85° 15' 15.231" E	20° 59' 18.757" N
P-382	85° 15' 16.199" E	20° 59' 14.695" N
P-383	85° 15' 16.532" E	20° 59' 12.320" N
P-384	85° 15' 16.806" E	20° 59' 10.112" N
P-385	85° 15' 17.332" E	20° 59' 7.339" N
P-386	85° 15' 17.273" E	20° 59' 6.106" N
P-387	85° 15' 17.566" E	20° 59' 4.707" N
P-388	85° 15' 18.040" E	20° 59' 3.234" N
P-389	85° 15' 18.502" E	20° 59' 2.147" N
P-390	85° 15' 18.963" E	20° 59' 1.018" N
P-391	85° 15' 19.078" E	20° 59' 0.541" N
P-392	85° 15' 19.582" E	20° 58' 59.338" N
P-393	85° 15' 20.507" E	20° 58' 57.293" N
P-394	85° 15' 20.717" E	20° 58' 56.165" N
P-395	85° 15' 21.023" E	20° 58' 54.412" N
P-396	85° 15' 21.113" E	20° 58' 53.336" N
P-397	85° 15' 21.091" E	20° 58' 52.334" N
P-398	85° 15' 21.120" E	20° 58' 51.266" N
P-399	85° 15' 21.147" E	20° 58' 50.640" N
P-400	85° 15' 21.160" E	20° 58' 49.703" N
P-401	85° 15' 21.072" E	20° 58' 48.871" N
P-402	85° 15' 21.006" E	20° 58' 48.465" N
P-403	85° 15' 21.015" E	20° 58' 47.857" N
P-404	85° 15' 21.057" E	20° 58' 47.068" N
P-405	85° 15' 21.153" E	20° 58' 45.844" N
P-406	85° 15' 21.047" E	20° 58' 45.008" N
P-407	85° 15' 20.988" E	20° 58' 44.508" N
P-408	85° 15' 20.933" E	20° 58' 43.590" N
P-409	85° 15' 20.594" E	20° 58' 42.790" N
P-410	85° 15' 20.133" E	20° 58' 41.945" N
P-411	85° 15' 19.866" E	20° 58' 41.453" N
P-412	85° 15' 19.486" E	20° 58' 40.807" N
P-413	85° 15' 19.331" E	20° 58' 40.260" N
P-414	85° 15' 18.987" E	20° 58' 39.770" N
P-415	85° 15' 18.581" E	20° 58' 39.171" N
P-416	85° 15' 17.906" E	20° 58' 38.469" N
P-417	85° 15' 17.615" E	20° 58' 38.076" N
P-418	85° 15' 17.402" E	20° 58' 37.677" N
P-419	85° 15' 16.847" E	20° 58' 36.951" N
P-420	85° 15' 16.750" E	20° 58' 36.828" N
P-421	85° 15' 16.627" E	20° 58' 36.675" N
P-422	85° 15' 16.522" E	20° 58' 36.547" N
P-423	85° 15' 16.408" E	20° 58' 36.465" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-424	85° 15' 16.294" E	20° 58' 36.370" N
P-425	85° 15' 16.146" E	20° 58' 36.268" N
P-426	85° 15' 16.058" E	20° 58' 36.166" N
P-427	85° 15' 15.830" E	20° 58' 35.937" N
P-428	85° 15' 15.688" E	20° 58' 35.690" N
P-429	85° 15' 15.511" E	20° 58' 35.369" N
P-430	85° 15' 15.260" E	20° 58' 34.726" N
P-431	85° 15' 14.958" E	20° 58' 34.118" N
P-432	85° 15' 14.654" E	20° 58' 33.410" N
P-433	85° 15' 14.210" E	20° 58' 32.547" N
P-434	85° 15' 13.762" E	20° 58' 31.993" N
P-435	85° 15' 13.646" E	20° 58' 31.757" N
P-436	85° 15' 13.230" E	20° 58' 31.067" N
P-437	85° 15' 12.807" E	20° 58' 30.458" N
P-438	85° 15' 12.585" E	20° 58' 30.050" N
P-439	85° 15' 12.109" E	20° 58' 29.432" N
P-440	85° 15' 11.304" E	20° 58' 28.711" N
P-441	85° 15' 11.049" E	20° 58' 28.403" N
P-442	85° 15' 10.800" E	20° 58' 27.943" N
P-443	85° 15' 10.293" E	20° 58' 27.540" N
P-444	85° 15' 9.970" E	20° 58' 27.361" N
P-445	85° 15' 9.394" E	20° 58' 26.977" N
P-446	85° 15' 8.590" E	20° 58' 26.369" N
P-447	85° 15' 7.796" E	20° 58' 25.886" N
P-448	85° 15' 7.672" E	20° 58' 25.711" N
P-449	85° 15' 7.148" E	20° 58' 25.318" N
P-450	85° 15' 6.397" E	20° 58' 24.841" N
P-451	85° 15' 5.681" E	20° 58' 24.327" N
P-452	85° 15' 5.183" E	20° 58' 23.961" N
P-453	85° 15' 4.450" E	20° 58' 23.557" N
P-454	85° 15' 3.595" E	20° 58' 22.984" N
P-455	85° 15' 3.088" E	20° 58' 22.650" N
P-456	85° 15' 2.634" E	20° 58' 22.289" N
P-457	85° 15' 1.941" E	20° 58' 21.637" N
P-458	85° 15' 1.486" E	20° 58' 21.268" N
P-459	85° 15' 0.902" E	20° 58' 20.946" N
P-460	85° 15' 0.207" E	20° 58' 20.728" N
P-461	85° 15' 0.094" E	20° 58' 20.711" N
P-462	85° 14' 59.938" E	20° 58' 20.703" N
P-463	85° 14' 59.713" E	20° 58' 20.671" N
P-464	85° 14' 59.626" E	20° 58' 20.627" N
P-465	85° 14' 59.521" E	20° 58' 20.551" N
P-466	85° 14' 59.433" E	20° 58' 20.463" N
P-467	85° 14' 59.214" E	20° 58' 20.240" N
P-468	85° 14' 58.899" E	20° 58' 19.973" N
P-469	85° 14' 58.551" E	20° 58' 19.859" N
P-470	85° 14' 58.249" E	20° 58' 19.907" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-471	85° 14' 58.128" E	20° 58' 19.970" N
P-472	85° 14' 58.009" E	20° 58' 20.073" N
P-473	85° 14' 57.802" E	20° 58' 20.191" N
P-474	85° 14' 57.682" E	20° 58' 20.215" N
P-475	85° 14' 57.517" E	20° 58' 20.221" N
P-476	85° 14' 57.274" E	20° 58' 20.130" N
P-477	85° 14' 57.073" E	20° 58' 19.978" N
P-478	85° 14' 56.940" E	20° 58' 19.792" N
P-479	85° 14' 56.808" E	20° 58' 19.558" N
P-480	85° 14' 56.606" E	20° 58' 19.359" N
P-481	85° 14' 56.406" E	20° 58' 19.288" N
P-482	85° 14' 56.294" E	20° 58' 19.318" N
P-483	85° 14' 55.878" E	20° 58' 19.335" N
P-484	85° 14' 55.341" E	20° 58' 19.268" N
P-485	85° 14' 54.689" E	20° 58' 19.085" N
P-486	85° 14' 54.124" E	20° 58' 18.866" N
P-487	85° 14' 53.352" E	20° 58' 18.765" N
P-488	85° 14' 52.683" E	20° 58' 18.516" N
P-489	85° 14' 51.789" E	20° 58' 18.354" N
P-490	85° 14' 50.922" E	20° 58' 18.250" N
P-491	85° 14' 50.175" E	20° 58' 18.070" N
P-492	85° 14' 49.757" E	20° 58' 17.841" N
P-493	85° 14' 49.173" E	20° 58' 17.510" N
P-494	85° 14' 48.704" E	20° 58' 17.379" N
P-495	85° 14' 48.156" E	20° 58' 17.201" N
P-496	85° 14' 47.332" E	20° 58' 17.027" N
P-497	85° 14' 46.863" E	20° 58' 16.911" N
P-498	85° 14' 46.471" E	20° 58' 16.765" N
P-499	85° 14' 45.836" E	20° 58' 16.508" N
P-500	85° 14' 44.915" E	20° 58' 16.254" N
P-501	85° 14' 44.126" E	20° 58' 16.089" N
P-502	85° 14' 43.041" E	20° 58' 15.900" N
P-503	85° 14' 42.364" E	20° 58' 15.749" N
P-504	85° 14' 41.176" E	20° 58' 15.590" N
P-505	85° 14' 40.448" E	20° 58' 15.483" N
P-506	85° 14' 39.858" E	20° 58' 15.337" N
P-507	85° 14' 39.162" E	20° 58' 15.107" N
P-508	85° 14' 38.481" E	20° 58' 14.680" N
P-509	85° 14' 38.018" E	20° 58' 14.332" N
P-510	85° 14' 37.391" E	20° 58' 13.996" N
P-511	85° 14' 36.180" E	20° 58' 13.402" N
P-512	85° 14' 36.059" E	20° 58' 13.425" N
P-513	85° 14' 35.496" E	20° 58' 13.430" N
P-514	85° 14' 34.810" E	20° 58' 13.200" N
P-515	85° 14' 34.288" E	20° 58' 13.005" N
P-516	85° 14' 33.644" E	20° 58' 12.718" N
P-517	85° 14' 32.912" E	20° 58' 12.338" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)
P-518	85° 14' 31.944" E	20° 58' 11.774" N
P-519	85° 14' 31.175" E	20° 58' 11.264" N
P-520	85° 14' 29.838" E	20° 58' 10.278" N
P-521	85° 14' 29.366" E	20° 58' 9.871" N
P-522	85° 14' 28.766" E	20° 58' 9.034" N
P-523	85° 14' 27.709" E	20° 58' 8.300" N
P-524	85° 14' 27.021" E	20° 58' 7.910" N
P-525	85° 14' 26.349" E	20° 58' 7.505" N
P-526	85° 14' 25.798" E	20° 58' 7.064" N
P-527	85° 14' 25.149" E	20° 58' 6.411" N
P-528	85° 14' 24.560" E	20° 58' 5.737" N
P-529	85° 14' 23.999" E	20° 58' 5.142" N
P-530	85° 14' 23.404" E	20° 58' 4.687" N
P-531	85° 14' 22.660" E	20° 58' 4.023" N
P-532	85° 14' 22.046" E	20° 58' 3.400" N
P-533	85° 14' 21.170" E	20° 58' 2.571" N
P-534	85° 14' 20.423" E	20° 58' 1.760" N
P-535	85° 14' 19.677" E	20° 58' 0.913" N
P-536	85° 14' 19.206" E	20° 58' 0.653" N
P-537	85° 14' 18.580" E	20° 58' 0.444" N
P-538	85° 14' 18.223" E	20° 58' 0.280" N
P-539	85° 14' 18.031" E	20° 58' 0.178" N
P-540	85° 14' 17.970" E	20° 58' 0.118" N
P-541	85° 14' 17.925" E	20° 58' 0.000" N
P-542	85° 14' 17.891" E	20° 57' 59.381" N
P-543	85° 14' 17.811" E	20° 57' 59.197" N
P-544	85° 14' 17.414" E	20° 57' 58.610" N
P-545	85° 14' 16.631" E	20° 57' 57.664" N
P-546	85° 14' 16.005" E	20° 57' 56.769" N
P-547	85° 14' 15.542" E	20° 57' 55.782" N
P-548	85° 14' 14.720" E	20° 57' 53.788" N
P-549	85° 14' 14.069" E	20° 57' 52.259" N
P-550	85° 14' 13.536" E	20° 57' 51.259" N
P-551	85° 14' 12.988" E	20° 57' 50.367" N
P-552	85° 14' 12.330" E	20° 57' 49.633" N
P-553	85° 14' 11.285" E	20° 57' 47.856" N
P-554	85° 14' 10.997" E	20° 57' 46.990" N
P-555	85° 14' 10.838" E	20° 57' 46.085" N
P-556	85° 14' 10.651" E	20° 57' 45.030" N
P-557	85° 14' 10.550" E	20° 57' 43.871" N
P-558	85° 14' 10.510" E	20° 57' 43.122" N
P-559	85° 13' 37.772" E	20° 57' 42.966" N
P-560	85° 13' 15.353" E	20° 57' 41.617" N
P-561	85° 13' 10.030" E	20° 57' 57.917" N
P-562	85° 12' 36.166" E	20° 57' 45.852" N
P-563	85° 12' 36.500" E	20° 58' 50.350" N

Provisional Cardinal Points for Sakhigopal-B Northern Extension Block

POINT NO	Longitude (WGS84)	Latitude (WGS84)

Note: The provisional cardinal points are in WGS84 coordinate system. These points are extracted through ArcGIS software after georeferencing of block boundary and onground DGPS survey is required to acertain the exact location of the points.