

Summarised Litholog of Boreholes in Ambara Maru Block for Glauconite, Phosphorite and REE, District-Kachchh, Gujarat

BH No-MAMB-01

From (m)	To (m)	Thickness (m)	Colour	Lithology	Remarks	K ₂ O%	SiO ₂ %	MgO%	CaO%	Na ₂ O%	P ₂ O ₅ %	Al ₂ O ₃ %	Fe ₂ O ₃ %
0.00	4.40	4.40	Reddish brown	Ferruginous Sandstone	Fine to medium grained, Stratified	0.89	90.82	0.10	2.14	0.06	0.05	1.77	2.32
4.40	5.00	0.60	Whitish brown	Calcareous Sandstone	Fine to medium grained, Stratified	0.65	74.24	0.74	9.16	0.04	0.03	1.54	6.46
5.00	7.00	2.00	Yellowish brown	Glauconitic Sandstone	Fine to medium grained, Stratified	3.12	67.96	0.53	0.44	0.24	0.07	14.70	6.73
7.00	9.00	2.00	Reddish brown to light grey	Calcareous Sandstone	Fine grain Alternate bands of sandstone and shale horizontal weak bedding	2.14	43.23	2.50	7.26	0.24	0.33	13.80	13.52
9.00	12.00	3.00	Light grey	Shaly Sandstone	Fine grain Alternate bands of sandstone and shale horizontal weak bedding	2.83	51.51	2.40	7.18	0.27	0.16	13.19	9.32
12.00	13.00	1.00	Light grey	Calcareous Sandstone	Very fine grain, Stratified	2.83	51.51	2.40	7.18	0.27	0.16	13.19	9.32
13.00	15.00	2.00	Light grey	Glauconitic Sandstone	Very fine grain, Stratified	3.74	52.71	2.28	4.65	0.30	0.05	16.91	8.48
15.00	40.00	25.00	Light grey	Shaly Sandstone	Very fine grain, Alternate bands of sandstone and shale horizontal weak bedding planes, Friable	3.32	50.92	2.21	4.03	0.30	0.17	17.08	9.03

BH No-MAMB-02

From (m)	To (m)	Thickness (m)	Colour	Lithology	Remarks	K ₂ O%	SiO ₂ %	MgO%	CaO%	Na ₂ O%	P ₂ O ₅ %	Al ₂ O ₃ %	Fe ₂ O ₃ %
0.00	10.00	10.00	Yellowish Brown	Glauconitic Sandstone	Very fine grained Loose & Broken	2.90	49.20	1.93	2.47	0.52	0.33	21.47	8.78
10.00	18.00	8.00	Light Grey	Shaly Sandstone	Very fine grained Hard and Compact, Broken at places	2.79	50.26	1.97	1.36	0.24	0.09	22.14	8.24
18.00	20.00	2.00	Light Grey	Glauconitic Sandstone	Very fine grained Hard and Compact, Broken at places	3.01	52.39	1.79	1.24	0.23	0.47	21.13	7.91
20.00	24.00	4.00	Light Grey	Shaly Sandstone	Very fine grained Hard and Compact, Broken at places	2.95	52.48	1.85	1.51	0.19	0.10	22.36	7.11
24.00	26.00	2.00	Light Grey	Glauconitic Sandstone	Very fine grained Hard and Compact, Broken at Horizontal Weak Plane	3.18	54.68	1.41	0.33	0.15	0.09	24.31	4.90
26.00	29.00	3.00	Greyish White, Grey	Calcareous Sandstone	Very fine grained Hard and Compact, Broken at Horizontal weak Plane, Fractured inclined	2.39	47.49	4.02	9.08	0.14	0.08	13.44	7.40
29.00	31.00	2.00	Grey	Shaly Sandstone	Very fine grained Broken at Horizontal weak plane Plane	2.91	50.29	1.50	1.02	0.17	0.16	21.59	7.74
31.00	33.00	2.00	Light Grey	Siliceous sandstone	Very medium grained Highly Broke, Hard and Compact	1.37	84.26	0.56	1.18	0.13	0.07	5.69	3.43
33.00	40.00	7.00	Light Grey, Grey	Shaly Sandstone	Fine grained to Coarse grained Hard Compact and Broken at Horizontal weak	2.43	50.40	2.38	4.63	0.22	0.11	18.10	7.59

BH No-MAMB-03

From (m)	To (m)	Thickness (m)	Colour	Lithology	Remarks	K ₂ O%	SiO ₂ %	MgO%	CaO%	Na ₂ O%	P ₂ O ₅ %	Al ₂ O ₃ %	Fe ₂ O ₃ %
0.00	4.00	4.00	Reddish dark brown	Glauconitic Sandstone	Very fine grained to fine grained Broken Partial, Weathered, Hard and Compact	2.84	55.08	0.99	6.89	0.20	0.17	10.87	13.39
4.00	5.00	1.00	Reddish Brown	Ferruginous Sandstone	Very fine grained to fine grained Hard, compact, broken	2.08	42.79	2.98	14.10	0.16	0.43	6.51	16.32
5.00	6.00	1.00	Yellowish green, Reddish brown	Glauconitic sandstone	Very fine grained to fine grained Hard, compact, broken	3.15	52.97	0.91	1.42	0.39	0.41	16.42	16.09
6.00	10.00	4.00	Yellowish green	Ferruginous Sandstone	Very fine grained to fine grained Hard, compact, broken	2.62	50.87	1.83	5.24	0.22	0.34	11.78	16.28
10.00	11.00	1.00	Reddish brown, Light grey	Glauconitic sandstone	Fine grained to medium grained Hard & compact	3.14	58.20	1.45	3.70	0.19	0.31	13.69	10.10
11.00	14.00	3.00	Reddish brown, Light grey	Ferruginous Sandstone	Very fine grained to fine grained Hard & compact	2.02	43.43	3.27	9.32	0.11	0.22	8.35	18.37
14.00	15.00	1.00	Light grey, Reddish Brown	Glauconitic sandstone	Clay, Very fine grained to fine grained Soft, Hard & compact	3.02	58.37	1.06	0.92	0.15	0.16	17.95	9.30
15.00	18.00	3.00	Reddish Brown to Light grey	Ferruginous Sandstone	Very fine grained to fine grained Hard & compact	2.42	49.42	2.22	6.13	0.12	0.28	12.45	14.28
18.00	19.00	1.00	Dull White, Light grey	Calcareous Sandstone	Very fine grained to fine grained Hard & compact	2.52	50.41	2.54	7.41	0.13	0.15	13.80	8.34
19.00	24.50	5.50	Dull White, Light grey	Shaly Sandstone	Very fine grained to fine grained Hard & compact	2.59	50.67	1.95	4.09	0.18	0.30	15.88	10.52
24.50	27.00	2.50	Grey	Calcareous sandstone	massive, Very fine grained to fine grained Hard & compact	2.52	51.36	2.34	6.36	0.26	0.13	13.97	9.62
27.00	40.00	13.00	Grey	Shaly Sandstone	Clay to finegrained Hard & compact, Broken at Horizontal Weak Planes	2.46	50.11	1.74	3.59	0.32	0.15	18.70	8.91

BH No-MAMB-04

From (m)	To (m)	Thickness (m)	Colour	Lithology	Remarks	K ₂ O%	SiO ₂ %	MgO%	CaO%	Na ₂ O%	P ₂ O ₅ %	Al ₂ O ₃ %	Fe ₂ O ₃ %
0.00	5.00	5.00	Greenishyellow	Glauconitic Sandstone	Fine grained to medium grained , Hard, Compact, Broken at Places	2.60	66.74	0.51	6.64	0.13	0.06	9.05	7.72
5.00	7.00	2.00	Greenishyellow	Calcareous Sandstone	Fine grained to medium grained , Hard, Compact, Broken at Places	2.32	62.38	0.49	10.30	0.09	0.04	7.02	9.01
7.00	9.00	2.00	Greenishyellow	Glauconitic Sandstone	Fine grained to medium grained , Hard, Compact, Broken at Places	3.19	74.93	0.25	0.22	0.23	0.10	9.00	8.10
9.00	12.00	3.00	Greenishyellow	Ferruginous sandstone	Fine grained to medium grained , Hard, Compact, Broken at Places	2.62	52.33	2.61	11.43	0.14	0.39	8.28	10.44
12.00	14.00	2.00	Yellowishbrown	Glauconitic Sandstone	Very fine grained to fine grained Hard and Compact, Broken at places	3.55	56.08	1.87	5.53	0.20	0.12	14.10	9.24
14.00	22.00	8.00	Grey, Yellow brown to Red	Shaly Sandstone	Very fine grained to fine grained Hard and Compact, Broken at places	2.87	52.67	1.89	2.92	0.16	0.12	18.36	9.04
22.00	26.00	4.00	LightGrey	Siliceous Sandstone	Very fine grained to fine grained Hard and Compact, Broken at horizontal weak planes	2.88	70.79	1.25	1.73	0.21	0.08	10.44	5.75
26.00	28.00	2.00	Whitishgrey	Glauconitic Sandstone	Fine grained to mediumgrained , Hard, Compact	4.24	61.00	1.45	0.61	0.26	0.06	17.27	6.55
28.00	31.00	3.00	Whitishgrey to Darkgrey	Calcareous Sandstone	Fine grained to medium grained , Hard, Compact	2.42	46.81	2.94	8.18	0.18	0.23	12.66	13.74
31.00	40.00	9.00	Whitishgrey, Darkgrey, Greenishgrey	Shaly Sandstone	Fine grained to Coarse grained Hard compact & Broken at horizontal weak plane	2.87	44.53	2.24	2.26	0.30	0.33	21.32	13.24