भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

Speed Post

File No.: AAI/01/15/Kota/GF/2019-AR-II

Dated: 07.10.2019

To

Officer In-charge,
Airports Authority of India
Civil Airport,
Kota-324007
Rajasthan State
Mobile No.- 9928588744

Subject: - Report on pre-feasibility study for proposed Green Field Airport at Kota, (Rajasthan).

Please find enclosure here with copy of the Pre-feasibility study for proposed Green Field Airport at Kota, (Rajasthan).

07/10/2019

[Mohammed Tajuddin]
General Manager (Engg-Civil),
Aerodrome Planning Dept.,
CHQ, Airport Authority of India
Rajiv Gandhi Bhawan,
New Delhi-110003

01

भारतीय विमानपत्तन प्राधिकरण
AIRPORTS AUTHORITY OF INDIA

AAI/01/04/Raj./G/2019-AR-II (Plg) /83 - 87

Dated: 20-09-2019

To

Dr. Rajesh Sharma, I.A.S.
Secretary to the Govt.
Civil Aviation Deptt. & G.A.D.
Government Secretariat,
Janpath
Jaipur

Subject: - Report on Pre-feasibility study for proposed Green Field Airport at Kota, (Rajasthan).

Sir,

Please find enclosed the report on Pre-feasibility study for Green Field Airport at Kota, Rajasthan for your kind perusal and necessary action, please.

Thanking You,

Yours faithfully,

20/09/2019

(Mohammed Tajuddin)
General Manager (Planning)
Mobile No.- 8220933555

Copies submitted to.

(1) Shri D.B. Gupta, I.A.S, Chief Secretory, Govt. of Rajasthan, Govt. Secretariat, Janpath, Jaipur-302005.. for kind information, please.
(2) Shri M.N. Agarwal, I.A.S Dist. Collector, Govt. of Rajasthan, Kota.. for kind information, please.

N.O.O.

(1) EA to Chairman AAI, CHQ Rajiv Gandhi Bhawan, New Delhi
(2) PS to Member Planning AAI, CHQ Rajiv Gandhi Bhawan, New Delhi

AIRPORTS AUTHORITY OF INDIA

(DIRECTORATE OF PLANNING)

AIRPORTS AUTHORITY OF INDIA

REPORT ON PRE-FEASIBILITY STUDY-
GREEN FIELD AIRPORT AT KOTA (RAJASTHAN)

Prepared by: Airports Authority of India

TOUR REPORT

Introduction

The State Govt. forwarded the proposal for a Greenfield Airport near Kota Airport in Rajasthan State.

A team of AAI officials comprising of Sh. Mohammed Tajuddin, GM (Plg.), Sh. LD Mohanty, Jt.GM (ATM-FPD), Smt. Neerja Rathee, JT.GM (OPS.), Sh. T.K. Gupta, JT.GM (CNS-P), Sh. A.K. Lakra, JTGM (Arch.) Sh. Shekhar Kumar, Sr. Mgr.(Civil) along with state officials Sh. M.N.Agarwal (IAS Dist. Collector, Kota), Sh. Vasudev Malawat, (Add. Dist. Magistrate, Kota), Sh. B.S. Palwat, (Secretary, U.I.T, Kota), Sh. Rajesh Joshi, Addt. Dist. Magistrate, Bundi), Sh. Porwal, S.E.,PWD-Road & Building, Kota), Hemant Sharma, Exe. Engg (Irrigation, Kota) and Sh. Satish Jain, (DFO, Bundi) visited the proposed site on 22.08.2019.

1. EXISTING FACILITY AT KOTA AIRPORT

The existing Airport at Kota is having an area of 394.355 Acres. The Runway 08 / 26 is having dimension of 1207 m. X 38 m. The Runway 26 threshold is displaced by 76 m. and the effective length of the Runway is 1131 m. X 38 m. suitable for DO-228 (Code-B) type of Aircraft in all-weather conditions. The existing Apron can accommodate 2 nos. DO-228 type of Aircraft in Power in Power out configuration. The existing Terminal building is having an area of 400 sq.m. that can handle 50 peak hour passengers. Presently there is no flight operation from Kota Airport. The existing State road is abutting to existing Airport boundary wall on eastern and western side. Habitation has developed around the airport and the airport is part of the Kota city now, due to which acquisition of further land is not economically feasible. Due to these factors, there is no further scope for expansion of the existing Airport.

NEW GREENFIELD AIRPORT AT KOTA (RAJASTHAN)

2. Site Inspection

The AAI team visited on 22-8-2019 to the proposed sites identified by State Govt. The State Govt. shown 2 adjacent pockets of land abutting to the National

Highway no.-12. It is 15 km. from Kota town and 40 km. from Bundi City located in Tilsi and Kethura village of Tlera Tehsil of Bundi district. The major portion of the land is barren reserved forest land.

The first pocket identified by State Govt. is marked as `**A**' in the drawing and the dimension of the pocket is 3449 m. X 1239 M. (Approx.). The other pocket marked as `**B**' is having plot dimension of 4925 m. X 1542 M. (Approx.). Land Details of both pockets are as follows: -

LAND TYPE	POCKET A	POCKET B
U.I.T LAND	8 HECTARES	10 HECTARES
FOREST LAND	382 HECTARES	587 HECTARES
PRIVATE LAND	NIL	12 HECTARES

Details as supplied by Dept. of U.I.T, Kota

The coordinates as supplied by Dept. of U.I.T, Kota are:

POCKET A	N25D14'51.82" E75D42'27.58"	N25D14'21.05" E75D42'15.89"
	N25D13'40.66" E75D45'9.97"	N25D13'1.71" E75D44'56.82"
POCKET B	N25D13'8.4" E75D43'21.29"	N25D13'1.71" E75D44'56.82"
	N25D12'25.50" E75D43'8.08"	N25D11'50.15" E75D44'46.47"

Both pockets are spread east-west direction and gradually sloping towards west direction. Burdha Dam is situated on Talera River, which is a tributary of Chambel River. Maximum water level in the dam is 270.50 metres and top of bank level is 271.88 metres. The Talera River from the bund/weir of the Burdha Dam is crossing at 3km on west side of the proposed site. The Dam is situated abutting to the proposed site on south-west side. It restricts the site for further extension towards west direction. National Highway is abutting to the proposed site is on eastern side.

Kota Thermal Power Plant is located at 12 km approx. on east side of proposed site with Chimney height 180 M. *(Google Earth data)*

Atomic Power Plant is located at 40 KM. approx. on south west side of proposed site. *(Google Earth data)*

Army helicopter landing strip and Field Firing Range are located near Kota city (south-east side)

Vedanta engineering college is located just at proposed site near north east corner.

Mukundra Tiger Hills Reserve is located on south east side and is at an aerial distance of 15 km approx. from the proposed site. *(Google Earth data)*

Power Grid Transmission lines are located on east side of proposed site as well as running along extreme boundary wall of the proposed site for half-length of proposed site and one row of Transmission line crossing across the proposed site from north to south direction.

The terrain of proposed site is sloping from east to west i.e. from NH-12 towards Dam side with level difference of 13 m approx.

As intimated by Irrigation Dept. Officials of Bundi District, Proposed Site at Pocket B, is outside the outer line of submergence area of the Bardha Dam.

Google map showing Proposed site, Atomic Power Plant, Kota Thermal plant, Mukundra Tiger Hills Reserve, Vedanta College and Burdha Dam is attached as ***Annexure-1.***

4. Proposal:

After the initial site inspection, on examination it is observed that extent of pocket 'A' is insufficient for making Greenfield Airport. The extent of pocket 'B', however, is sufficient for development of a Greenfield Airport.

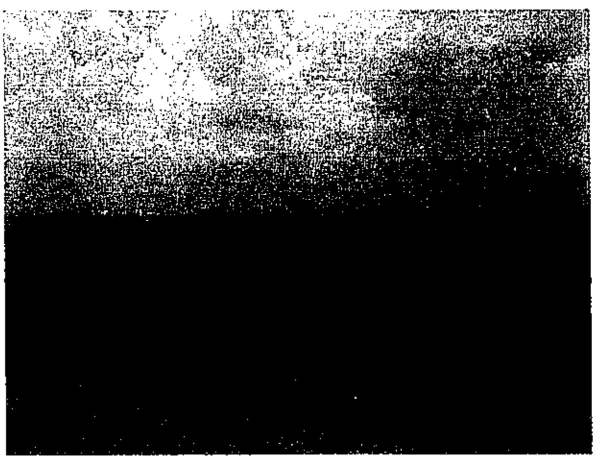

FIG 1: PROPOSED SITE FOR GREENFIELD AIRPORT

The proposed site `B' as shown in the enclosed Draft Master Plan *(placed on file as Annexure-2)* presently can be developed for **aerodrome reference code 4C**. However, land is available for clearances to cater for higher category and upgrading as and when required. The land area of pocket 'B' is **1862** Acres (Approx.). The Ground Elevation of the proposed site is **275 m. AMSL** having maximum undulation of about 13 mts. The Runway is proposed with dimension **3581 m. X 45 m** suitable for **A-321-200** type of Aircraft. Other infrastructure like Parallel Taxi Track, Apron, Terminal building, ATC Complex, Fire Station Cat-VI, Cargo facilities, Maintenance and Logistic, Catering Services, Airport Security and General Aviation can be developed in the proposed site `B' The approach to site will be from National Highway as the site is abutting to it. The pocket `A' as shown in the draft master plan is **1236** Acres (Approx.). This area can be kept as reserve for future cityside development of the Airport.

5. Airspace and Obstacles:

The Runway orientation appears to be 11/29 considering the land availability in the direction of NW/SE. In Figure 3, it is also observed that there is no significant natural terrain within 30NM of the proposed Runway. The Wind Rose diagram provided by MET Department also indicates 11/29 orientation seems to be suitable.

However, accurate assessment of the orientation, alignment & declared distances of the Runways in the proposed site suitable for the aircraft operations shall be finalized only after study of OLS Survey.

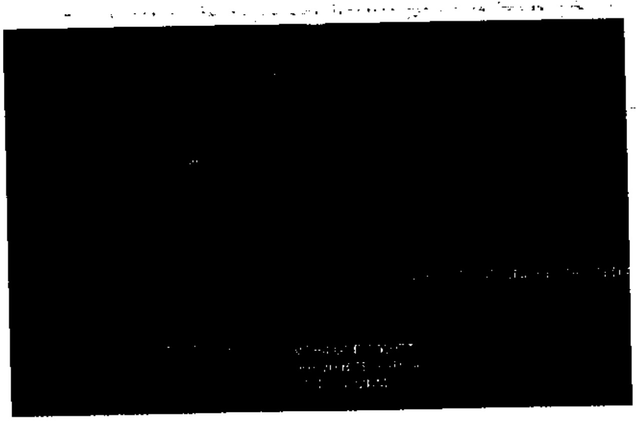

FIG 2: PROPOSED GREENFIELD AIRPORT SITE WITH RESPECT TO ESTABLISHED NEARER AIRPORTS WITHIN 100NM

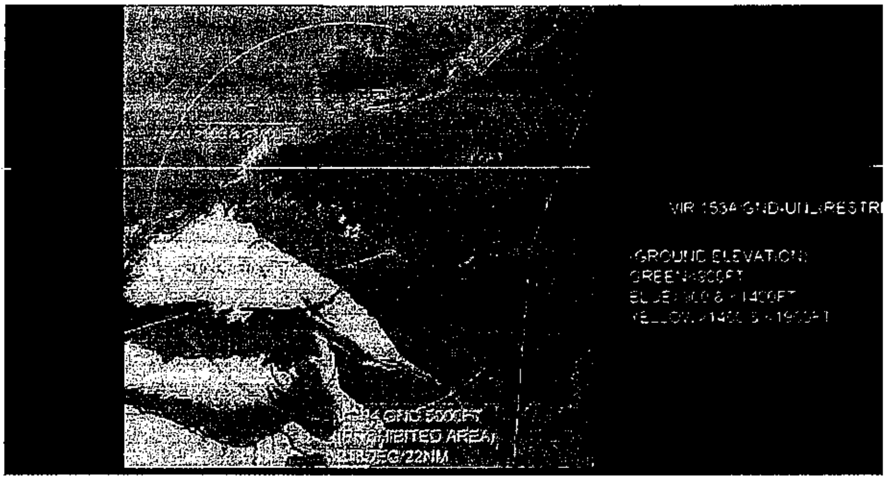

FIG 3: TOPOGRAPHY ELEVATION IN AND AROUND THE PROPOSED GREEN FIELD AIRPORT SITE WITHIN 30 NM

6. Constraints

The major constraints are mentioned below

- Bardha Dam is situated on Talera River and the Talera River from the bund /weir of the Dam is crossing at 3 km. on west side of the proposed site.
- National Highway no. 12 is on eastern side abutting to the proposed site.
- Kota Thermal Power Plant is located at a distance of 12 km. on east side of proposed site with Chimney height of 180 m.
- Atomic Power Plant is located at a distance of 40 km. on south west side of proposed site.
- Army helicopter landing strip and field Firing Range are located near Kota city on south-east side.
- Vedanta Engineering college is located just near the proposed site.
- Mukundra Tiger Hills Reserve is located on south-east side and is at 15 km from the proposed site. Forest Dept.(Wildlife), Govt. of Rajasthan to suggest mitigation measures/further action regarding affected eco-sensitive zones, if any.
- As intimated by Irrigation Dept. Officials of Bundi District, Proposed Site at Pocket B, is outside the outer line of submergence area of the Bardha Dam and approval of the Chief Engg. Irrigation Dept., Govt. of Rajasthan is required.

- Power Grid Transmission lines are located on east side of proposed site as well as running along extreme boundary wall of the proposed site for half-length of proposed site and one row of Transmission line crossing across the proposed site from north to south direction.
- The terrain of proposed site is sloping from east to west i.e. from NH-12 towards Dam side with level difference of more than 13 m. proper drainage of storm water is required.
- Diversion/ Conversion of forest land for construction of a Greenfield Airport.
- Environmental and NGT clearance.

7. Conclusion

The development of Green field airport on pocket `**B**' is feasible subject to mitigation of the constraints as mentioned above. The Instrument Approach Procedure for the tentative Runway direction **11/29** appears to be feasible subject to OLS Survey, finalization of Runway Direction and declared distances. The site survey, OLS survey to be carried out and constraints to be resolved before taking final decision on the project.

02/09/2019	02-09-19	02/9/19
Mohammed Tajuddin	(L.D. Mohanty)	(T.K. Gupta)
GM (PLG.)	**JTGM (FPD)**	**JT.GM (CNS-P)**
2/9/2019		02/09/19
(Neerja Rathi)	(A.K. Lakra)	(Shekhar Kumar)
JT.GM (OPS.)	**JT.GM (ARCH.)**	**SR.MGR (Civil)**

METEOROLOGICAL CENTRE
MAUSAM BHAWAN, BUDHSINGHPURA
SANGANER, JAIPUR-302011

Station :- KOTA

Month	Year	Mean Max.(°C)	Mean Min.(°C)	R.H. in % 0830 IST	R.H. in % 1730 IST	Monthly R/F IN MM
Jan	2009	24.4	12.8	070	050	000.0
Feb	2009	28.8	14.6	050	028	000.0
Mar	2009	34.9	20.4	033	015	006.3
Apr	2009	40.0	25.4	020	009	001.1
May	2009	43.6	30.8	029	013	001.2
Jun	2009	41.6	30.4	044	024	033.0
Jul	2009	34.7	27.2	076	061	308.7
Aug	2009	33.8	26.6	073	058	068.6
Sep	2009	36.8	26.8	058	039	014.5
Oct	2009	34.4	22.8	050	031	044.3
Nov	2009	28.8	17.1	066	042	026.0
Dec	2009	25.7	13.9	074	049	000.0
Jan	2010	23.6	10.6	079	046	000.0
Feb	2010	28.4	14.9	058	031	003.2
Mar	2010	37.1	22.7	030	014	000.0
Apr	2010	42.2	28.5	021	008	002.4
May	2010	44.7	31.8	023	009	000.0
Jun	2010	42.2	30.3	042	022	023.2
Jul	2010	35.6	27.4	074	062	155.3
Aug	2010	32.9	26.1	086	074	328.2
Sep	2010	33.2	24.7	073	060	073.8
Oct	2010	35.8	22.9	052	030	000.4
Nov	2010	28.3	18.8	075	056	053.7
Dec	2010	24.8	12.1	066	037	000.6

METEOROLOGICAL CENTRE
MAUSAM BHAWAN, BUDHSINGHPURA
SANGANER, JAIPUR-302011

Station :- KOTA

Month	Year	Mean Max.(°C)	Mean Min.(°C)	R.H. in %		Monthly R/F IN MM
				0830 IST	1730 IST	
Jan	2011	23.1	10.1	066	038	000.0
Feb	2011	27.4	14.6	064	037	008.9
Mar	2011	34.1	20.2	037	020	000.0
Apr	2011	39.1	24.8	024	010	000.0
May	2011	43.1	30.5	032	014	010.4
Jun	2011	38.9	28.5	058	043	335.8
Jul	2011	33.7	26.8	079	067	244.3
Aug	2011	31.8	25.6	085	077	327.9
Sep	2011	32.8	24.8	079	066	171.9
Oct	2011	35.1	21.4	044	024	000.0
Nov	2011	31.6	18.0	053	030	000.0
Dec	2011	25.8	12.3	062	038	000.0
Jan	2012	21.5	10.2	068	042	003.2
Feb	2012	26.0	12.8	048	027	000.0
Mar	2012	33.5	19.1	029	015	000.0
Apr	2012	39.1	25.7	031	016	020.9
May	2012	42.0	29.1	031	014	022.3
Jun	2012	40.7	30.1	050	028	037.5
Jul	2012	34.8	27.3	074	062	193.1
Aug	2012	31.2	25.6	085	076	353.9
Sep	2012	33.0	24.9	077	064	186.7
Oct	2012	35.3	20.1	049	025	000.0
Nov	2012	30.4	14.4	055	028	000.0
Dec	2012	26.5	11.7	066	037	000.0

METEOROLOGICAL CENTRE
MAUSAM BHAWAN, BUDHSINGHPURA
SANGANER, JAIPUR-302011

Station :- KOTA

Month	Year	Mean Max.(°C)	Mean Min.(°C)	R.H. in % 0830 IST	R.H. in % 1730 IST	Monthly R/F IN MM
Jan	2013	23.1	09.4	067	036	000.0
Feb	2013	30.4	08.5	091	022	006.0
Mar	2013	33.6	19.0	040	020	002.4
Apr	2013	38.8	25.2	030	015	000.0
May	2013	43.4	30.7	023	011	000.8
Jun	2013	38.0	28.3	062	044	105.6
Jul	2013	31.7	25.9	087	080	505.1
Aug	2013	31.0	25.4	086	079	284.4
Sep	2013	34.3	25.3	071	055	110.5
Oct	2013	32.4	22.2	073	052	208.8
Nov	2013	28.7	14.6	065	034	002.1
Dec	2013	24.1	11.7	069	044	017.2
Jan	2014	18.8	11.5	090	068	043.9
Feb	2014	24.9	13.6	075	046	026.4
Mar	2014	32.0	18.2	055	026	000.4
Apr	2014	39.4	24.0	030	014	003.1
May	2014	42.0	28.4	029	015	005.6
Jun	2014	42.8	30.5	042	022	008.5
Jul	2014	36.6	27.7	068	052	360.9
Aug	2014	32.5	25.3	079	069	349.6
Sep	2014	33.6	24.5	075	059	085.2
Oct	2014	35.2	22.2	053	033	000.0
Nov	2014	31.4	16.9	053	030	000.0
Dec	2014	24.3	10.8	072	041	000.0

METEOROLOGICAL CENTRE
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SANGANER, JAIPUR-302011

Station :- KOTA

Month	Year	Mean Max.(°C)	Mean Min.(°C)	R.H. in %		Monthly R/F IN MM
				0830 IST	1730 IST	
Jan	2015	20.8	09.9	085	056	020.4
Feb	2015	28.3	15.3	060	036	000.0
Mar	2015	31.1	19.0	062	034	136.1
Apr	2015	38.0	24.6	043	024	018.5
May	2015	43.8	30.4	029	012	000.0
Jun	2015	39.8	28.5	054	039	073.0
Jul	2015	33.3	26.5	079	067	390.7
Aug	2015	32.6	26.0	081	068	269.0
Sep	2015	35.7	25.9	063	044	038.9
Oct	2015	36.1	23.5	074	015	000.0
Nov	2015	31.0	18.6	056	033	000.0
Dec	2015	25.3	11.9	062	035	001.7
Jan	2016	25.1	12.4	074	047	000.8
Feb	2016	27.7	14.6	052	030	000.0
Mar	2016	34.7	20.7	042	023	000.0
Apr	2016	40.6	27.2	022	011	000.0
May	2016	43.8	29.9	033	017	008.0
Jun	2016	41.3	30.1	051	036	069.6
Jul	2016	33.1	26.9	080	071	267.0
Aug	2016	30.9	25.2	088	080	619.0
Sep	2016	34.5	25.8	072	054	168.4
Oct	2016	34.7	23.0	056	036	051.6
Nov	2016	31.2	15.8	045	028	000.0
Dec	2016	27.6	12.8	068	038	000.0

METEOROLOGICAL CENTRE
MAUSAM BHAWAN, BUDHSINGHPURA
SANGANER, JAIPUR-302011

Station :- KOTA

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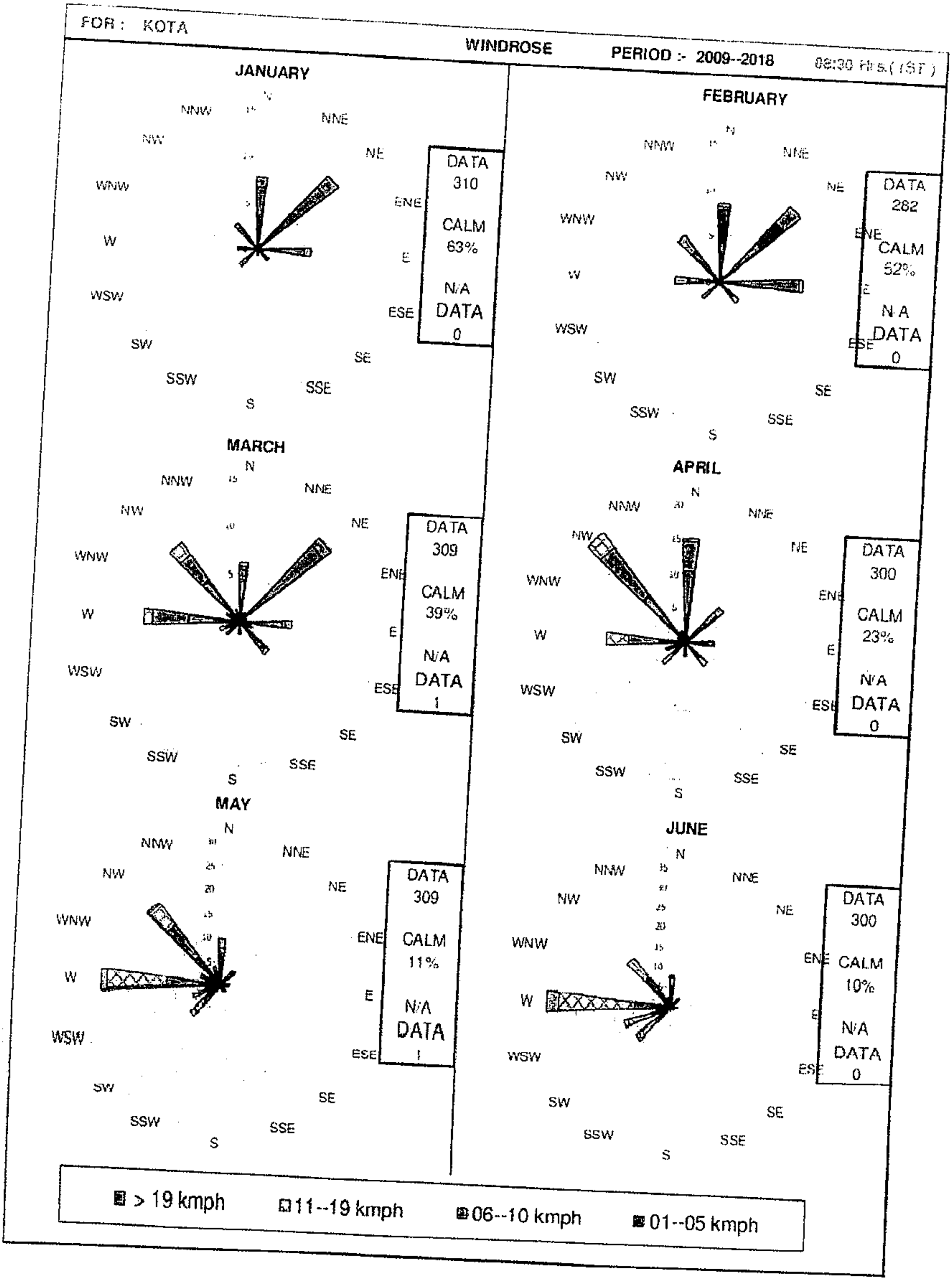
Jan	2017	22.8	11.3	080	050	003.4
Feb	2017	28.0	14.3	053	032	000.0
Mar	2017	33.5	19.2	040	022	009.8
Apr	2017	41.1	26.3	024	010	000.0
May	2017	43.4	29.7	029	017	005.0
Jun	2017	40.3	29.5	053	034	069.7
Jul	2017	33.5	26.7	078	065	124.3
Aug	2017	32.3	25.9	082	068	202.3
Sep	2017	35.1	25.6	070	051	028.7
Oct	2017	36.9	21.8	040	022	000.0
Nov	2017	29.5	15.3	055	032	000.0
Dec	2017	24.7	12.3	068	040	010.0
Jan	2018	25.4	10.2	070	033	000.0
Feb	2018	28.5	14.7	055	029	000.0
Mar	2018	35.3	18.7	035	016	000.3
Apr	2018	40.7	25.3	025	013	007.2
May	2018	42.4	29.7	025	012	006.5
Jun	2018	40.5	29.2	054	034	110.1
Jul	2018	33.5	26.1	081	071	253.1
Aug	2018	32.0	25.7	083	073	337.1
Sep	2018	31.4	23.6	078	064	174.7
Oct	2018	36.0	21.1	052	028	000.0
Nov	2018	31.2	14.8	059	033	000.0
Dec	2018	24.7	08.4	072	036	000.0

मौसम विज्ञानी-A
मौसम केन्द्र, बुधसिंहपुरा,
सांगानेर, जयपुर-302 011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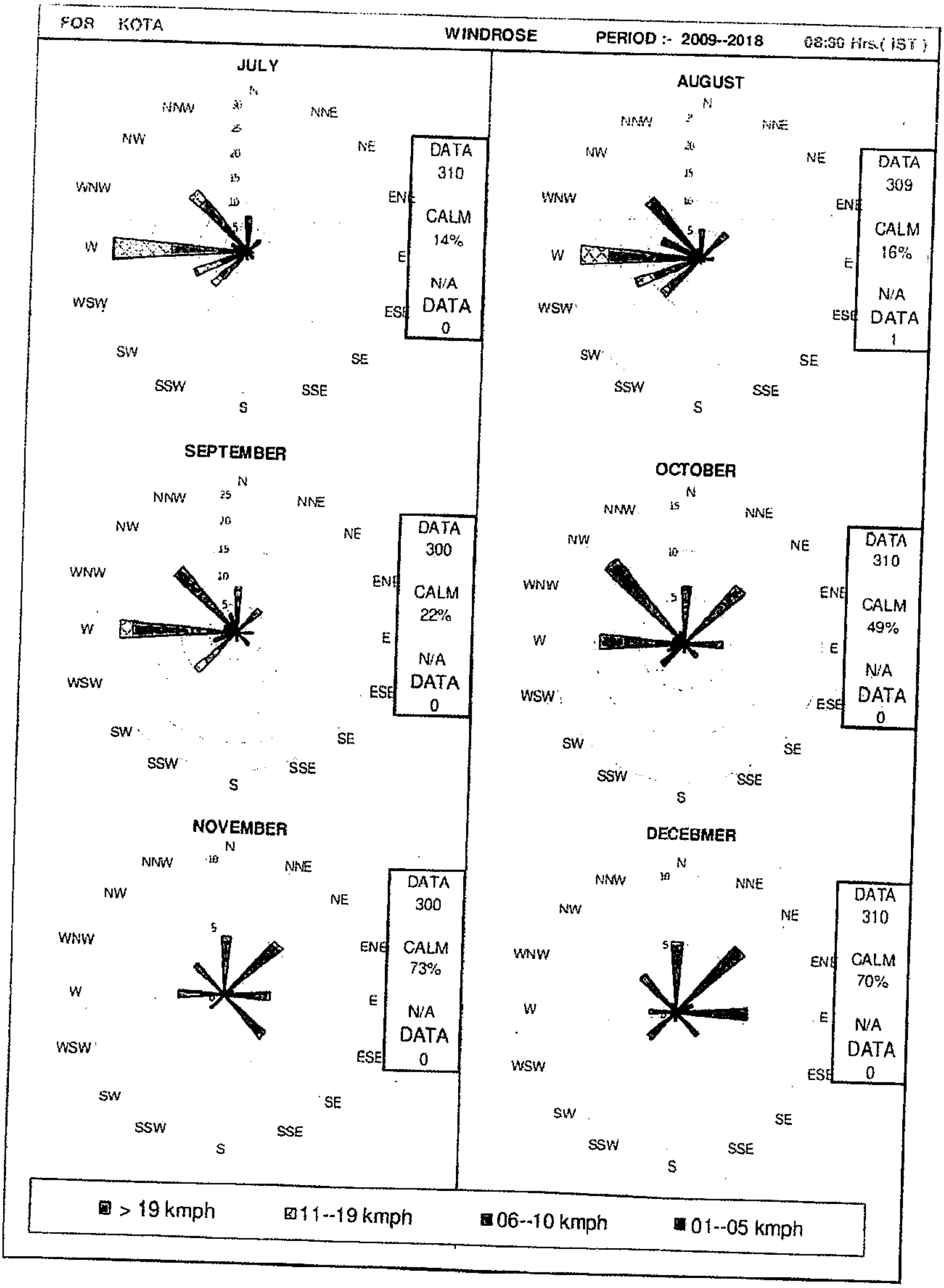
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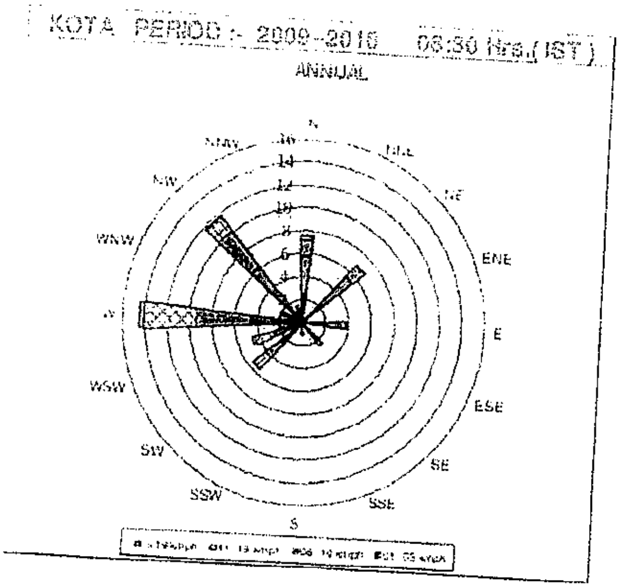

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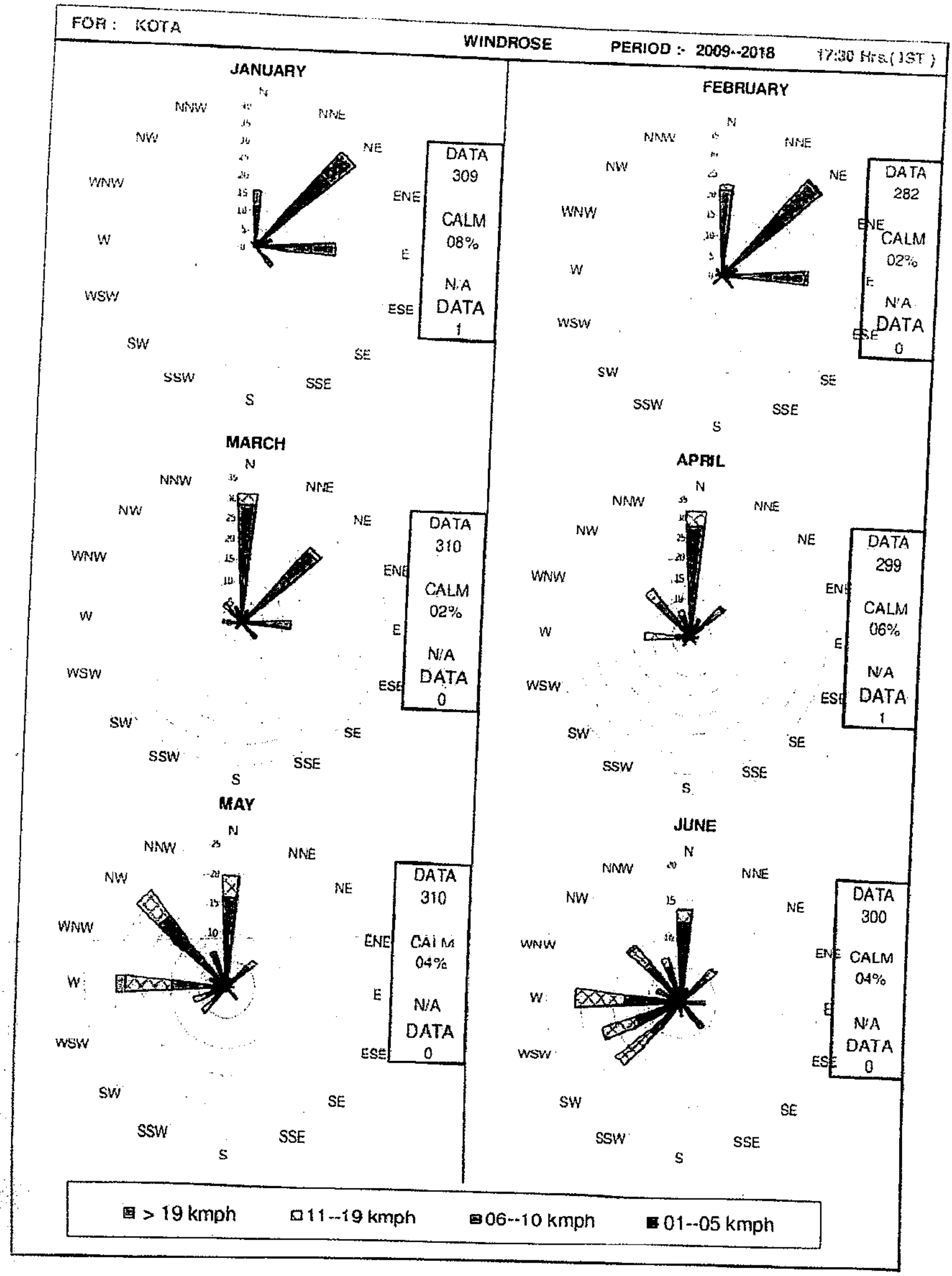
TOTAL DAY'S 3652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WINDROSE
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DATA 310
CALM 02%
N/A DATA 0
APRIL
DATA 299
CALM 06%
N/A DATA 1
MAY
DATA 310
CALM 04%
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JUNE
DATA 300
CALM 04%
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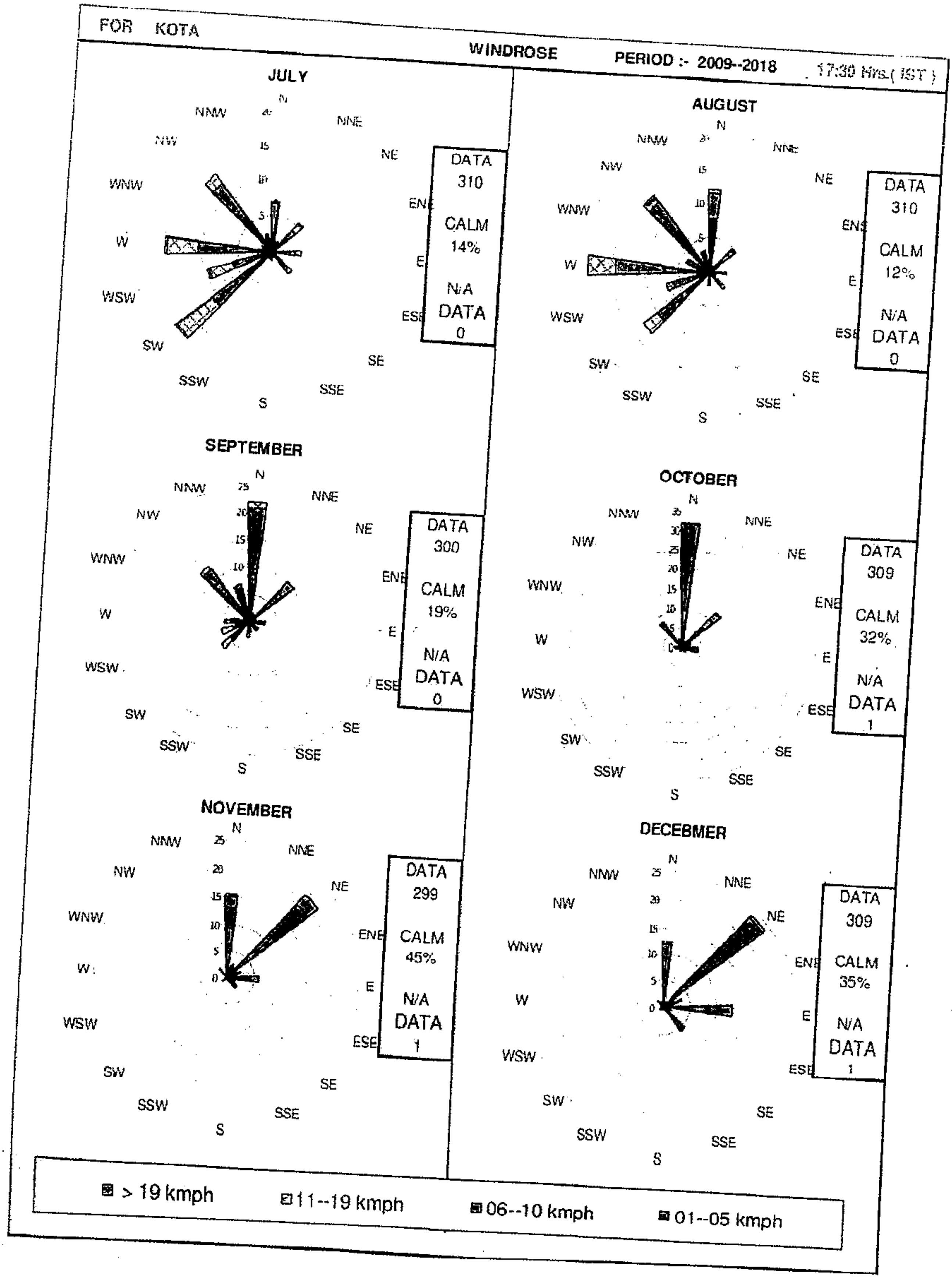
11--19 kmph
06--10 kmph
01--05 kmph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AUGUST
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SEPTEMBER
DATA 300
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DATA 309
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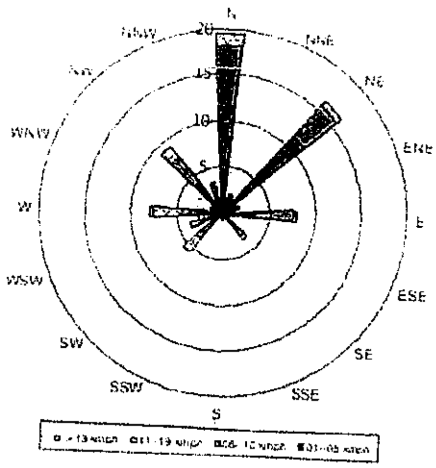
DATA 309
CALM 35%
N/A DATA 1
N
NNE
NE
ENE
E
ESE
SE
SSE
S
SSW
SW
WSW
W
WNW
NW
NNW
> 19 kmph
11--19 kmph
06--10 kmph
01--05 kmph

KOTA PERIOD :- 2009-2018 17:30 Hrs.(IST)

ANNUAL



DATA
3647

CALM
15%

N/A
DATA
5

3652

TOTAL DAY'S 3652