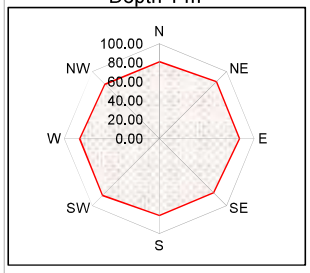
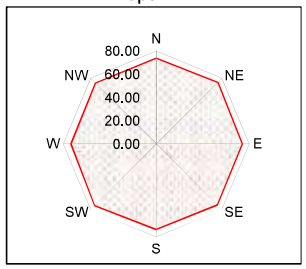
ERT No. : 68 Date : 08-04-2024 Test Location : N 229, E 2277

Name of Project : TELANGANA STPP ST-II

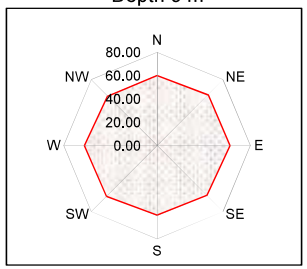
Depth 1 m



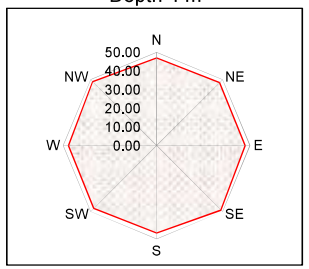
Depth 2 m



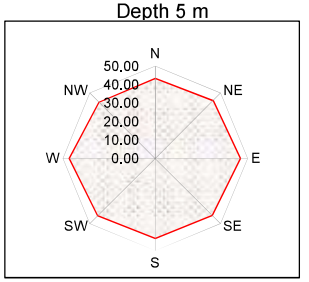
Depth 3 m



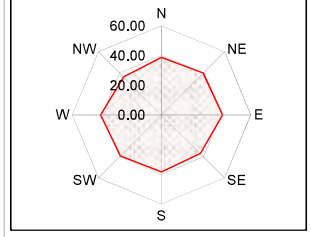
Depth 4 m



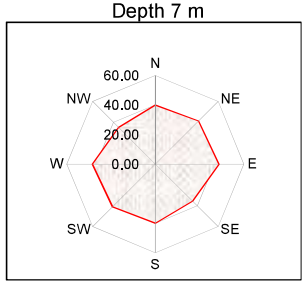
Depth 5 m



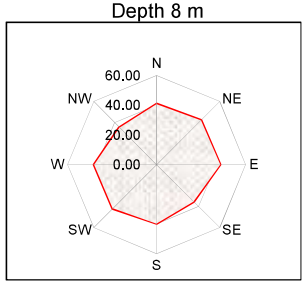
Depth 6 m



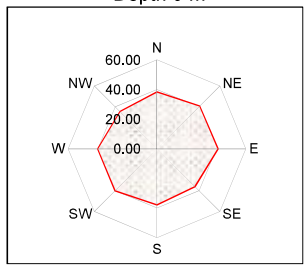
Depth 7 m



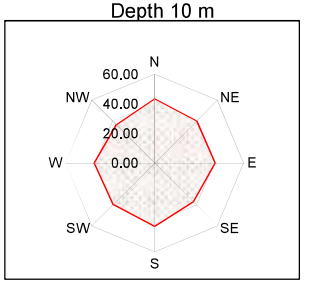
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	19349.97	15571.27	10499.24	6414.03	5548.13	4282.18	4485.83	4625.05	4257.90	4545.90
Radius of the circle having same area as polar diagram	78.48	70.40	57.81	45.18	42.02	36.92	37.79	38.37	36.81	38.04

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 69
Name of Project : TELANGANA STPPST-II
Co-Ordinates : N 238 , E 2088
Date : 06-04-2024

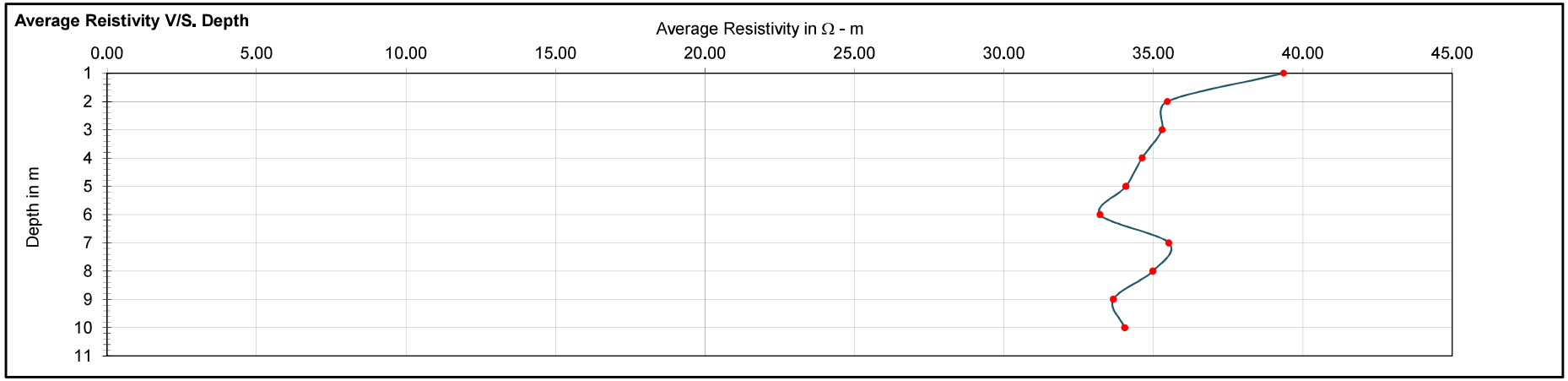
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	6.54	41.09	6.52	40.97	6.61	41.53	6.59	41.41	6.71	42.16	6.70	42.10	6.58	41.34	6.57	41.28	**39.36**
2	2.82	35.44	2.81	35.31	3.11	39.08	3.10	38.96	3.10	38.96	3.15	39.58	2.86	35.94	2.85	35.81	**35.47**
3	1.84	34.68	1.83	34.49	2.13	40.15	2.12	39.96	2.12	39.96	1.98	37.32	1.89	35.63	1.88	35.44	**35.30**
4	1.35	33.93	1.34	33.68	1.49	37.45	1.48	37.20	1.48	37.20	1.50	37.70	1.49	37.45	1.49	37.45	**34.62**
5	1.14	35.81	1.13	35.50	1.11	34.87	1.10	34.56	1.10	34.56	1.16	36.44	1.21	38.01	1.20	37.70	**34.08**
6	0.93	35.06	0.93	35.06	0.92	34.68	0.91	34.31	0.91	34.31	0.93	35.06	0.95	35.81	0.95	35.81	**33.22**
7	0.86	37.82	0.85	37.38	0.87	38.26	0.87	38.26	0.87	38.26	0.81	35.63	0.84	36.95	0.84	36.95	**35.52**
8	0.72	36.19	0.71	35.69	0.73	36.69	0.72	36.19	0.72	36.19	0.74	37.20	0.77	38.70	0.76	38.20	**34.99**
9	0.66	37.32	0.65	36.76	0.63	35.63	0.62	35.06	0.62	35.06	0.60	33.93	0.62	35.06	0.62	35.06	**33.66**
10	0.60	37.70	0.59	37.07	0.58	36.44	0.57	35.81	0.57	35.81	0.54	33.93	0.56	35.19	0.56	35.19	**34.05**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

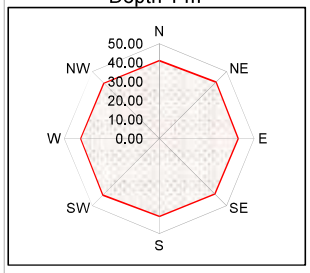
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

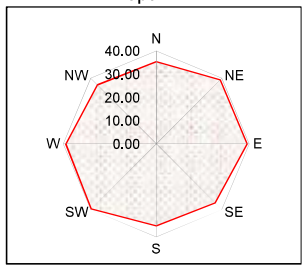
ERT No. : 69 Date : 06-04-2024 Test Location : N 238 , E 2088

Name of Project : TELANGANA STPPST-II

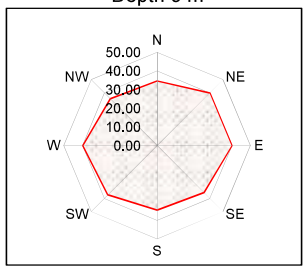
Depth 1 m



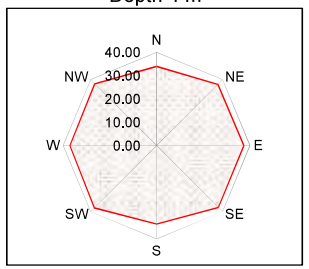
Depth 2 m



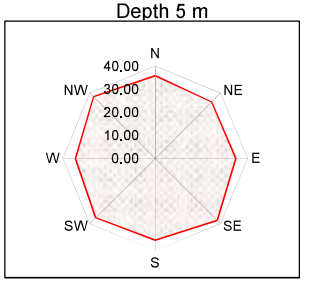
Depth 3 m



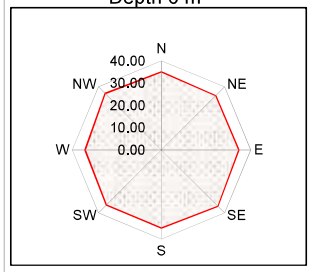
Depth 4 m



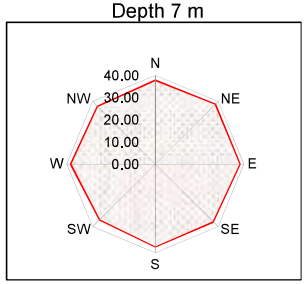
Depth 5 m



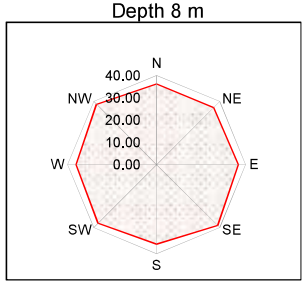
Depth 6 m



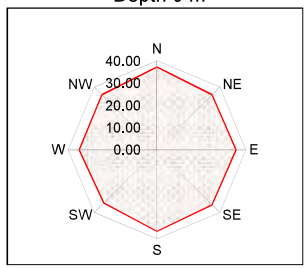
Depth 7 m



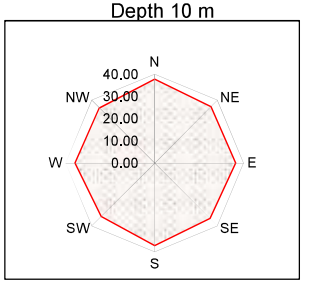
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	4866.79	3952.38	3914.54	3766.14	3649.46	3466.68	3963.66	3845.41	3559.65	3641.58
Radius of the circle having same area as polar diagram	39.36	35.47	35.30	34.62	34.08	33.22	35.52	34.99	33.66	34.05

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 70
Name of Project : TELANGANA STPP ST-II
Co-ordinates N 162, E 1988
Date : 06-04-2024

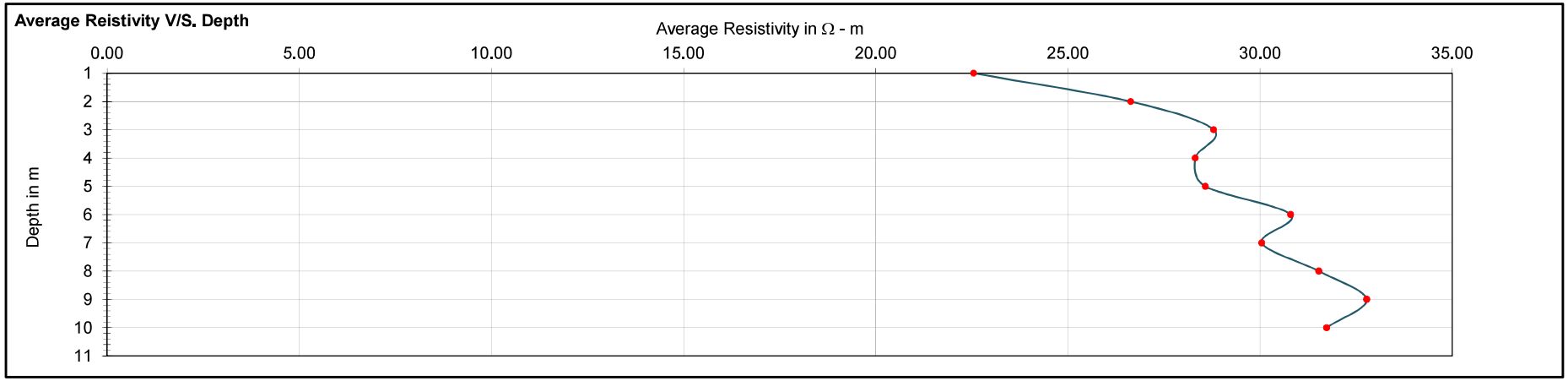
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	3.71	23.31	3.69	23.18	3.81	23.94	3.83	24.06	3.89	24.44	3.87	24.32	3.74	23.50	3.72	23.37	**22.55**
2	2.23	28.02	2.22	27.90	2.27	28.53	2.26	28.40	2.24	28.15	2.23	28.02	2.21	27.77	2.21	27.77	**26.63**
3	1.61	30.35	1.60	30.16	1.64	30.91	1.62	30.54	1.63	30.72	1.63	30.72	1.58	29.78	1.57	29.59	**28.79**
4	1.18	29.66	1.17	29.41	1.24	31.16	1.22	30.66	1.20	30.16	1.19	29.91	1.15	28.90	1.15	28.90	**28.31**
5	0.92	28.90	0.92	28.90	1.00	31.42	0.99	31.10	0.98	30.79	0.97	30.47	0.95	29.85	0.94	29.53	**28.58**
6	0.89	33.55	0.89	33.55	0.88	33.18	0.87	32.80	0.83	31.29	0.82	30.91	0.86	32.42	0.85	32.04	**30.80**
7	0.71	31.23	0.70	30.79	0.75	32.99	0.74	32.55	0.73	32.11	0.70	30.79	0.72	31.67	0.71	31.23	**30.05**
8	0.65	32.67	0.64	32.17	0.71	35.69	0.70	35.19	0.68	34.18	0.67	33.68	0.62	31.16	0.62	31.16	**31.53**
9	0.60	33.93	0.59	33.36	0.67	37.89	0.67	37.89	0.62	35.06	0.61	34.49	0.57	32.23	0.56	31.67	**32.78**
10	0.52	32.67	0.51	32.04	0.58	36.44	0.58	36.44	0.53	33.30	0.53	33.30	0.51	32.04	0.50	31.42	**31.73**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

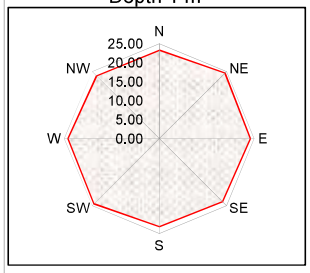
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

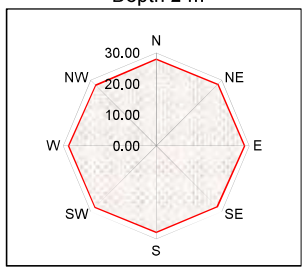
ERT No. : 70 Date : 06-04-2024 Test Location : N 162, E 1988

Name of Project : TELANGANA STPP ST-II

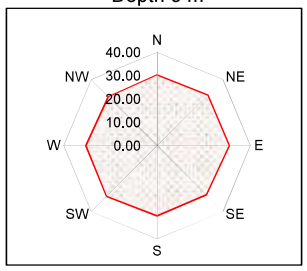
Depth 1 m



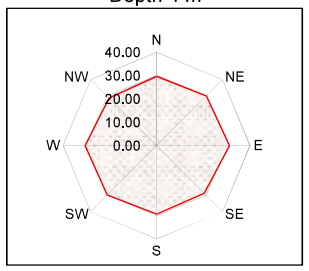
Depth 2 m



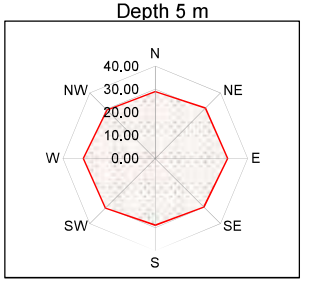
Depth 3 m



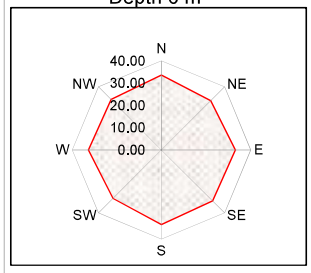
Depth 4 m



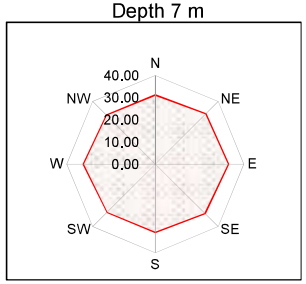
Depth 5 m



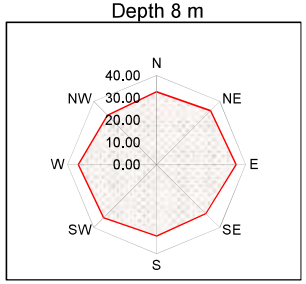
Depth 6 m



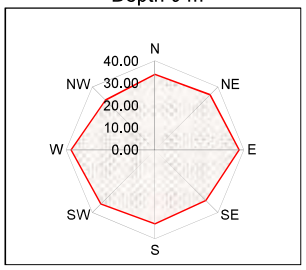
Depth 7 m



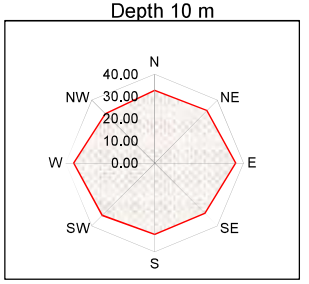
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	1597.28	2228.22	2604.50	2518.62	2565.64	2979.50	2836.03	3123.02	3374.71	3163.18
Radius of the circle having same area as polar diagram	22.55	26.63	28.79	28.31	28.58	30.80	30.05	31.53	32.78	31.73

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 71
Name of Project : TELANGANA STPP ST-II
Co-ordinates N 239, E 1990
Date : 06-04-2024

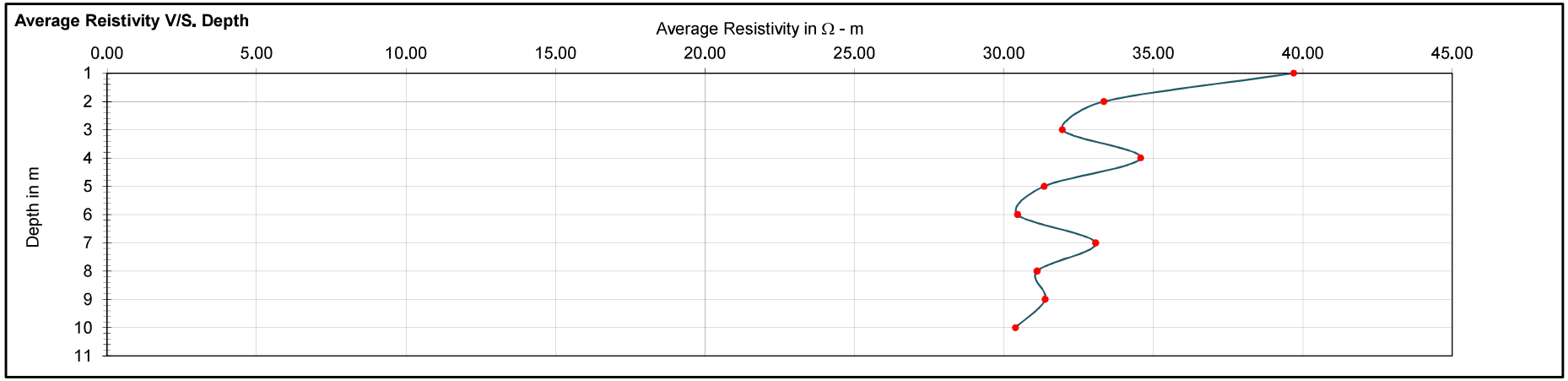
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	6.11	38.39	6.09	38.26	7.29	45.80	7.22	45.36	6.41	40.28	6.39	40.15	6.91	43.42	6.85	43.04	**39.70**
2	2.83	35.56	2.82	35.44	2.86	35.94	2.86	35.94	2.79	35.06	2.78	34.93	2.72	34.18	2.72	34.18	**33.35**
3	1.87	35.25	1.87	35.25	1.81	34.12	1.79	33.74	1.78	33.55	1.77	33.36	1.71	32.23	1.70	32.04	**31.96**
4	1.55	38.96	1.54	38.70	1.36	34.18	1.36	34.18	1.49	37.45	1.48	37.20	1.41	35.44	1.41	35.44	**34.58**
5	1.18	37.07	1.17	36.76	1.01	31.73	1.00	31.42	1.05	32.99	1.04	32.67	0.99	31.10	0.98	30.79	**31.35**
6	1.02	38.45	1.01	38.08	0.77	29.03	0.76	28.65	0.81	30.54	0.80	30.16	0.83	31.29	0.82	30.91	**30.46**
7	0.90	39.58	0.89	39.14	0.82	36.07	0.82	36.07	0.76	33.43	0.75	32.99	0.71	31.23	0.71	31.23	**33.07**
8	0.63	31.67	0.62	31.16	0.70	35.19	0.69	34.68	0.68	34.18	0.67	33.68	0.62	31.16	0.61	30.66	**31.12**
9	0.59	33.36	0.58	32.80	0.61	34.49	0.60	33.93	0.59	33.36	0.58	32.80	0.57	32.23	0.56	31.67	**31.38**
10	0.52	32.67	0.51	32.04	0.54	33.93	0.53	33.30	0.51	32.04	0.50	31.42	0.49	30.79	0.48	30.16	**30.39**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

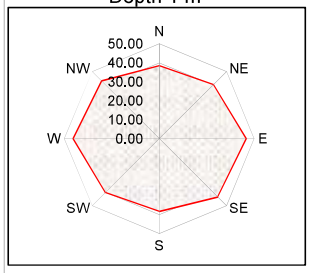
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

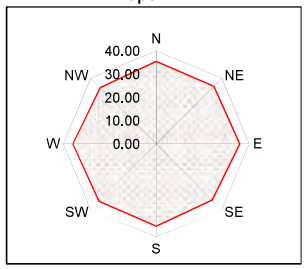
ERT No. : 71 Date : 06-04-2024 Test Location : N 239, E 1990

Name of Project : TELANGANA STPP ST-II

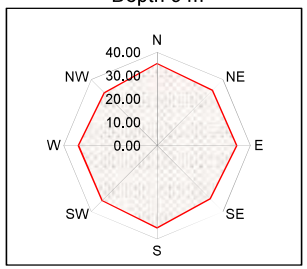
Depth 1 m



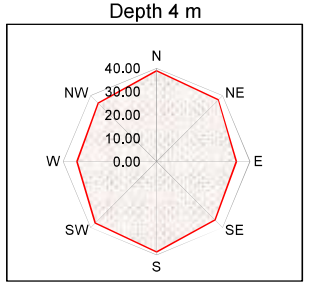
Depth 2 m



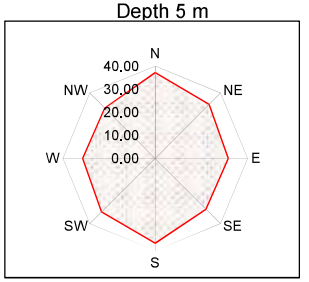
Depth 3 m



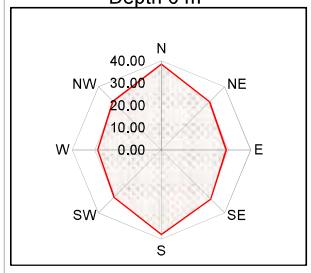
Depth 4 m



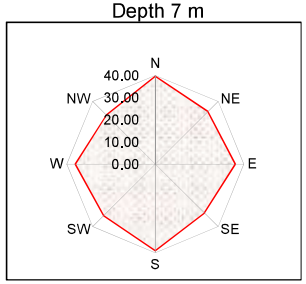
Depth 5 m



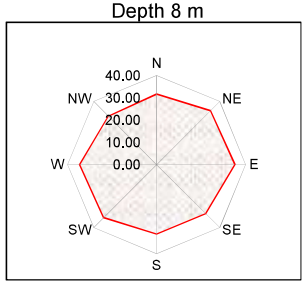
Depth 6 m



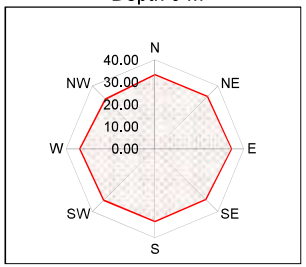
Depth 7 m



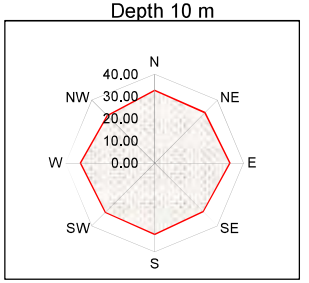
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	4950.21	3494.04	3208.27	3755.74	3088.00	2915.39	3436.22	3041.83	3094.03	2901.51
Radius of the circle having same area as polar diagram	39.70	33.35	31.96	34.58	31.35	30.46	33.07	31.12	31.38	30.39

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 72
Name of Project : TELANGANA STPP ST-II
Co-ordinates N 332, E 1993
Date : 09-04-2024

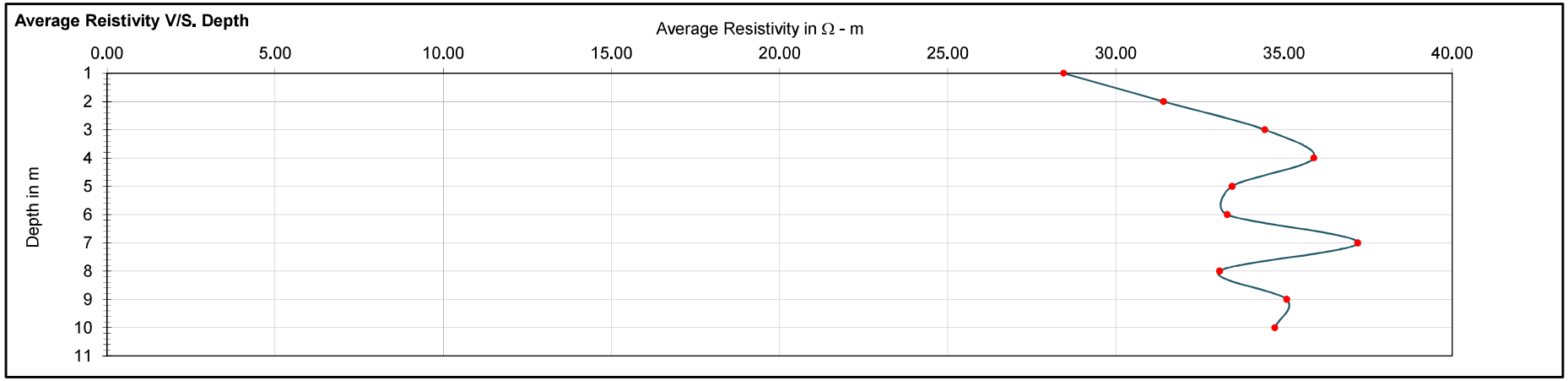
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	4.48	28.15	4.45	27.96	5.11	32.11	5.09	31.98	4.65	29.22	4.63	29.09	4.89	30.72	4.87	30.60	**28.44**
2	2.71	34.05	2.70	33.93	2.62	32.92	2.61	32.80	2.59	32.55	2.58	32.42	2.64	33.18	2.63	33.05	**31.41**
3	1.95	36.76	1.95	36.76	1.91	36.00	1.90	35.81	1.89	35.63	1.88	35.44	1.96	36.95	1.96	36.95	**34.43**
4	1.50	37.70	1.49	37.45	1.49	37.45	1.48	37.20	1.52	38.20	1.51	37.95	1.53	38.45	1.52	38.20	**35.89**
5	1.18	37.07	1.17	36.76	1.11	34.87	1.10	34.56	1.09	34.24	1.08	33.93	1.13	35.50	1.12	35.19	**33.45**
6	0.97	36.57	0.96	36.19	0.91	34.31	0.91	34.31	0.92	34.68	0.91	34.31	0.94	35.44	0.93	35.06	**33.31**
7	0.91	40.02	0.90	39.58	0.86	37.82	0.85	37.38	0.89	39.14	0.88	38.70	0.92	40.46	0.92	40.46	**37.19**
8	0.72	36.19	0.72	36.19	0.69	34.68	0.68	34.18	0.70	35.19	0.70	35.19	0.67	33.68	0.67	33.68	**33.08**
9	0.71	40.15	0.70	39.58	0.61	34.49	0.60	33.93	0.65	36.76	0.64	36.19	0.66	37.32	0.66	37.32	**35.08**
10	0.61	38.33	0.60	37.70	0.58	36.44	0.57	35.81	0.56	35.19	0.56	35.19	0.59	37.07	0.59	37.07	**34.72**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

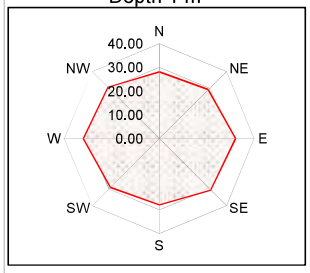
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

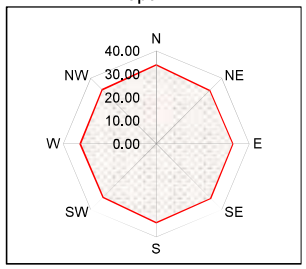
ERT No. : 72 Date : 09-04-2024 Test Location : N 332, E 1993

Name of Project : TELANGANA STPP ST-II

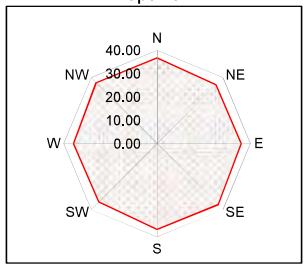
Depth 1 m



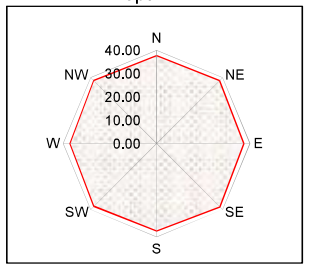
Depth 2 m



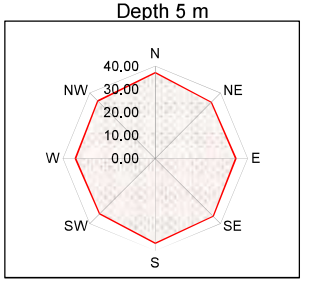
Depth 3 m



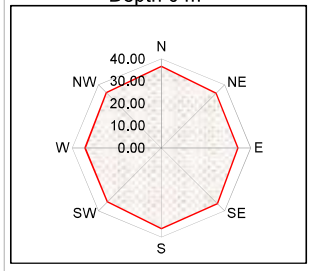
Depth 4 m



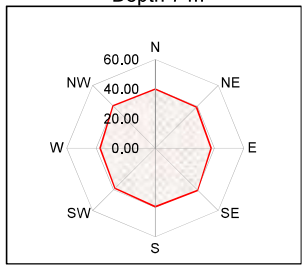
Depth 5 m



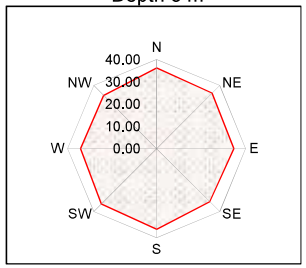
Depth 6 m



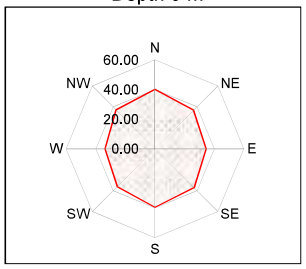
Depth 7 m



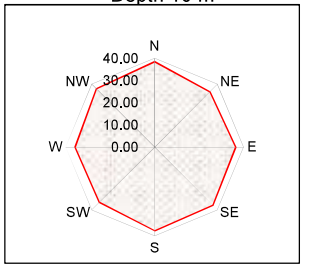
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	2541.57	3100.43	3723.43	4045.68	3516.01	3485.42	4344.82	3438.40	3865.08	3787.56
Radius of the circle having same area as polar diagram	28.44	31.41	34.43	35.89	33.45	33.31	37.19	33.08	35.08	34.72

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 78
Name of Project : TELANGANA STPPST-II
Co-Ordinates : N 1726 , E 1726
Date : 03-04-2024

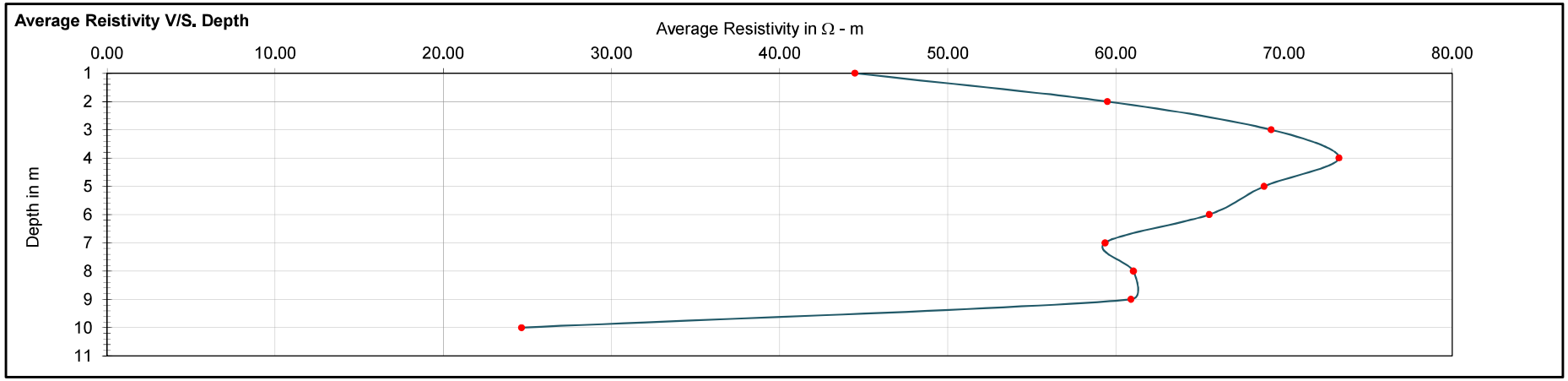
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	7.31	45.93	7.29	45.80	7.61	47.82	7.60	47.75	7.44	46.75	7.42	46.62	7.51	47.19	7.50	47.12	**44.47**
2	4.91	61.70	4.90	61.58	5.11	64.21	5.10	64.09	4.97	62.45	4.96	62.33	4.99	62.71	4.98	62.58	**59.49**
3	3.92	73.89	3.91	73.70	3.85	72.57	3.84	72.38	3.88	73.14	3.79	71.44	3.89	73.32	3.89	73.32	**69.23**
4	3.12	78.41	3.11	78.16	3.08	77.41	3.07	77.16	3.06	76.91	3.05	76.65	3.05	76.65	3.04	76.40	**73.26**
5	2.36	74.14	2.35	73.83	2.31	72.57	2.31	72.57	2.29	71.94	2.28	71.63	2.29	71.94	2.28	71.63	**68.81**
6	1.81	68.24	1.80	67.86	1.82	68.61	1.82	68.61	1.85	69.74	1.84	69.37	1.86	70.12	1.86	70.12	**65.54**
7	1.48	65.09	1.47	64.65	1.41	62.02	1.40	61.58	1.38	60.70	1.37	60.26	1.44	63.33	1.43	62.89	**59.36**
8	1.30	65.35	1.29	64.84	1.24	62.33	1.23	61.83	1.27	63.84	1.27	63.84	1.32	66.35	1.32	66.35	**61.04**
9	1.17	66.16	1.16	65.60	1.11	62.77	1.10	62.20	1.15	65.03	1.14	64.47	1.13	63.90	1.12	63.33	**60.90**
10	0.45	28.27	0.44	27.65	0.41	25.76	0.40	25.13	0.39	24.50	0.38	23.88	0.42	26.39	0.42	26.39	**24.66**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

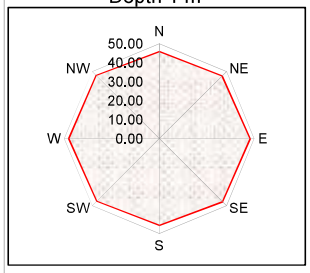
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

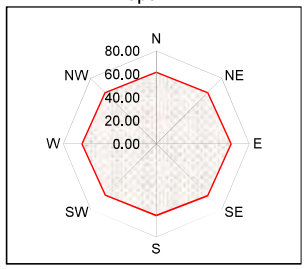
ERT No. : 78 Date : 03-04-2024 Test Location : N 1726 , E 1726

Name of Project : TELANGANA STPPST-II

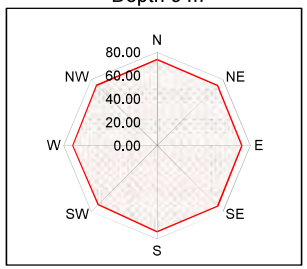
Depth 1 m



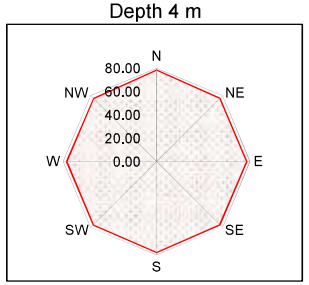
Depth 2 m



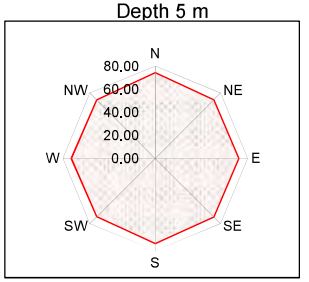
Depth 3 m



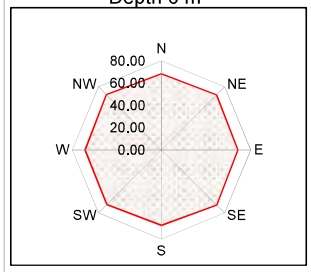
Depth 4 m



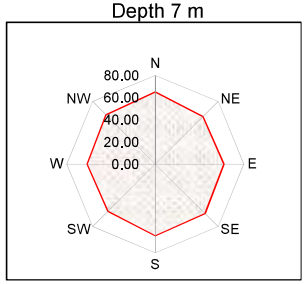
Depth 5 m



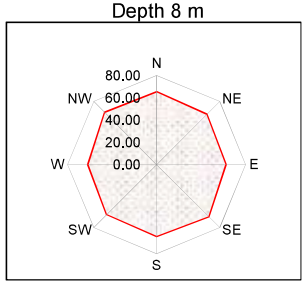
Depth 6 m



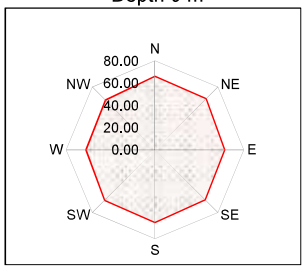
Depth 7 m



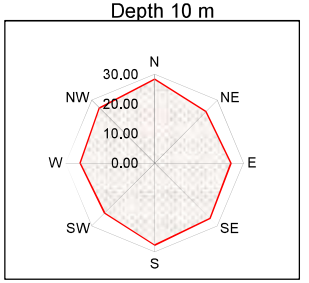
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	6213.22	11119.79	15058.62	16862.43	14876.03	13495.18	11068.19	11705.22	11649.84	1909.97
Radius of the circle having same area as polar diagram	44.47	59.49	69.23	73.26	68.81	65.54	59.36	61.04	60.90	24.66

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 83
Name of Project : TELANGANA STPPST-II
Co-Ordinates : N 159 , E 3443
Date : 03-04-2024

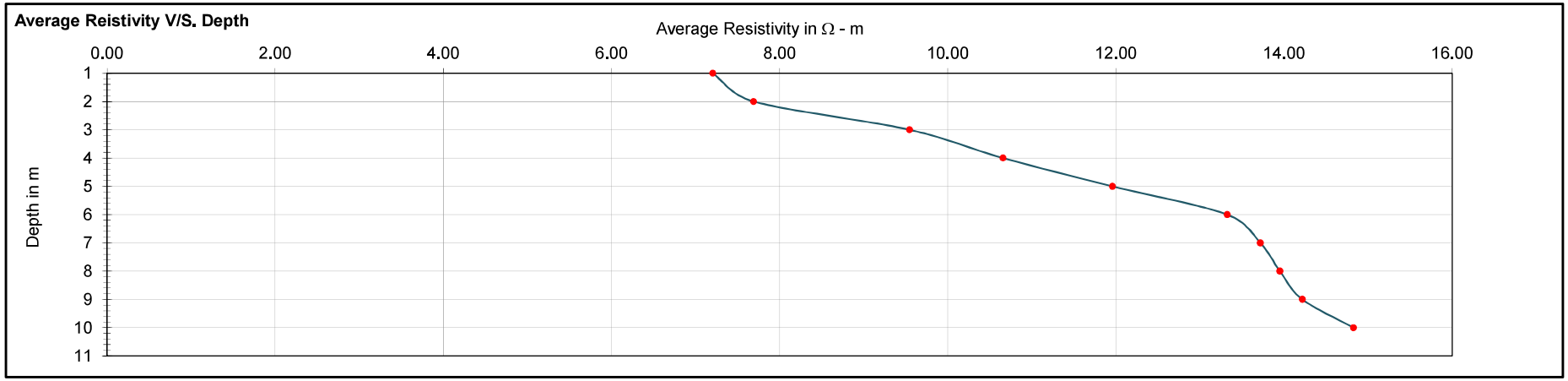
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	1.13	7.10	1.10	6.91	1.34	8.42	1.33	8.36	1.21	7.60	1.20	7.54	1.19	7.48	1.17	7.35	**7.21**
2	0.66	8.29	0.65	8.17	0.64	8.04	0.63	7.92	0.68	8.55	0.67	8.42	0.62	7.79	0.61	7.67	**7.69**
3	0.53	9.99	0.53	9.99	0.55	10.37	0.54	10.18	0.56	10.56	0.55	10.37	0.51	9.61	0.50	9.42	**9.55**
4	0.39	9.80	0.38	9.55	0.47	11.81	0.46	11.56	0.49	12.32	0.48	12.06	0.46	11.56	0.45	11.31	**10.66**
5	0.39	12.25	0.38	11.94	0.41	12.88	0.40	12.57	0.42	13.19	0.41	12.88	0.40	12.57	0.40	12.57	**11.96**
6	0.36	13.57	0.36	13.57	0.39	14.70	0.38	14.33	0.37	13.95	0.38	14.33	0.37	13.95	0.37	13.95	**13.32**
7	0.33	14.51	0.32	14.07	0.34	14.95	0.34	14.95	0.34	14.95	0.33	14.51	0.32	14.07	0.31	13.63	**13.72**
8	0.30	15.08	0.29	14.58	0.29	14.58	0.28	14.07	0.31	15.58	0.30	15.08	0.29	14.58	0.28	14.07	**13.95**
9	0.28	15.83	0.28	15.83	0.25	14.14	0.25	14.14	0.29	16.40	0.28	15.83	0.25	14.14	0.24	13.57	**14.22**
10	0.27	16.96	0.27	16.96	0.24	15.08	0.24	15.08	0.26	16.34	0.25	15.71	0.23	14.45	0.23	14.45	**14.82**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

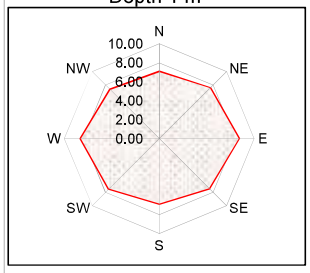
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

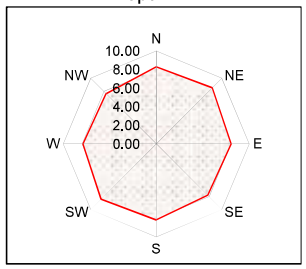
ERT No. : 83 Date : 03-04-2024 Test Location : N 159 , E 3443

Name of Project : TELANGANA STPPST-II

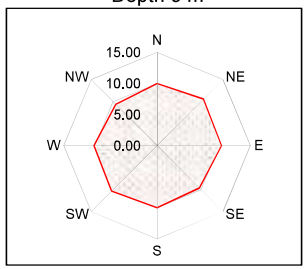
Depth 1 m



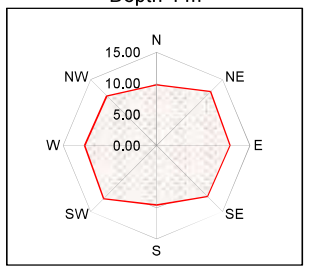
Depth 2 m



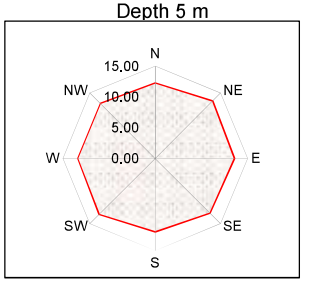
Depth 3 m



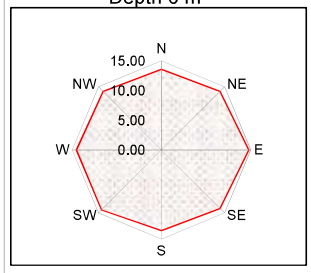
Depth 4 m



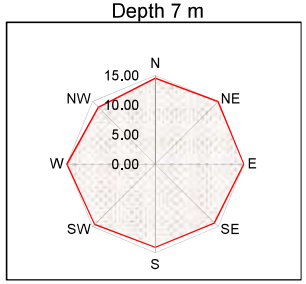
Depth 5 m



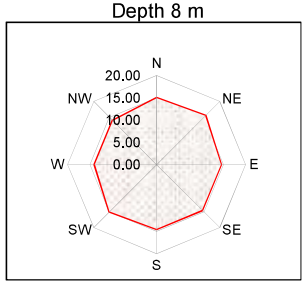
Depth 6 m



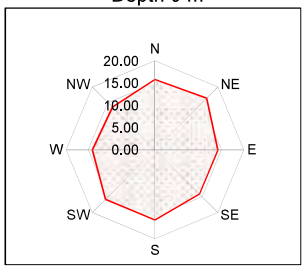
Depth 7 m



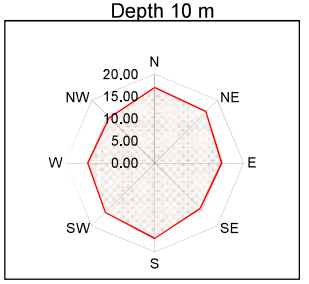
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	163.09	185.79	286.26	356.84	449.30	557.67	591.17	611.37	635.06	690.38
Radius of the circle having same area as polar diagram	7.21	7.69	9.55	10.66	11.96	13.32	13.72	13.95	14.22	14.82

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 84
Name of Project : TELANGANA STPP ST-II
Co-ordinates N 186, E 3947
Date : 11-04-2024

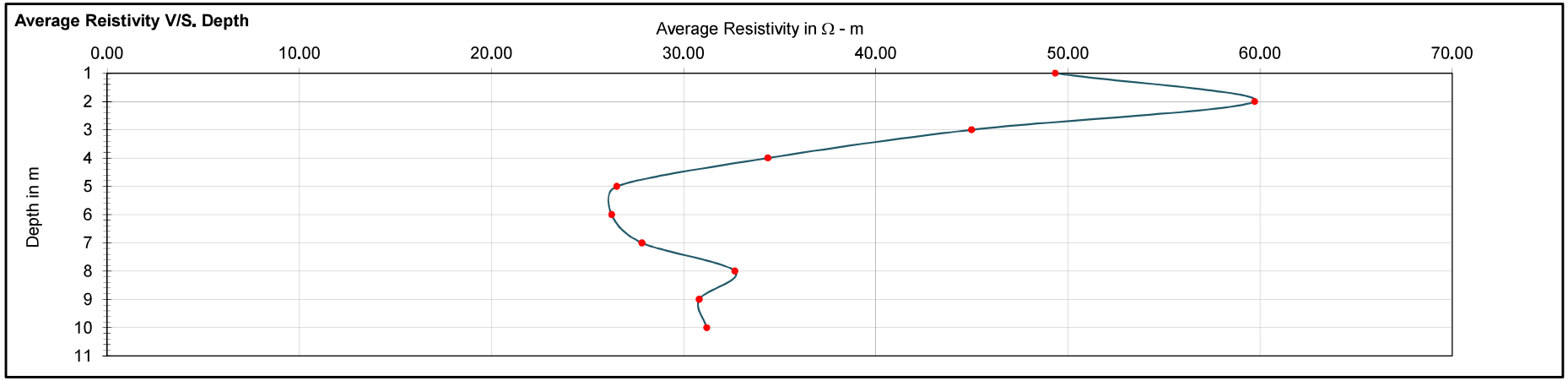
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	8.24	51.77	8.20	51.52	8.16	51.27	8.10	50.89	8.40	52.78	8.40	52.78	8.37	52.59	8.35	52.46	**49.34**
2	5.11	64.21	5.10	64.09	4.99	62.71	4.97	62.45	5.05	63.46	5.04	63.33	4.91	61.70	4.90	61.58	**59.72**
3	2.58	48.63	2.55	48.07	2.60	49.01	2.58	48.63	2.41	45.43	2.40	45.24	2.51	47.31	2.50	47.12	**44.99**
4	1.51	37.95	0.90	22.62	1.56	39.21	1.54	38.70	1.50	37.70	1.49	37.45	1.53	38.45	1.52	38.20	**34.39**
5	0.91	28.59	0.70	21.99	0.89	27.96	0.88	27.65	0.93	29.22	0.92	28.90	0.95	29.85	0.95	29.85	**26.53**
6	0.71	26.77	0.63	23.75	0.73	27.52	0.72	27.14	0.74	27.90	0.74	27.90	0.81	30.54	0.80	30.16	**26.25**
7	0.60	26.39			0.61	26.83	0.60	26.39	0.64	28.15	0.63	27.71	0.68	29.91	0.67	29.47	**27.83**
8					0.60	30.16	0.59	29.66	0.61	30.66	0.61	30.66	0.90	45.24	0.59	29.66	**32.67**
9					0.57	32.23	0.56	31.67	0.53	29.97	0.52	29.41	0.55	31.10	0.54	30.54	**30.82**
10					0.50	31.42	0.49	30.79	0.48	30.16	0.48	30.16	0.52	32.67	0.51	32.04	**31.21**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.As observations could not be taken in 8 directions due to site constraints, average resistivity was calculated by arithmetic mean in those cases.



KCT Consultancy Services, Ahmedabad

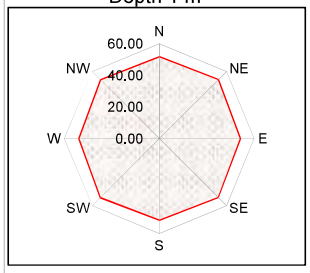
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

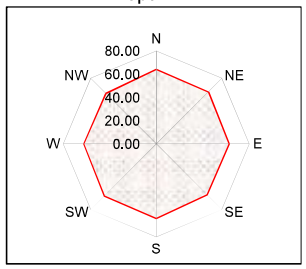
ERT No. : 84 Date : 11-04-2024 Test Location : N 186, E 3947

Name of Project : TELANGANA STPP ST-II

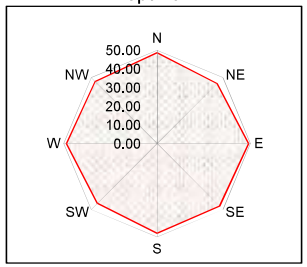
Depth 1 m



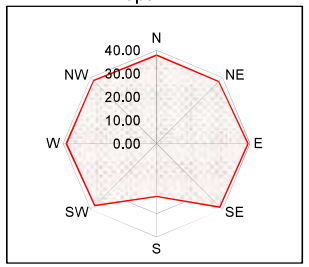
Depth 2 m



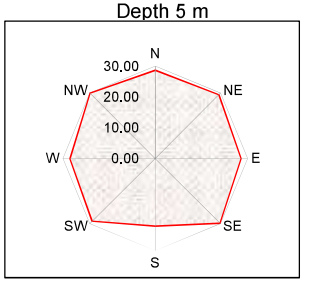
Depth 3 m



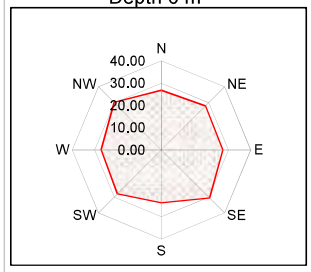
Depth 4 m



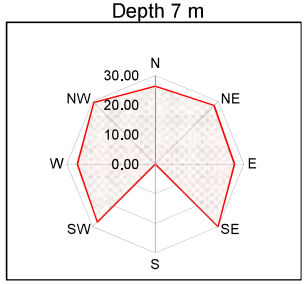
Depth 5 m



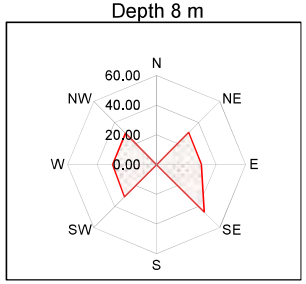
Depth 6 m



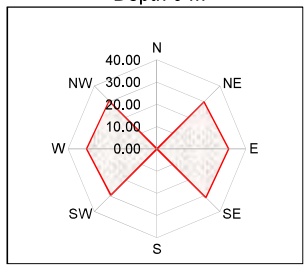
Depth 7 m



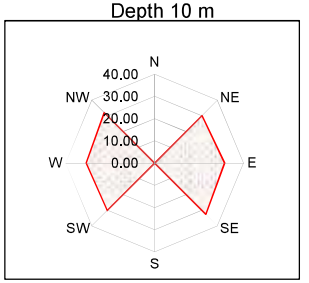
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6			
Area of the polar diagram	7648.41	11203.11	6358.19	3715.63	2211.48	2165.45			
Radius of the circle having same area as polar diagram	49.34	59.72	44.99	34.39	26.53	26.25			

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

2) Observations could not be taken in all 8 directions due to site constraints and therefore full polar diagrams are not plotted for all that depths and not tabulated above.

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 85
Name of Project : TELANGANA STPPST-II
Co-Ordinates : N 120 , E 4142
Date : 05-04-2024

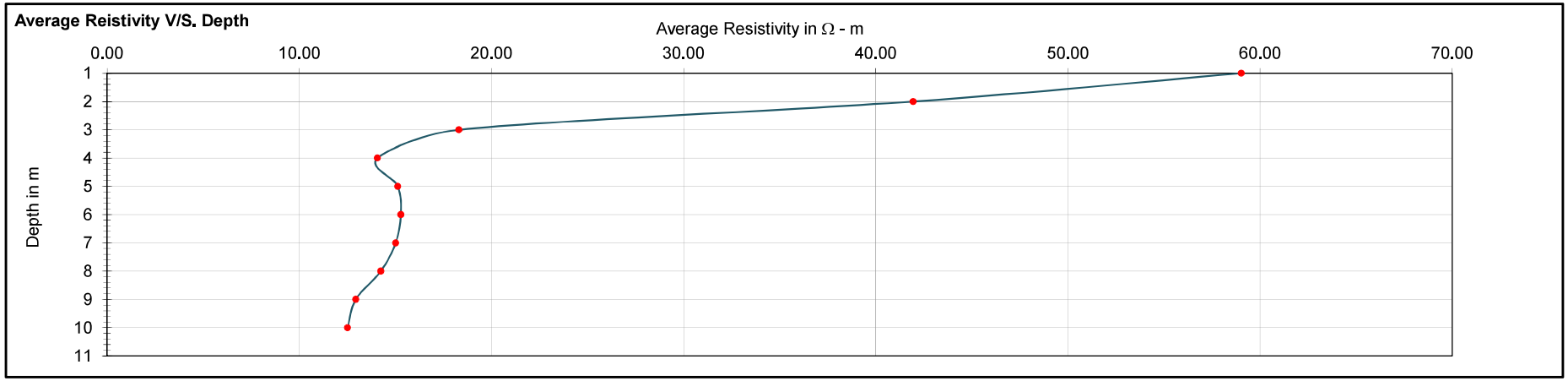
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	9.98	62.71	9.90	62.20	10.15	63.77	10.12	63.59	9.75	61.26	9.71	61.01	9.81	61.64	9.79	61.51	**59.02**
2	3.50	43.98	3.48	43.73	3.65	45.87	3.64	45.74	3.45	43.35	3.44	43.23	3.49	43.86	3.50	43.98	**41.95**
3	1.07	20.17	1.05	19.79	1.10	20.73	1.09	20.55	0.99	18.66	0.98	18.47	0.96	18.10	0.96	18.10	**18.31**
4	0.61	15.33	0.60	15.08	0.58	14.58	0.57	14.33	0.62	15.58	0.62	15.58	0.56	14.07	0.56	14.07	**14.07**
5	0.51	16.02	0.50	15.71	0.52	16.34	0.51	16.02	0.53	16.65	0.52	16.34	0.49	15.39	0.48	15.08	**15.13**
6	0.42	15.83	0.41	15.46	0.43	16.21	0.43	16.21	0.45	16.96	0.44	16.59	0.42	15.83	0.42	15.83	**15.29**
7	0.36	15.83	0.35	15.39	0.36	15.83	0.36	15.83	0.37	16.27	0.37	16.27	0.36	15.83	0.35	15.39	**15.02**
8	0.29	14.58	0.28	14.07	0.31	15.58	0.30	15.08	0.32	16.08	0.32	16.08	0.29	14.58	0.28	14.07	**14.25**
9	0.25	14.14	0.24	13.57	0.24	13.57	0.24	13.57	0.23	13.01	0.22	12.44	0.26	14.70	0.25	14.14	**12.94**
10	0.23	14.45	0.21	13.19	0.20	12.57	0.19	11.94	0.21	13.19	0.21	13.19	0.22	13.82	0.21	13.19	**12.52**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

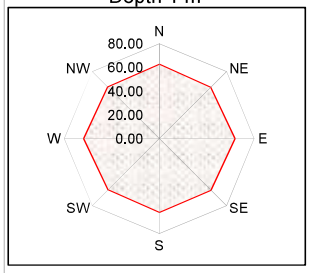
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

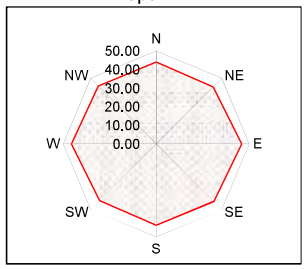
ERT No. : 85 Date : 05-04-2024 Test Location : N 120 , E 4142

Name of Project : TELANGANA STPPST-II

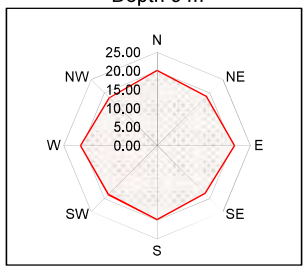
Depth 1 m



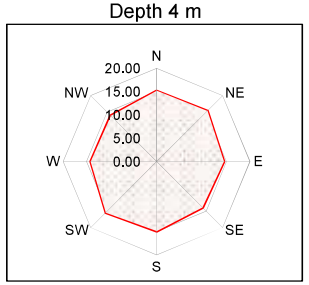
Depth 2 m



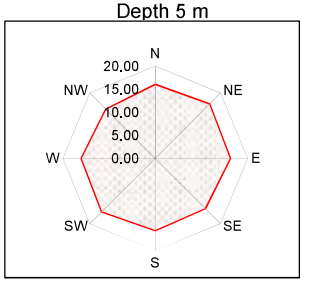
Depth 3 m



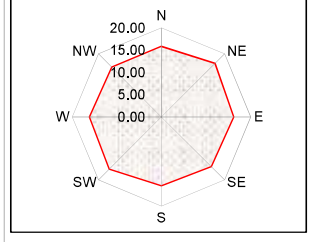
Depth 4 m



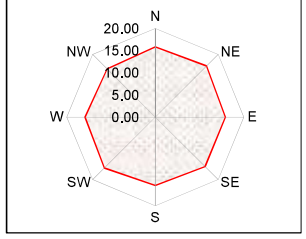
Depth 5 m



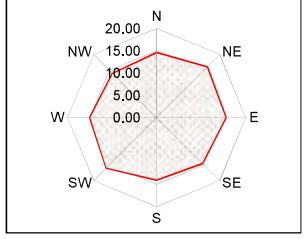
Depth 6 m



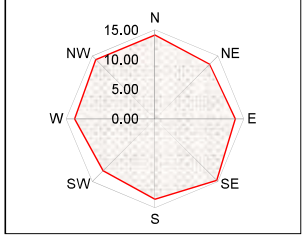
Depth 7 m



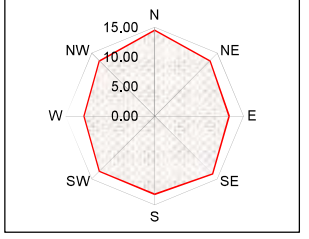
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	10943.04	5528.32	1052.92	621.82	718.89	734.46	708.92	637.63	526.32	492.21
Radius of the circle having same area as polar diagram	59.02	41.95	18.31	14.07	15.13	15.29	15.02	14.25	12.94	12.52

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 86
Name of Project : TELANGANA STPPST-II
Co-Ordinates : N 74 , E 3948
Date : 03-04-2024

Battery Condition : Good
Climatic Condition : hot and Dry

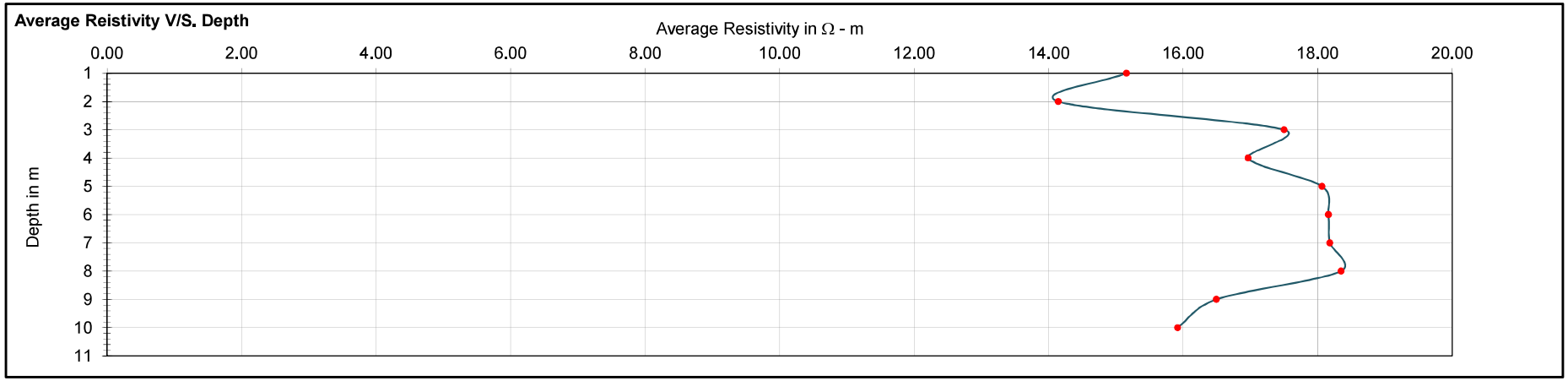
Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	2.56	16.08	2.54	15.96	2.51	15.77	2.49	15.65	2.61	16.40	2.60	16.34	2.53	15.90	2.50	15.71	**15.16**
2	1.20	15.08	1.19	14.95	1.17	14.70	1.16	14.58	1.21	15.21	1.21	15.21	1.18	14.83	1.17	14.70	**14.14**
3	0.98	18.47	0.97	18.28	0.96	18.10	0.95	17.91	0.99	18.66	0.99	18.66	1.00	18.85	0.99	18.66	**17.50**
4					0.64	16.08	0.63	15.83	0.69	17.34	0.68	17.09	0.71	17.84	0.70	17.59	**16.96**
5					0.55	17.28	0.54	16.96	0.58	18.22	0.57	17.91	0.61	19.16	0.60	18.85	**18.06**
6					0.49	18.47	0.48	18.10	0.47	17.72	0.46	17.34	0.50	18.85	0.49	18.47	**18.16**
7					0.40	17.59	0.39	17.15	0.42	18.47	0.41	18.03	0.43	18.91	0.43	18.91	**18.18**
8					0.37	18.60	0.36	18.10	0.38	19.10	0.38	19.10	0.35	17.59	0.35	17.59	**18.35**
9					0.29	16.40	0.29	16.40	0.31	17.53	0.31	17.53	0.28	15.83	0.27	15.27	**16.49**
10					0.24	15.08	0.24	15.08	0.26	16.34	0.25	15.71	0.27	16.96	0.26	16.34	**15.92**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.As observations could not be taken in 8 directions due to site constraints, average resistivity was calculated by arithmetic mean in those cases.

Average Reistivity V/S. Depth



KCT Consultancy Services, Ahmedabad

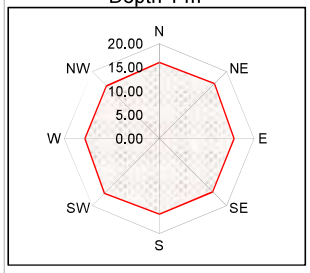
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

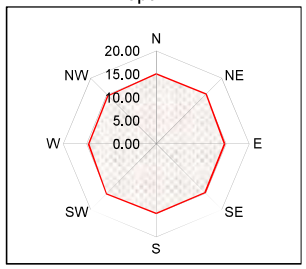
ERT No. : 86 Date : 03-04-2024 Test Location : N 74 , E 3948

Name of Project : TELANGANA STPPST-II

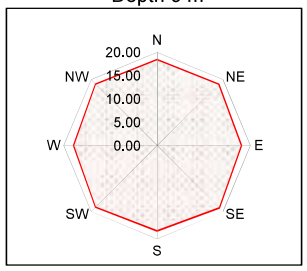
Depth 1 m



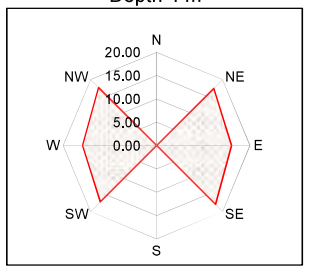
Depth 2 m



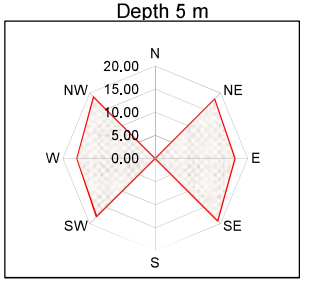
Depth 3 m



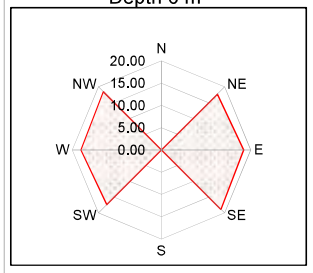
Depth 4 m



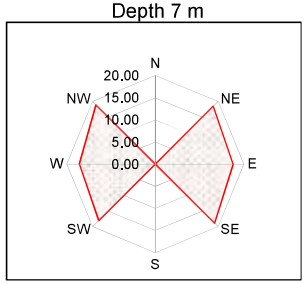
Depth 5 m



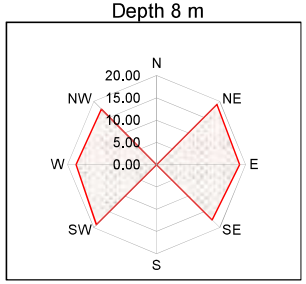
Depth 6 m



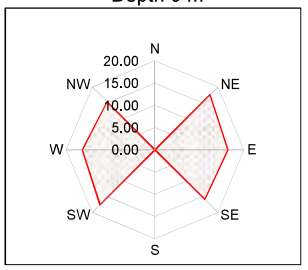
Depth 7 m



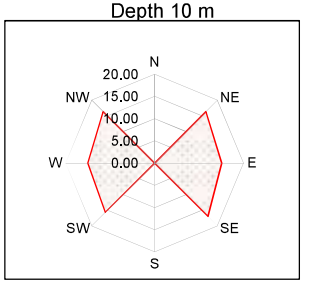
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3						
Area of the polar diagram	721.68	628.40	962.36						
Radius of the circle having same area as polar diagram	15.16	14.14	17.50						

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

2) Observations could not be taken in all 8 directions due to site constraints and therefore full polar diagrams are not plotted for all that depths and not tabulated above.

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 87
Name of Project : TELANGANA STPPST-II
Co-Ordinates : N 908 , E 4000
Date : 05-04-2024

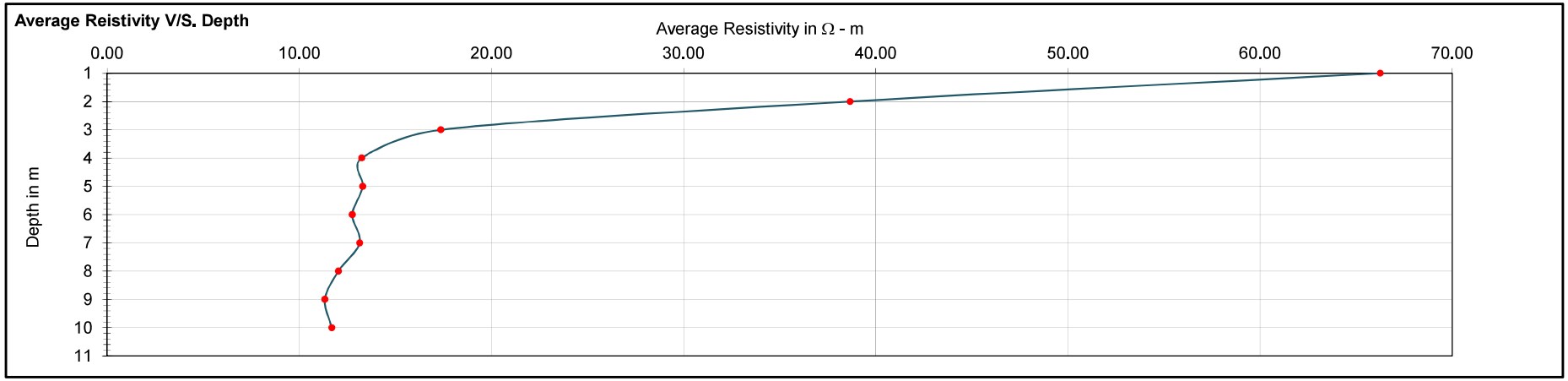
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	12.11	76.09	12.09	75.96	10.33	64.91	10.29	64.65	10.59	66.54	10.53	66.16	11.50	72.26	11.48	72.13	**66.26**
2	3.25	40.84	3.23	40.59	3.15	39.58	3.14	39.46	3.19	40.09	3.18	39.96	3.41	42.85	3.40	42.73	**38.67**
3	0.99	18.66	0.98	18.47	0.97	18.28	0.96	18.10	0.93	17.53	0.93	17.53	1.01	19.04	1.00	18.85	**17.37**
4	0.56	14.07	0.55	13.82	0.52	13.07	0.52	13.07	0.57	14.33	0.56	14.07	0.59	14.83	0.58	14.58	**13.26**
5	0.41	12.88	0.41	12.88	0.43	13.51	0.42	13.19	0.45	14.14	0.45	14.14	0.51	16.02	0.50	15.71	**13.31**
6	0.34	12.82	0.33	12.44	0.31	11.69	0.31	11.69	0.39	14.70	0.38	14.33	0.41	15.46	0.40	15.08	**12.77**
7	0.32	14.07	0.32	14.07	0.31	13.63	0.31	13.63	0.30	13.19	0.30	13.19	0.33	14.51	0.33	14.51	**13.14**
8	0.25	12.57	0.25	12.57	0.26	13.07	0.25	12.57	0.24	12.06	0.24	12.06	0.27	13.57	0.26	13.07	**12.04**
9	0.22	12.44	0.21	11.88	0.21	11.88	0.21	11.88	0.20	11.31	0.19	10.74	0.23	13.01	0.22	12.44	**11.33**
10	0.20	12.57	0.20	12.57	0.19	11.94	0.18	11.31	0.19	11.94	0.19	11.94	0.21	13.19	0.21	13.19	**11.70**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

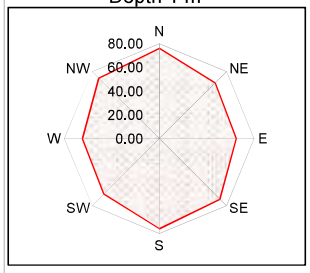
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

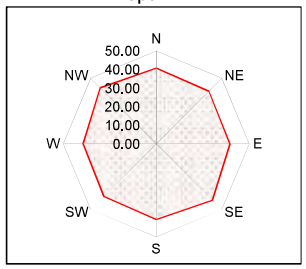
ERT No. : 87 Date : 05-04-2024 Test Location : N 908 , E 4000

Name of Project : TELANGANA STPPST-II

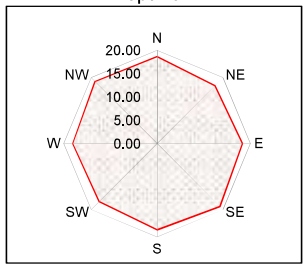
Depth 1 m



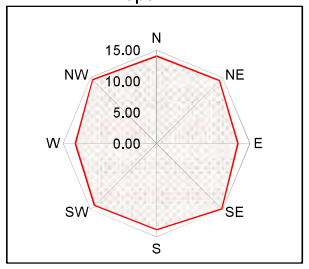
Depth 2 m



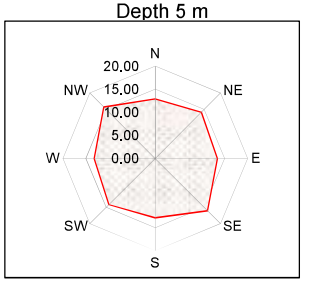
Depth 3 m



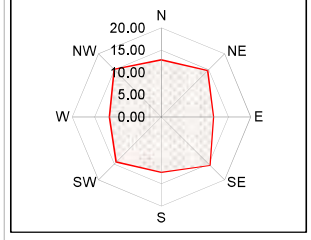
Depth 4 m



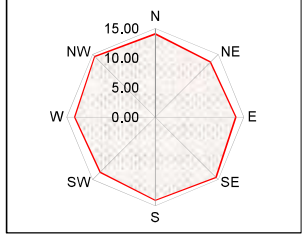
Depth 5 m



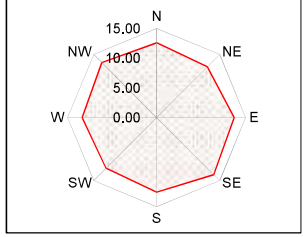
Depth 6 m



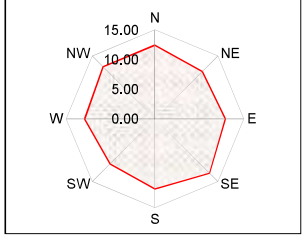
Depth 7 m



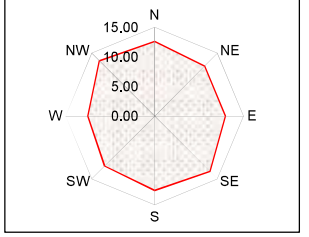
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	13792.10	4697.71	947.84	552.08	556.45	512.00	542.82	455.60	403.55	429.83
Radius of the circle having same area as polar diagram	66.26	38.67	17.37	13.26	13.31	12.77	13.14	12.04	11.33	11.70

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

KCT Consultancy Services, Ahmedabad

RESULTS OF ELECTRICAL RESISTIVITY TEST

(IS : 3043, 1987)

ERT No. : 88
Name of Project : TELANGANA STPP ST-II
Co-ordinates N 234, E 4712
Date : 12-04-2024

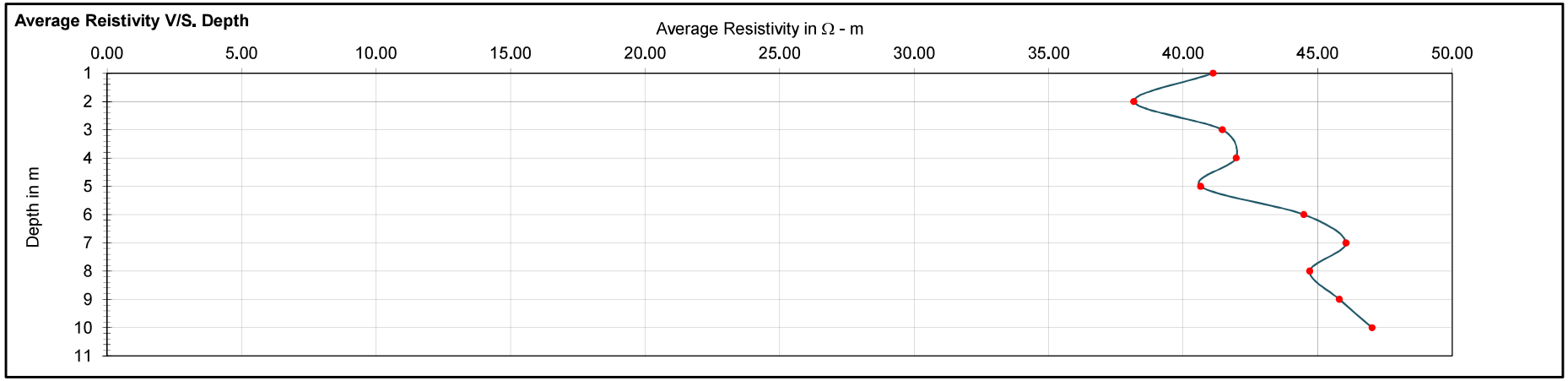
Battery Condition : Good
Climatic Condition : hot and Dry

Resistivity at given depth $\rho = 2 \pi S R$
Where

ρ = Resistivity in ohm - m (Ω m)
π = Value of pi - 22 / 7
S = Electrode Spacing (equal to the depth at which resistivity is determined) in m
R = V / / in ohm (Ω)
V = Voltage Drop between inner electrodes in Volt
/ = Current applied in outer electrodes in Amp.

Spacing of Electrode in (m)	Direction																Average Resistivity (Ω - m)
	N - S				E - W				N E - S W				S E - N W				
	Direct		Reverse		Direct		Reverse		Direct		Reverse		Direct		Reverse		
	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	Resistence Observed in Ω	Resistivity ρ in Ω m	
1	6.95	43.67	6.87	43.17	6.81	42.79	6.79	42.66	6.99	43.92	6.96	43.73	6.91	43.42	6.89	43.29	**41.11**
2	3.41	42.85	3.39	42.60	3.19	40.09	3.18	39.96	2.99	37.57	2.98	37.45	3.25	40.84	3.23	40.59	**38.17**
3	2.19	41.28	2.18	41.09	2.11	39.77	2.10	39.58	2.81	52.97	2.80	52.78	2.21	41.66	2.20	41.47	**41.46**
4	1.71	42.98	1.70	42.73	1.81	45.49	1.80	45.24	1.92	48.25	1.90	47.75	1.63	40.97	1.61	40.46	**41.97**
5	1.32	41.47	1.31	41.15	1.39	43.67	1.37	43.04	1.47	46.18	1.46	45.87	1.30	40.84	1.29	40.53	**40.65**
6	1.22	45.99	1.21	45.62	1.29	48.63	1.28	48.25	1.31	49.39	1.30	49.01	1.18	44.48	1.16	43.73	**44.49**
7	1.11	48.82	1.10	48.38	1.15	50.58	1.14	50.14	1.14	50.14	1.13	49.70	1.04	45.74	1.02	44.86	**46.05**
8	0.89	44.74	0.89	44.74	1.01	50.77	1.01	50.77	0.99	49.76	0.98	49.26	0.87	43.73	0.86	43.23	**44.71**
9	0.82	46.37	0.81	45.80	0.89	50.33	0.88	49.76	0.92	52.02	0.91	51.46	0.80	45.24	0.80	45.24	**45.81**
10	0.76	47.75	0.75	47.12	0.83	52.15	0.83	52.15	0.84	52.78	0.82	51.52	0.75	47.12	0.73	45.87	**47.02**

Note : Average resistivity is calculated as per clause 36.6 of IS : 3043.



KCT Consultancy Services, Ahmedabad

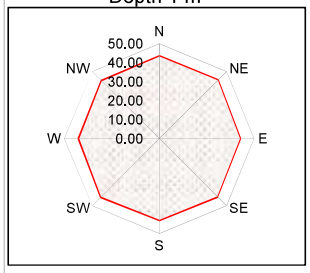
POLAR DIAGRAMS OF ELECTRICAL RESISTIVITY TEST RESULTS

(IS : 3043, 1987)

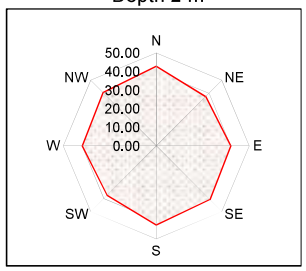
ERT No. : 88 Date : 12-04-2024 Test Location : N 234, E 4712

Name of Project : TELANGANA STPP ST-II

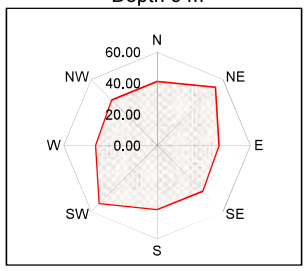
Depth 1 m



Depth 2 m



Depth 3 m



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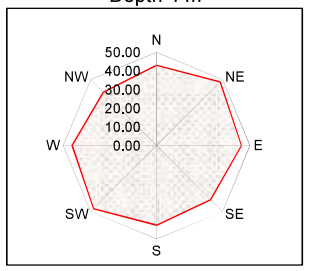
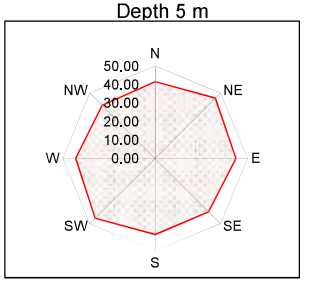
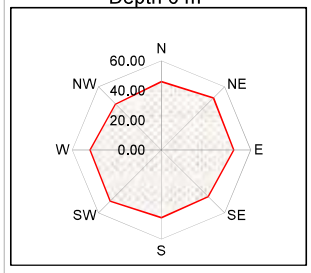


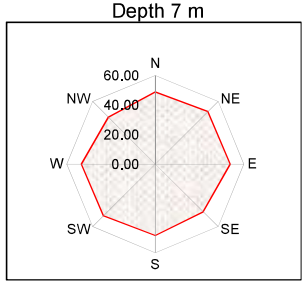
Depth 5 m



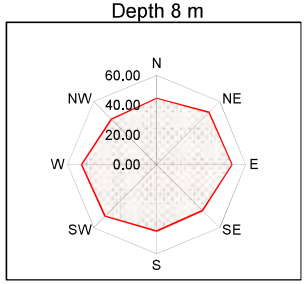
Depth 6 m



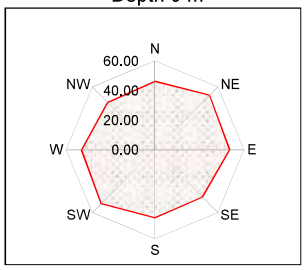
Depth 7 m



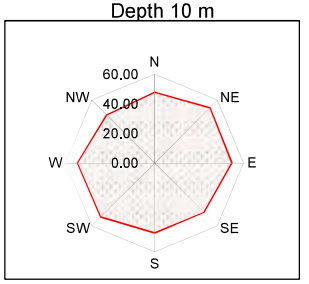
Depth 8 m



Depth 9 m



Depth 10 m



Depth of resistivity in m	1	2	3	4	5	6	7	8	9	10
Area of the polar diagram	5309.46	4576.51	5399.05	5533.30	5190.30	6217.28	6662.24	6278.91	6591.51	6945.57
Radius of the circle having same area as polar diagram	41.11	38.17	41.46	41.97	40.65	44.49	46.05	44.71	45.81	47.02

1) Average Resistivity at a given depth shall be equal to the radius of equivalent area circle having same area as that of polar diagram at that level. (Ref: Clause 36.6 of IS: 3043).

12.00.00(D)

Annexure- (D)

CRITERIA FOR WIND RESISTANT DESIGN OF STRUCTURES AND EQUIPMENT

All structures shall be designed for wind forces in accordance with IS:875 (Part-3) and as specified in this document. See site specific information below.

Along wind forces shall generally be computed by the Peak (i.e. 3 second gust) Wind Speed method as defined in the standard.

Along wind forces on slender and wind sensitive structures and structural elements shall also be computed, for dynamic effects, using the Gust Factor or Gust Effectiveness Factor Method as defined in the standard. The structures shall be designed for the higher of the forces obtained from Gust Factor method and the Peak Wind Speed method.

Analysis for dynamic effects of wind must be undertaken for any structure which has a height to minimum lateral dimension ratio greater than "5" and/or if the fundamental frequency of the structure is less than 1 Hz.

Susceptibility of structures to across-wind forces, galloping, flutter, ovalling etc. should be examined and designed/detailed accordingly following the recommendations of IS:875(Part-3) and other relevant Indian standards.

It should be estimated if size and relative position of other structures are likely to enhance the wind loading on the structure under consideration. Enhancement factor, if necessary, shall suitably be estimated and applied to the wind loading to account for the interference effects.

Damping in Structures

The damping factor (as a percentage of critical damping) to be adopted shall not be more than as indicated below for:

a) Welded steel structures : 1.0%

b) Bolted steel structures/RCC structures : 2.0%

c) Prestressed concrete structures : 1.6%

d) Steel stacks : As per IS:6533 & CICIN Model Code whichever is more critical.

SITE SPECIFIC DESIGN PARAMETERS

The various design parameters, as defined in IS: 875 (Part-3), to be adopted for the project site shall be as follows:

DESCRIPTION	TELANGANA	NABINAGAR	GADARWARA
Basic wind speed "Vb" at ten meters above the mean ground level	44 m/s	47 m/s	39 m/s
Risk coefficient "K1"	1.07	1.07	1.06
Category of terrain	Category-2	Category-2	Category-2

12.00.00(E)

Annexure-(E)

CRITERIA FOR EARTHQUAKE RESISTANT DESIGN OF STRUCTURES AND EQUIPMENT

All structures and equipment shall be designed for seismic forces adopting the site specific seismic information provided in this document and using the other provisions in accordance with IS:1893 (Part 1 to Part 4). Pending finalization of Part 5 of IS:1893, provisions of part 1 shall be read along with the relevant clauses of IS:1893:1984, for embankments.

Site specific seismic study has been conducted for the project sites. The peak ground horizontal acceleration for the project sites, the site specific acceleration spectral coefficients (in units of gravity acceleration 'g') in the horizontal direction for the various damping values and the multiplying factor (to be used over the spectral coefficients) for evaluating the design acceleration spectra are as given at Appendix-I (Project-wise).

Vertical acceleration spectral values shall be taken as 2/3rd of the corresponding horizontal values.

The site specific design acceleration spectra shall be used in place of the response acceleration spectra, given at figure-2 in IS:1893 (Part 1) and Annex B of IS:1893 (Part 4). The site specific acceleration spectra along with multiplying factors specified in Appendix-I includes the effect of the seismic environment of the site, the importance factor related to the structures and the response reduction factor. Hence, the design spectra do not require any further consideration of the zone factor (Z), the importance factor (I) and response reduction factor (R) as used in the IS:1893 (Part 1 to Part 4).

Damping in Structures

The damping factor (as a percentage of critical damping) to be adopted shall not be more than as indicated below for:

a)	Steel structures	:	2%
b)	Reinforced Concrete Structures	:	5%
c)	Reinforced Concrete Stacks	:	3%
d)	Steel stacks	:	2%

Method of Analysis

Since most structures in a power plant are irregular in shape and have irregular distribution of mass and stiffness, dynamic analysis for obtaining the design seismic forces shall be carried out using the response spectrum method. The number of vibration modes used in the analysis should be such that the sum total of modal masses of all modes considered is at least 90 percent of the total seismic mass and shall also meet requirements of IS:1893 (Part 1). Modal combination of the peak response quantities shall be performed as per Complete Quadratic Combination (CQC) method or by an acceptable alternative as per IS:1893 (Part 1).

In general, seismic analysis shall be performed for the three orthogonal (two principal horizontal and one vertical) components of earthquake motion. The seismic response from the three components shall be combined as specified in IS:1893.

The spectral acceleration coefficient shall get restricted to the peak spectral value if the fundamental natural period of the structure falls to the left of the peak in the spectral acceleration curve.

For buildings, if the design base shear (V_B) obtained from modal combination is less than the base shear ($\overline{V}_B$) computed using the approximate fundamental period (T_a) given in IS:1893:Part 1 and using site specific acceleration spectra with appropriate multiplying factor, the response quantities (e.g. member forces, displacements, storey forces, storey shears and base reactions) shall be enhanced in the ratio of $\overline{V}_B / V_B$. However, no reduction is permitted if $\overline{V}_B$ is less than V_B.

Design/Detailing for Ductility for Structures

The site specific design acceleration spectra is a reduced spectra and has an in-built allowance for ductility. Structures shall be engineered and detailed in accordance with relevant Indian/International standards to achieve ductility.

APPENDIX – I GADARWARA

SITE SPECIFIC SEISMIC PARAMETERS FOR DESIGN OF STRUCTURES AND EQUIPMENT

The various site specific seismic parameters for the project site shall be as follows:

1) Peak ground horizontal acceleration (MCE) : 0.18 g

2) Multiplying factor to be applied to the site specific horizontal acceleration spectral coefficients (in units of gravity acceleration 'g') to obtain the design acceleration spectra

   a) for special moment resisting steel building frames designed and detailed as per IS:800 : 0.045

   b) for special concentrically braced steel building frames designed and detailed as per IS:800 : 0.034

   c) for special moment resisting RC building frames designed and detailed as per IS:456 and IS:13920 : 0.027

   d) for RCC chimney, RCC Natural Draft Cooling Tower : 0.09

   e) For Liquid retaining tanks (ground supported) :0.054

   f) for Steel chimney, Absorber tower, Vessels : 0.068

3) Multiplying factor to be applied to the site specific horizontal acceleration spectral coefficients (in units of gravity acceleration 'g') for design of equipment and structures where inelastic action is not relevant or not permitted : 0.09

Note: g = Acceleration due to gravity

The horizontal seismic acceleration spectral coefficients are furnished in subsequent pages.

APPENDIX – I GADARWARA

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS
(In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping)		
	2%	3%	5%
0	1	1	1
0.03	1	1	1
0.04	1.287	1.233	1.178
0.05	1.564	1.450	1.337
0.06	1.835	1.656	1.482
0.07	2.101	1.853	1.618
0.08	2.361	2.042	1.746
0.09	2.618	2.225	1.866
0.1	2.871	2.402	1.982
0.105	2.996	2.489	2.037
0.11	3.121	2.575	2.092
0.115	3.245	2.660	2.145
0.12	3.368	2.743	2.198
0.123	3.442	2.793	2.229
0.127	3.500	2.859	2.270
0.13	3.500	3.175	2.300
0.135	3.500	3.175	2.500
0.14	3.500	3.175	2.500
0.145	3.500	3.175	2.500
0.15	3.500	3.175	2.500
0.2	3.500	3.175	2.500
0.25	3.500	3.175	2.500
0.3	3.500	3.175	2.500
0.35	3.500	3.175	2.500
0.4	3.500	3.175	2.500
0.43	3.500	3.175	2.500
0.45	3.500	3.175	2.500
0.48	3.500	3.175	2.500
0.49	3.369	3.175	2.500
0.5	3.302	2.860	2.500
0.52	3.175	2.750	2.212
0.555	2.975	2.577	2.072
0.56	2.948	2.554	2.054
0.565	2.922	2.531	2.035
0.57	2.896	2.509	2.018
0.575	2.871	2.487	2.000

APPENDIX – I GADARWARA

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS (In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping) 2%	3%	5%
0.58	2.847	2.466	1.983
0.585	2.822	2.444	1.966
0.59	2.798	2.424	1.949
0.595	2.775	2.403	1.933
0.6	2.752	2.383	1.917
0.65	2.540	2.200	1.769
0.7	2.359	2.043	1.643
0.75	2.201	1.907	1.533
0.8	2.064	1.788	1.438
0.85	1.942	1.682	1.353
0.9	1.834	1.589	1.278
0.95	1.738	1.505	1.211
1	1.651	1.430	1.150
1.05	1.572	1.362	1.095
1.1	1.501	1.300	1.045
1.15	1.436	1.243	1.000
1.2	1.376	1.192	0.958
1.25	1.321	1.144	0.920
1.3	1.270	1.100	0.885
1.35	1.223	1.059	0.852
1.4	1.179	1.021	0.821
1.45	1.139	0.986	0.793
1.5	1.101	0.953	0.767
1.55	1.065	0.923	0.742
1.6	1.032	0.894	0.719
1.65	1.001	0.867	0.697
1.7	0.971	0.841	0.676
1.75	0.943	0.817	0.657
1.8	0.917	0.794	0.639
1.85	0.892	0.773	0.622
1.9	0.869	0.753	0.605
1.95	0.847	0.733	0.590
2	0.826	0.715	0.575
2.05	0.805	0.698	0.561
2.1	0.786	0.681	0.548
2.15	0.768	0.665	0.535
2.2	0.750	0.650	0.523
2.25	0.734	0.636	0.511

APPENDIX – I GADARWARA

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS (In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping) 2%	3%	5%
2.3	0.718	0.622	0.500
2.35	0.703	0.609	0.489
2.4	0.688	0.596	0.479
2.45	0.674	0.584	0.469
2.5	0.660	0.572	0.460
2.55	0.647	0.561	0.451
2.6	0.635	0.550	0.442
2.65	0.623	0.540	0.434
2.7	0.611	0.530	0.426
2.75	0.600	0.520	0.418
2.8	0.590	0.511	0.411
2.85	0.579	0.502	0.404
2.9	0.569	0.493	0.397
2.95	0.560	0.485	0.390
3	0.550	0.477	0.383
3.05	0.541	0.469	0.377
3.1	0.533	0.461	0.371
3.15	0.524	0.454	0.365
3.2	0.516	0.447	0.359
3.25	0.508	0.440	0.354
3.3	0.500	0.433	0.348
3.35	0.493	0.427	0.343
3.4	0.486	0.421	0.338
3.45	0.479	0.414	0.333
3.5	0.472	0.409	0.329
3.55	0.465	0.403	0.324
3.6	0.459	0.397	0.319
3.65	0.452	0.392	0.315
3.7	0.446	0.386	0.311
3.75	0.446	0.381	0.307
3.8	0.435	0.376	0.303
3.85	0.423	0.371	0.299
3.9	0.413	0.367	0.295
3.95	0.402	0.367	0.291
4	0.392	0.358	0.288

APPENDIX-I TELANGANA

SITE SPECIFIC SEISMIC PARAMETERS FOR DESIGN OF STRUCTURES AND EQUIPMENT

The various site specific seismic parameters for the project site shall be as follows:

1) Peak ground horizontal acceleration (MCE) : 0.28g

2) Multiplying factor to be applied to the horizontal acceleration spectral coefficients (in units of gravity acceleration 'g') to obtain the design acceleration spectra

   a) for special moment resisting steel building frames designed and detailed as per IS:800 : 0.07

   b) for special concentrically braced steel building frames designed and detailed as per IS:800 : 0.0525

   c) For special moment resisting RC building frames designed and detailed as per IS:456 and IS:13920 : 0.042

   d) for RCC chimney, RCC Natural Draft Cooling Tower : 0.14

   e) for liquid retaining tanks (ground supported) : 0.084

   f) for steel chimney, Absorber tower, Vessels : 0.105

3) Multiplying factor to be applied to the horizontal acceleration spectral coefficients (in units of gravity acceleration 'g') for design of equipment and structures where inelastic action is not relevant or not permitted : 0.14

Note: g = Acceleration due to gravity

The horizontal seismic acceleration spectral coefficients are furnished in subsequent pages.

APPENDIX – I TELANGANA

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS (In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping)		
	2%	3%	5%
0	1.000	1.000	1.000
0.03	1.000	1.842	1.450
0.04	1.355	2.032	1.600
0.05	1.716	2.223	1.750
0.06	2.081	2.413	1.900
0.07	2.449	2.604	2.050
0.08	2.820	2.794	2.200
0.09	3.194	2.985	2.350
0.10	3.570	3.175	2.500
0.105	3.759	3.175	2.500
0.106	3.760	3.175	2.500
0.11	3.760	3.175	2.500
0.115	3.760	3.175	2.500
0.12	3.760	3.175	2.500
0.125	3.760	3.175	2.500
0.13	3.760	3.175	2.500
0.135	3.760	3.175	2.500
0.14	3.760	3.175	2.500
0.145	3.760	3.175	2.500
0.15	3.760	3.175	2.500
0.20	3.760	3.175	2.500
0.25	3.760	3.175	2.500
0.27	3.760	3.175	2.500
0.30	3.760	3.175	2.500
0.32	3.760	3.175	2.500
0.35	3.760	3.175	2.500
0.372	3.760	3.175	2.500
0.40	3.500	3.175	2.500
0.402	3.483	3.159	2.488
0.405	3.457	3.136	2.469
0.41	3.415	3.098	2.439
0.425	3.294	2.988	2.353
0.45	3.111	2.822	2.222
0.50	2.800	2.540	2.000

APPENDIX – I TELANGANA

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS
(In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping)		
	2%	3%	5%
0.55	2.545	2.309	1.818
0.60	2.333	2.117	1.667
0.65	2.154	1.954	1.538
0.70	2.000	1.814	1.429
0.75	1.867	1.693	1.333
0.80	1.750	1.588	1.250
0.85	1.647	1.494	1.176
0.9	1.556	1.411	1.111
0.95	1.474	1.337	1.053
1.0	1.400	1.270	1.000
1.05	1.333	1.210	0.952
1.10	1.273	1.155	0.909
1.15	1.217	1.104	0.870
1.20	1.167	1.058	0.833
1.25	1.120	1.016	0.800
1.30	1.077	0.977	0.769
1.35	1.037	0.941	0.741
1.40	1.000	0.907	0.714
1.45	0.966	0.876	0.690
1.50	0.933	0.847	0.667
1.55	0.903	0.819	0.645
1.60	0.875	0.794	0.625
1.65	0.848	0.770	0.606
1.70	0.824	0.747	0.588
1.75	0.800	0.726	0.571
1.80	0.778	0.706	0.556
1.85	0.757	0.686	0.541
1.90	0.737	0.668	0.526
1.95	0.718	0.651	0.513
2.0	0.700	0.635	0.500
2.05	0.683	0.620	0.488
2.10	0.667	0.605	0.476
2.15	0.651	0.591	0.465
2.20	0.636	0.577	0.455

APPENDIX – I TELANGANA

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS
(In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping)		
	2%	3%	5%
2.25	0.622	0.564	0.444
2.30	0.609	0.552	0.435
2.35	0.596	0.540	0.426
2.40	0.583	0.529	0.417
2.45	0.571	0.518	0.408
2.50	0.560	0.508	0.400
2.55	0.549	0.498	0.392
2.60	0.538	0.488	0.385
2.65	0.528	0.479	0.377
2.70	0.519	0.470	0.370
2.74	0.511	0.464	0.365
2.80	0.500	0.454	0.357
2.85	0.491	0.446	0.351
2.88	0.486	0.441	0.347
2.90	0.483	0.438	0.345
2.95	0.475	0.431	0.339
3.0	0.467	0.423	0.333
3.05	0.459	0.416	0.328
3.10	0.452	0.410	0.323
3.15	0.444	0.403	0.317
3.20	0.438	0.397	0.313
3.25	0.431	0.391	0.308
3.30	0.424	0.385	0.303
3.35	0.418	0.379	0.299
3.40	0.412	0.374	0.294
3.45	0.406	0.368	0.290
3.50	0.400	0.363	0.286

APPENDIX-I NABINAGAR

SITE SPECIFIC SEISMIC PARAMETERS FOR DESIGN OF STRUCTURES AND EQUIPMENT

The various site specific seismic parameters for the project site shall be as follows:

1) Peak ground horizontal acceleration (MCE) : 0.16g

2) Multiplying factor to be applied to the horizontal acceleration spectral coefficients (in units of gravity acceleration 'g') to obtain the design acceleration spectra

   a) for special moment resisting steel building frames designed and detailed as per IS:800 : 0.04

   b) for special concentrically braced steel building frames designed and detailed as per IS:800 : 0.03

   c) For special moment resisting RC building frames designed and detailed as per IS:456 and IS:13920 : 0.024

   d) for RCC chimney, RCC Natural Draft Cooling Tower : 0.08

   e) for liquid retaining tanks (ground supported) : 0.048

   f) for steel chimney, Absorber tower, Vessels : 0.06

3) Multiplying factor to be applied to the horizontal acceleration spectral coefficients (in units of gravity acceleration 'g') for design of equipment and structures where inelastic action is not relevant or not permitted : 0.08

Note: g = Acceleration due to gravity

The horizontal seismic acceleration spectral coefficients are furnished in subsequent pages.

APPENDIX – I NABINAGAR

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS
(In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping)		
	2%	3%	5%
0.000	1.000	1.000	1.000
0.030	1.000	1.000	1.000
0.050	1.750	1.607	1.443
0.100	3.737	3.060	2.374
0.104	3.904	3.174	2.443
0.123	3.904	3.401	2.753
0.150	3.904	3.401	2.753
0.200	3.904	3.401	2.753
0.250	3.904	3.401	2.753
0.300	3.904	3.401	2.753
0.350	3.904	3.401	2.753
0.400	3.904	3.401	2.753
0.450	3.904	3.401	2.753
0.500	3.904	3.401	2.753
0.516	3.904	3.401	2.753
0.550	3.662	3.401	2.753
0.600	3.357	3.142	2.753
0.607	3.320	3.105	2.753
0.670	3.006	2.813	2.493
0.700	2.877	2.693	2.386
0.750	2.685	2.513	2.227
0.800	2.518	2.356	2.088
0.850	2.369	2.218	1.965
0.900	2.238	2.094	1.856
0.950	2.120	1.984	1.758
1.000	2.014	1.885	1.670
1.050	1.918	1.795	1.590
1.100	1.831	1.714	1.518
1.150	1.751	1.639	1.452
1.200	1.678	1.571	1.392
1.250	1.611	1.508	1.336
1.300	1.549	1.450	1.285
1.350	1.492	1.396	1.237
1.400	1.439	1.346	1.193

APPENDIX – I NABINAGAR

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS
(In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping)		
	2%	3%	5%
1.450	1.389	1.300	1.152
1.500	1.343	1.257	1.113
1.550	1.299	1.216	1.077
1.600	1.259	1.178	1.044
1.650	1.221	1.142	1.012
1.700	1.185	1.109	0.982
1.750	1.151	1.077	0.954
1.800	1.119	1.047	0.928
1.850	1.089	1.019	0.903
1.900	1.060	0.992	0.879
1.950	1.033	0.967	0.856
2.000	1.007	0.943	0.835
2.050	0.982	0.920	0.815
2.100	0.959	0.898	0.795
2.150	0.937	0.877	0.777
2.200	0.915	0.857	0.759
2.250	0.895	0.838	0.742
2.300	0.876	0.820	0.726
2.350	0.857	0.802	0.711
2.400	0.839	0.785	0.696
2.450	0.822	0.769	0.682
2.500	0.806	0.754	0.668
2.550	0.790	0.739	0.655
2.600	0.775	0.725	0.642
2.650	0.760	0.711	0.630
2.700	0.746	0.698	0.619
2.750	0.732	0.685	0.607
2.800	0.719	0.673	0.596
2.850	0.707	0.661	0.586
2.900	0.694	0.650	0.576
2.950	0.683	0.639	0.566
3.000	0.671	0.628	0.557
3.050	0.660	0.618	0.548
3.100	0.650	0.608	0.539

APPENDIX – I NABINAGAR

HORIZONTAL SEISMIC ACCELERATION SPECTRAL COEFFICIENTS
(In units of 'g')

Time Period (Sec)	Damping Factor (as a percentage of critical damping)		
	2%	3%	5%
3.150	0.639	0.598	0.530
3.200	0.629	0.589	0.522
3.250	0.620	0.580	0.514
3.300	0.610	0.571	0.506
3.350	0.601	0.563	0.499
3.400	0.592	0.554	0.491
3.450	0.584	0.546	0.484
3.500	0.575	0.539	0.477
3.550	0.567	0.531	0.470
3.600	0.559	0.524	0.464
3.650	0.552	0.516	0.458
3.700	0.544	0.509	0.451
3.750	0.537	0.503	0.445
3.800	0.530	0.496	0.439
3.825	0.527	0.493	0.437
3.850	0.523	0.490	0.434
3.900	0.516	0.483	0.428
3.950	0.510	0.477	0.423
4.000	0.504	0.471	0.418

12.00.00(F)

Annexure-(F)

QA REQUIREMENT

All Civil, Structural and Architectural construction work at the project shall be executed strictly in accordance with the Quality Assurance guidelines specified in separate part of the Specification.

12.00.00(G)

ANNEXURE - G

Specification For High Performance Moisture Compatible Corrosion Resistant Coating System

a) Providing & applying **High Performance Moisture Compatible Corrosion Resistant Coating System** manufactured as per technical specifications of Central Electrochemical Research Institute, Karaikudi, (C.S.I.R. affiliate Institute), Tamil Nadu, Pin - 630 006.

b) The coating system shall be water compatible, compatible for applying in wet conditions also and shall be tolerant to under-prepared surfaces and existing residual tar / paint. The system shall also be quick curing so as to be suitable for application during shut downs.

The coating material shall be stored in the manner as per recommendations of the manufacturer until ready for use. The coating material shall be used within the manufacturer's written recommended shelf life.

c) The coating system shall conform to the following :

PROPERTIES OF PAINT

Base	High Performance Moisture Compatible Corrosion Resistant Coating System CECRI know-how system
Volume Solids	70%
Specific Gravity (ASTM-D-1475)	1.25 ± 0.1
Dry Film Thickness (ASTM-D-1186)	160 ± 10 µm per coat
Coverage	4 - 4.5 sq.m/ ltr
Touch Dry	2 Hours
Recoating	24 Hours

PROPERTIES OF COATING

Salt Spray (ASTM-B 117)	2000 Hours
Resistance to sea water (Carried out upto 6 months)	Passes
Coating Resistance (Carried out upto 6 months)	10^9 Ω. cm^2
Adhesion (ASTM-D 4541)	4.5 N/mm Sq
Flexibility (ASTM-D-522) Elongation	1/8" passes 33%
Impact (ASTM G 14–04)	45 cm passes

d) Paint material & its application method shall be obtained from any manufacturer who has been granted License by CECRI, Karaikudi for technical know how for **High Performance Moisture Compatible Corrosion Resistant Coating System**. The application method of coating shall be got duly approved from CECRI, Karaikudi.

NTPC Limited

(A Government of India Enterprise)

BULK TENDER FOR MAIN PLANT PACKAGE FOR GADARWARA STPP STAGE-II (2 x 800 MW) TELANGANA STPP STAGE-II (3 x 800 MW) NABINAGAR STPP STAGE-II (3 x 800 MW)

PART - C

GENERAL TECHNICAL REQUIREMENTS

SECTION – VI

TECHNICAL SPECIFICATION

FOR

MAIN PLANT (BULK BTG) PACKAGE

BIDDING DOCUMENT NO.: CS-8014/9592/0371-001A-2