

APPENDIX - II
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X - Ray Powder Diffraction Data

Sample Nos. 1 to 6	Amliyara profile
Sample Nos. 9 to 13	Amliyara bore hole profile
Sample Nos. 15 to 17	Amliyara quarry
Sample Nos. 18 to 26	Manjlau profile
Sample Nos. 28 to 33	Tarbhon profile

Intensity

> 2000	Very strong
1000 - 2000	Strong
700 - 1000	Medium
500 - 700	Weak
300 - 500	Very Weak
< 300	Very very weak

X-Ray Powder Diffraction Data for Duricrust
(Sample No.1)

Angle	d Å°	Intensity	Mineral
18.411	4.8188	1264	Gib
20.322	4.3698	1170	Gib, Kao,
20.637	4.3039	796	Gib
21.742	4.1812	4743	Goe
23.101	3.8501	1528	Cal, Kao
24.305	3.6620	1684	He
25.395	3.5073	1610	Ana
26.925	3.3113	1619	Q
28.787	3.1012	1475	Kao, Gib
29.477	3.0302	8078	Cal
30.987	2.8859	1634	Ank
33.267	2.6931	2070	He
35.752	2.5111	2125	Magh
36.661	2.4512	1725	Goe, Q
37.128	2.4215	1611	Ank
37.727	2.3844	1741	Ana
39.450	2.2841	1668	Cal, Q
40.279	2.2390	1569	Cal, Q
40.943	2.2042	1631	Goe
43.251	2.0918	1537	Magh
45.561	1.9909	1581	Magh
47.946	1.8973	1495	Ana, Gib
48.583	1.8739	1643	Cal, Kao
49.559	1.8393	1609	Magh
50.677	1.8013	1585	Q, Goe
52.273	1.7500	1209	Gib
53.464	1.7138	1531	Magh, Goe
54.163	1.6933	1815	He
57.465	1.6036	1600	Magh
61.939	1.4981	1684	Kao
62.577	1.4844	1636	Kao
64.124	1.4522	1701	Q
64.687	1.4409	1589	Ank
65.826	1.4187	1516	Goe, Q
66.202	1.4116	1590	Cal,
66.723	1.4018	1514	Cal

X-Ray Powder Diffraction Data for Bauxitic Laterite
(Sample No.2)

Angle	d Å°	Intensity	Mineral
12.363	7.1593	1283	Kao
18.339	4.8376	4458	Gib
20.334	4.3672	2642	Kao, Gib
20.567	4.3183	1659	Gib
21.462	4.1810	3612	Goe
23.167	3.8393	937	Kao
24.315	3.6606	1037	He
24.950	3.5688	1311	Kao
25.395	3.5072	1239	Ana
26.670	3.3424	1070	Q
26.938	3.3098	1291	Gib
27.474	3.2463	902	Rutile
28.121	3.1731	1141	Gib
28.795	3.1003	940	Kao, Gib
29.494	3.0285	1117	Cal
33.220	2.6968	1352	He
35.770	2.5102	1245	Magh, Goe
36.466	2.4636	1197	Q
36.666	2.4506	1405	Gib
37.140	2.4207	1136	Gib
37.857	2.3765	1502	Ana, Gib
38.517	2.3373	975	Kao
39.376	2.2882	1052	Cal, Gib
41.000	2.2513	974	Goe
43.234	2.0926	905	Cal
43.477	2.0814	980	Magh, Kao
44.293	2.0450	1271	Gib, Cal
45.557	1.9941	1179	Kao, Q
47.440	1.9164	1048	Goe
48.013	1.8949	915	Ana
49.579	1.8386	976	Kao
50.673	1.8014	1213	Goe, Q
52.241	1.7510	1137	Gib
54.102	1.6951	1077	He, Kao
54.448	1.6851	1220	Rutile
55.472	1.6564	943	Geo, Q
59.128	1.5624	811	Cal, Goe
61.365	1.5107	756	Cal, Goe
61.460	1.5086	827	Goe
62.608	1.4837	989	Magh
63.863	1.4575	1080	Goe
68.405	1.3714	825	Q, Kao
68.902	1.3627	896	Gib

X-Ray Powder Diffraction Data for Bauxite

(Sample No.3)

Angle	d Å°	Intensity	Mineral
12.361	7.1603	476	Kao
18.723	4.8593	5079	Gib
19.947	4.4512	394	Kao
20.372	4.3591	704	Kao, Gib
21.312	4.1690	519	Goe
23.104	3.8495	666	Kao, Cal
24.926	3.5721	338	Kao
25.283	3.5224	760	Ana
26.236	3.3967	416	Magh
26.711	3.3374	469	Q
29.468	3.0310	3551	Cal
30.348	2.9451	318	Cal, Magh
31.498	2.8402	351	Cal
33.185	2.6996	274	He
35.016	2.5626	482	Kao
35.475	2.5304	399	Magh
36.048	2.4915	873	Goe, Kao
37.810	2.3793	434	Ana, Kao
38.492	2.3387	212	Kao
39.461	2.2835	811	Cal, Q
40.245	2.2408	277	Kao, Cal
43.217	2.0933	644	Kao, Cal
45.293	2.0021	264	Goe
45.635	1.9879	343	Kao, Gib
47.197	1.9257	400	Cal
47.604	1.9102	437	Goe, Cal
48.098	1.8917	304	Ana
48.584	1.8739	740	Cal, Magh
49.525	1.8405	303	Cal, Kao
49.796	1.8311	260	Kao, Q
50.519	1.8066	215	Goe, Cal
51.023	1.7899	262	Kao, Gib
52.098	1.7555	201	Gib
54.385	1.6869	222	He
55.083	1.6672	417	Kao, Gib
56.688	1.6237	354	Cal, Gib
57.485	1.6031	503	Gib, Magh
58.134	1.5868	257	Gib
60.738	1.5248	355	Cal
61.064	1.5175	317	Cal
61.455	1.5087	273	Goe
62.302	1.4902	420	Magh, Kao
63.333	1.4684	486	Goe, Cal
64.729	1.4401	387	Cal, Q
65.734	1.4205	245	Cal, Q

X-Ray Powder Diffraction Data for Ferruginous Kaolinite
(Sample No.4)

Angle	d Å°	Intensity	Mineral
12.378	7.1507	2450	Kao
19.918	4.4575	1559	Kao
20.380	4.3575	1767	Kao
21.295	4.1723	1701	Goe
23.130	3.8452	1550	Kao, Cal
24.170	3.6821	1745	Ank
24.931	3.5715	2493	Kao
25.390	3.5079	1609	Ana
26.493	3.3643	1462	Kao
27.485	3.2450	1424	Ku
29.445	3.0334	1354	Cal
31.060	2.8793	1357	Ank
32.625	2.7446	1426	Kao
33.178	2.7002	2492	He
35.085	2.5576	1602	Kao
35.718	2.5138	2174	He, Goe
36.036	2.4923	1687	Ru, Goe
36.906	2.4355	1437	Goe, Ana
37.821	2.3787	1557	Ana, Kao
38.524	2.3368	1780	Kao
39.395	2.2872	1681	Cal
40.955	2.2036	1663	Ank, He
43.010	2.1029	1374	Cal
44.334	2.0432	1429	Cal, Ru
44.574	2.0327	1413	Ank
45.573	1.9904	1492	Kao
48.052	1.8934	1466	Ana, Kao
49.486	1.8418	1690	Kao, Ank
50.991	1.7909	1402	Kao, Ank
52.999	1.7277	1350	Goe
53.474	1.7135	1430	Goe
54.088	1.6955	1845	He, Ru
56.763	1.6218	1481	Cal, Ru
57.687	1.5980	1467	Cal
58.197	1.5852	1395	Kao, Cal
59.226	1.5601	1434	Cal, Goe
59.502	1.5535	1430	Kao
62.428	1.4875	1808	Kao
64.061	1.4535	1570	Kao, He
67.426	1.3889	1439	Cal, Ank
68.810	1.3643	1402	Cal, Ana
69.032	1.3605	1415	Goe
69.683	1.3494	1535	Ank, He

X-Ray Powder Diffraction Data for Bentonite

(Sample No. 5)

Angle	d Å	Intensity	Mineral
8.179	9.9814	834	Mont
12.353	7.1653	1042	Kao
14.603	6.0258	700	Mont
15.460	5.9916	706	Mont
17.925	4.9785	652	Mont
19.889	4.4639	922	Kao
21.260	4.1790	211	Goe
23.117	3.8475	1155	Kao, Cal
24.921	3.5729	735	Cal
27.691	3.2914	742	Mont
29.477	3.0302	520	Cal
31.491	2.8409	689	Cal
33.149	2.7024	190	He
36.045	2.4917	160	Goe
36.737	2.4463	194	Goe
38.393	2.3445	830	Kao
38.623	2.3311	841	Kao, Magh
39.496	2.2815	643	Cal, He
41.234	2.1893	180	He
43.251	2.0918	1358	Magh
44.507	2.0356	752	Cal
45.216	2.0054	150	Mont
46.376	1.9579	743	Kao
47.227	1.9245	128	Goe
47.644	1.9087	1039	Kao
48.635	1.8721	1692	Cal, Kao
49.029	1.8579	718	Cal
50.512	1.8068	731	He, Magh
52.389	1.7464	735	Magh
54.397	1.6866	184	Mont
56.699	1.6235	701	Cal
57.498	1.6028	678	Cal, Magh
58.122	1.5871	700	Kao
58.472	1.5784	687	Kao
60.819	1.5230	711	Cal, Magh
62.390	1.4884	684	Kao, Magh
64.815	1.4384	699	Cal, Magh
67.301	1.3912	158	Goe
68.949	1.3619	121	Goe

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X-Ray Powder Diffraction Data for Weathered Basalt
(Sample No.6)

Angle	d Å°	Intensity	Mineral
5.922	14.9226	1150	Mont
9.801	9.0245	535	Mont
12.309	7.1906	844	Kao
21.600	4.1142	760	Kao
23.759	3.7449	1598	Kao
24.477	3.6567	1074	He
26.480	3.3659	818	Kao
28.106	3.1748	2314	Mont
28.488	3.1331	1196	Kao
29.583	3.0196	972	Cal, Mont
29.916	2.9867	1626	Mont
30.355	2.9445	1397	Cal
30.831	2.9001	1000	Ank
31.530	2.8374	801	Cal
32.391	2.7639	715	Magh
33.123	2.7045	715	He
34.958	2.5666	833	Mont
35.698	2.5151	1187	Magh
37.283	2.4117	727	Ank, Cal, Mont
38.808	2.3204	844	Kao
39.206	2.2978	765	Cal, He
42.253	2.1388	985	Mont
42.990	2.1038	719	Cal
47.200	1.9256	672	Cal, Kao
47.567	1.9116	802	Cal
48.410	1.8802	732	Cal, Magh
49.779	1.8317	806	Cal
50.869	1.7750	739	Kao
51.515	1.7740	760	Kao
56.544	1.6276	760	Cal
56.964	1.6165	697	kao, Magh
57.337	1.6069	671	Cal, Kao
59.169	1.5614	673	Cal, Magh
61.557	1.5065	681	Ank, Mont
62.259	1.4912	783	Cal, Kao
65.693	1.4213	757	Cal, Magh
68.032	1.3780	791	Kao
68.466	1.3703	688	Cal

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X-Ray Powder Diffraction Data for Duricrust
(Sample No.9)

Angle	d Å°	Intensity	Mineral
14.300	6.1935	1252	Lepi
18.339	4.8377	6056	Gib
20.336	4.3669	2073	Gib
20.639	4.3034	1698	Gib
21.459	4.1808	1766	Goe
24.194	3.6785	1429	He
25.300	3.5202	1671	Ana
26.675	3.3418	1523	Q
26.939	3.3096	1534	Gib
27.265	3.2708	1178	Lepi
27.453	3.2488	1388	Rut
28.034	3.1828	1485	Gib
29.527	3.0252	4935	Cal
30.297	2.9500	1449	Cal, Magh
32.087	2.7894	1394	Magh, Lepi
33.190	2.6992	1706	He
33.830	2.6496	1477	Magh
35.024	2.5619	1433	Goe
35.755	2.5112	1633	Magh
36.142	2.4852	1579	Lepi, Rut
36.699	2.4487	1707	Goe
37.138	2.4208	1767	Magh
37.709	2.3855	1462	Ana
39.449	2.2842	1480	Cal, He
41.790	2.2515	1476	Goe
43.262	2.0913	1469	Magh, Lepi
44.236	2.0475	1560	Cal
45.563	1.9909	1533	Goe
47.432	1.9167	1451	Goe
47.984	1.8959	1407	Ana
48.594	1.8735	1465	Magh
50.605	1.8037	1475	Cal, Q
53.244	1.7204	1382	Lepi
54.041	1.6969	1612	He, Magh
54.443	1.6853	1300	Rut
54.917	1.6718	1516	Goe
57.205	1.6103	1337	Magh
57.491	1.6030	1403	Rut
58.183	1.5856	1354	He
64.643	1.4418	1399	Lepi, He
65.077	1.4332	1364	Magh, Lepi
66.650	1.4032	1403	Cal

X-Ray Powder Diffraction Data for Indurated Laterite
(Sample No.10)

Angle	d A°	Intensity	Mineral
18.316	4.8437	4897	Gib
20.306	4.3733	2372	Gib
20.638	4.3035	2176	Gib
21.392	4.1535	2786	Goe
24.189	3.6793	2035	He
25.295	3.5209	2107	Ana
26.886	3.3461	2045	Q
27.392	3.2558	1983	Rut
29.438	3.0341	2363	Cal
30.369	2.9432	2169	Cal, Magh
33.190	2.6992	2311	He
35.118	2.5553	2029	Goe
35.824	2.5065	2184	Magh
37.080	2.4245	2434	Goe, Magh
37.688	2.3867	2032	Ana
40.953	2.2037	2131	He, Goe
41.797	2.1611	2123	Rut
44.231	2.0477	2009	Cal
47.376	1.9188	2004	Goe
49.063	1.8567	2087	Cal
50.564	1.8051	2062	Cal, Q
58.679	1.5733	2110	Cal
59.526	1.5529	2070	Q
60.430	1.5319	1970	Magh, Q
62.156	1.4934	2175	Magh, Ana
68.733	1.3657	2179	Q, Ana

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X-Ray Powder Diffraction Data for Bauxitic Laterite

Sample No.11)

Angle	d Å°	Intensity	Minerals
18.365	4.8308	1377	Gib
20.395	4.3543	993	Gib
21.495	4.1339	1225	Goe
23.148	3.8423	1209	Cal
25.388	3.5081	908	Ana
26.749	3.3327	1226	Q
29.527	3.0251	7844	Magh, Cal
30.511	2.9298	867	Magh
33.219	2.6969	941	He
34.658	2.5881	855	Goe
35.415	2.5345	932	Magh
36.084	2.4891	1379	He, Goe
37.212	2.4162	1065	Goe, Magh
39.156	2.3006	921	Cal
39.566	2.2777	1545	Q, Gib
39.906	2.2590	1035	Cal
41.815	2.1602	916	Gib
43.282	2.0904	1446	Cal, Magh
47.278	1.9226	992	Gib
47.637	1.9089	818	Ana
48.641	1.8719	1413	Cal
54.170	1.6931	945	He, Magh
56.706	1.6233	901	Gib
57.548	1.6015	1106	Magh, Q
59.133	1.5623	838	Cal, Goe
60.835	1.5226	981	Magh
62.030	1.4961	853	He, Ana
63.247	1.4702	883	Magh, Goe
64.820	1.4382	994	Magh
65.750	1.4202	1268	Goe
65.920	1.4169	1028	Q
67.295	1.3913	895	Cal
69.347	1.3551	838	He

X-Ray Powder Diffraction Data for Ferruginous Kaolinite

(Sample No. 12)

Angle	d Å	Intensity	Minerals
12.164	7.1862	1758	Kao
14.077	6.2613	1797	Lepi
17.918	4.9502	1980	Goe
18.252	4.8605	1965	Gib
19.749	4.4953	1987	Kao
21.317	4.1681	2478	Goe
23.120	3.8470	2031	Cal
24.155	3.6844	2111	He
25.184	3.5361	1991	Ana
26.518	3.3612	1984	Q
29.463	3.0316	2930	Cal
31.947	2.8013	1895	Lepi
33.136	2.7035	2567	He, Goe
34.690	2.5858	1936	Goe
35.691	2.5156	2481	Magh
36.054	2.4911	1065	Lepi, Goe
36.936	2.4336	2220	Goe, Ana
39.554	2.2783	2012	Cal, Q
40.875	2.2077	2126	Kao
42.231	2.1356	1892	Q
43.236	2.0925	2103	Cal, Magh, Lepi
44.305	2.0444	1960	Cal, Gib
47.612	1.9099	1153	Ana, Gib
48.468	1.8781	1964	Magh, Ana
48.705	1.8695	2005	Cal
49.473	1.8423	1176	Q
50.880	1.7946	2040	Cal, Goe
52.373	1.7469	2011	Lepi
53.469	1.7137	2146	Goe
54.011	1.6977	2213	He, Magh
55.266	1.6621	2058	Q, Kao
55.506	1.6555	2049	Q
57.544	1.6016	2127	Magh, Q
58.784	1.5708	2075	Cal
59.107	1.5629	2190	Lepi
59.418	1.555	2172	Magh, Goe
61.253	1.5132	2068	Lepi
61.950	1.4979	2144	Lepi
62.424	1.4876	2274	Magh, Cal
64.074	1.4533	2266	Q, Kao
66.097	1.4136	2150	Cal, Q
67.524	1.3872	2076	Cal, Q
67.800	1.3822	2095	Cal
68.582	1.3683	2141	Lepi
69.487	1.3527	2116	Goe

X-Ray Powder Diffraction Data for Weathered Basalt
with Bentonite (Sample No. 13)

Angle	d Å°	Intensity	Minerals
5.811	15.2093	3488	Mont
12.386	7.1462	920	Kao
18.194	4.8759	186	Gib
19.825	4.4782	1591	Mont
20.508	4.3306	123	Gib
21.162	4.1982	1262	Goe
24.103	3.6921	1081	Mont
24.939	3.5703	1993	Kao
26.759	3.3315	1038	Q
27.481	3.2455	1017	Rut
33.161	2.7015	1086	He
35.622	2.5203	1350	Magh
36.716	2.4477	1224	Goe, Q
37.562	2.3945	1087	Magh
41.643	2.1688	1059	Mont
42.473	2.1283	1022	Q
42.799	2.1128	1088	Magh
48.469	1.8781	973	Mont
49.886	1.8280	972	Q
54.184	1.6927	1072	Mont, He
55.270	1.6620	1041	Kao, Q
56.120	1.6388	1000	He
58.638	1.5743	1023	He
59.331	1.5576	983	Magh
59.563	1.5521	979	Magh
62.436	1.4874	1077	Magh, Kao
63.975	1.4552	996	Q, Kao
65.024	1.4343	923	Magh, Rut
66.560	1.4049	981	Rut
67.795	1.3823	972	Q
68.347	1.3724	1004	Q, Kao

X-Ray Powder Diffraction Data for Reworked Laterite

(Sample No. 15)

Angle	d Å°	Intensity	Mineral
12.308	7.1912	2540	Kao
12.465	7.1011	2340	Kao
14.529	6.0963	1164	Boe
15.129	5.8560	889	Magh
18.321	4.8424	7849	Gib
20.313	4.3717	2464	Gib
20.626	4.3060	1570	Gib
21.442	4.1441	2579	Goe
25.299	3.5203	1448	Ana
26.090	3.4153	951	Magh
26.531	3.3596	1193	Q
27.518	3.2413	1071	Rut
28.041	3.1820	1319	Boe
29.474	3.0305	939	Cal
30.314	2.9484	997	Cal
30.783	2.9045	1792	Ank
32.361	2.7664	1111	Magh
33.171	2.7007	2833	He
35.688	2.5158	1145	Magh
36.430	2.4662	1204	Rut
36.637	2.4528	1487	Goe, Q
37.124	2.4217	1387	Cal, Ana
37.718	2.3849	1640	Ana, Kao
38.337	2.3478	1088	Kao, Boe
39.280	2.2936	1042	Cal, Rut
40.149	2.2459	1190	Cal
41.739	2.1640	1203	Rut
42.398	2.1319	931	Q
44.203	2.0489	1309	Cal, Ank
45.476	1.9945	1220	Q, Kao
46.200	1.9649	993	Boe
47.443	1.9163	1187	Goe
47.962	1.8968	1083	Ana
48.475	1.8779	1003	Magh
50.578	1.8046	1142	Cal, Q
52.203	1.7522	1316	Goe
54.499	1.6837	1316	He, Rut
56.033	1.6412	986	He
56.510	1.6284	962	He
60.212	1.5369	985	Magh
60.915	1.5208	976	Boe
62.684	1.4821	1053	Magh, Kao
63.835	1.4581	1196	Boe, Ank
64.691	1.4409	1117	Boe
66.165	1.4123	1091	Boe, Ank
66.641	1.4034	1055	Cal, Ank
67.481	1.3879	944	Cal

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X-Ray Powder Diffraction Data for Reworked Bauxite
(Sample No.16)

Angle	d Å°	Intensity	Mineral
15.057	5.8838	1801	Magh
18.394	4.8232	11629	Gib
19.600	4.5291	1912	Mont
19.905	4.4605	1909	Mont
20.322	4.3697	2108	Gib
21.389	4.1541	895	Goe
24.259	3.6689	1962	He
25.274	3.5237	1429	Ana
25.531	3.4889	1908	Mont
33.099	2.7064	876	He
33.378	2.6844	885	He
34.922	2.5692	2010	Kao, Goe
35.212	2.5487	1814	Mont
35.793	2.5087	2132	Magh
36.655	2.4516	2060	Goe
37.149	2.4201	1305	Mont
40.257	2.2401	1010	Mont, Magh
40.928	2.2050	1958	Kao, He
44.195	2.0493	1997	Magh, Gib
44.748	2.0252	1939	Gib
45.337	2.0003	1930	Gib
46.341	1.9592	1885	Gib
48.208	1.8876	1885	Mont, Ana
48.568	1.8745	1912	Magh
50.688	1.8009	1946	Gib
51.346	1.7794	1926	Kao, Goe
53.853	1.7023	2115	He, Magh
54.030	1.6972	2124	Gib, Goe
60.742	1.5247	1895	Magh, Goe
62.435	1.4874	2026	Magh, Kao
66.483	1.4063	1929	Goe

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X-Ray Powder Diffraction Data for Calcareous, Siliceous Clay
Materials along Fractures (Sample No.17)

Angle	d Å	Intensity	Minerals
9.856	9.9851	520	Mont
12.424	7.1243	567	Kao
18.306	4.8463	30	Gib
19.446	4.5646	525	Mont
19.804	4.4830	488	Mont
20.905	4.2493	457	Mont, Q
23.762	3.8400	1006	Cal
25.214	3.5320	626	Ana
26.686	3.3405	1918	Q
28.030	3.1832	605	Gib
28.652	3.1155	587	Gib
29.485	3.0294	3993	Cal
30.284	2.9512	540	Magh
31.539	2.8366	542	Cal
33.223	2.6966	628	He
34.875	2.5725	626	Goe
36.071	2.4899	1358	Goe, Cal
36.617	2.4541	699	Goe, Gib
38.454	2.3409	547	Kao
39.507	2.2809	1303	Q, Cal
40.293	2.2382	373	Mont, Q
42.513	2.1264	561	Kao, Q
43.263	2.0912	1060	Magh, Cal
47.210	1.9252	20	Gib
47.596	1.9105	23	Gib
48.606	1.8731	417	Ana
50.177	1.8181	616	Cal, Q
51.253	1.7824	459	Kao, Gib
54.345	1.6881	568	He
54.909	1.6721	531	Gib, Q
56.668	1.6243	617	Cal, Gib
57.515	1.6024	865	Cal
58.212	1.5848	525	Cal
59.210	1.5605	526	Cal
59.495	1.5537	523	Gib, Cal
59.940	1.5432	554	Q
60.802	1.5234	652	Cal
62.809	1.4794	971	Kao
64.044	1.4539	504	Q
64.771	1.4393	785	Gib
67.772	1.3827	539	Q
68.155	1.3758	542	Cal, Q
69.614	1.3505	491	Cal

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X-Ray Powder Diffraction Data for Duricrust
(Sample No.18)

Angle	d Å°	Intensity	Mineral
12.028	7.3580	1004	Kao
17.949	4.9819	2085	Goe
20.454	4.3418	2050	Kao, Gib
21.509	4.1813	2140	Goe
22.963	3.8729	1920	Cal
23.203	3.8334	939	Kao
27.062	3.2948	1961	Gib
28.658	3.1148	1869	Gib
29.006	3.0483	1874	Cal
33.158	2.7017	2081	Goe, He
33.442	2.6794	2121	He
34.757	2.5810	1940	Goe, Kao
35.863	2.5139	2140	Goe
37.258	2.4133	2193	Gib, Cal
37.814	2.3790	1983	Gib, Kao
38.979	2.3106	2041	Cal, Kao
40.384	2.2334	2010	Kao, Cal, Gib
41.113	2.1955	2030	Goe, He
41.834	2.1593	1970	Kao, Gib
43.555	2.0779	1928	Cal, Gib
43.915	2.0617	1836	Kao, Cal, He
45.538	1.9919	1940	Goe, Kao, Gib
47.152	1.9274	1895	Kao, Goe
47.331	1.9205	1879	Goe, Gib
49.771	1.8320	1913	Kao, He
50.207	1.8171	1855	Cal
52.445	1.7447	1866	Gib

X-Ray Powder X-ray Diffraction Data for Bauxitic Laterite

(Sample 19)

Angle	d Å°	Intensity	Mineral
12.355	7.1639	1725	Kao
14.160	6.2544	1577	Lepi
20.063	4.4255	1227	Halloy
20.245	4.3863	2095	Gib
20.362	4.3613	1658	Kao
20.473	4.3328	2576	Gib
21.396	4.1728	4496	Goe
23.028	3.8621	1904	Cal
23.932	3.7182	1902	Ank, Kao
28.730	3.1072	1782	Kao, Gib
29.126	3.0659	1905	Cal, Gib
29.306	3.0474	1827	Cal
30.883	2.8953	1886	Ank
31.364	2.8520	1757	Cal
33.333	2.6879	1920	He
34.823	2.5763	1884	Halloy, Goe
36.674	2.4504	1988	Lepi, Goe
37.121	2.4219	2258	Gib
37.221	2.4156	2105	Cal
38.562	2.3347	1924	Kao, Cal
38.980	2.3106	1853	Cal, Kao
39.896	2.2596	1801	Goe
42.227	2.1425	1825	Gib
43.515	2.0797	839	Kao
43.608	2.0755	1860	Lepi, He
43.973	2.0591	1938	Halloy, Gib
45.447	1.9957	846	Kao
46.554	1.9508	1738	Kao, Gib
46.674	1.9460	865	Kao
47.436	1.9165	1835	Goe, Cal
47.908	1.8988	1866	Gib
48.435	1.8793	1852	Cal
50.173	1.8182	1842	Cal, Ank
52.432	1.7451	1833	Gib, Lepi
54.168	1.6932	1875	He, Goe
55.306	1.6610	1845	Halloy, Goe
56.365	1.6323	1862	Gib, Cal
57.662	1.5986	1863	Cal, He
58.666	1.5736	1817	Gib, Goe
59.346	1.5572	1825	Cal, Gib
61.809	1.5010	1771	Kao
64.107	1.4526	1939	Goe, Lepi
64.346	1.4478	1800	Cal, Kao
66.652	1.4032	1818	Cal
67.208	1.3929	1832	Goe
67.412	1.3892	1840	Kao, Lepi
68.772	1.3650	1946	Cal, Lepi

X-Ray Powder Diffraction Data for Lateritic Bauxite
(Sample 20)

Angle	d Å	Intensity	Mineral
12.365	7.1580	1848	Kao
18.336	4.8385	2282	Gib
19.805	4.4826	2160	Kao
20.387	4.3559	2101	Gib
21.384	4.1552	2653	Goe
24.929	3.5717	2224	Kao
25.295	3.5209	1962	Ana
26.826	3.3233	1846	Q
28.848	3.0948	1837	Gib
30.265	2.9531	1799	Cal
32.821	2.7287	1871	Kao
33.590	2.6880	2010	He
34.809	2.5773	1906	Goe
35.092	2.5571	1992	Kao
35.947	2.4982	1980	He, Kao
37.163	2.4192	2274	Gib, Ana
37.795	2.3802	1910	Ana, Gib
38.526	2.3367	1968	Kao
38.809	2.3203	1867	Kao
40.572	2.2235	1930	Cal, Q
40.974	2.2026	1839	Kao, He
41.283	2.1868	1827	Goe
45.707	1.9849	1832	Q, Kao
49.572	1.8389	1833	Cal, He
53.800	1.7039	1942	He, Ana
54.796	1.6752	1873	Q, Kao
56.029	1.6413	1787	Q, Gib
62.354	1.4891	1981	Cal, Kao
65.687	1.4214	1784	Goe, Q
67.475	1.3880	1785	Goe, Q

X-Ray Powder Diffraction Data for Lithomarge
(Sample No. 21)

Angle	d Å	Intensity	Mineral
12.356	7.1635	1863	Kao
17.857	4.9670	1489	Goe
20.366	4.3605	1816	Kao
21.356	4.1606	2193	Goe
24.918	3.5733	1997	Kao
25.349	3.5134	1672	Ana
26.300	3.3885	1564	Kao, Goe
28.779	3.1021	1445	Kao
33.551	2.6809	1773	He
35.029	2.5616	1716	Kao
35.250	2.5461	1689	Kao
35.934	2.4991	1757	He, Kao
37.180	2.4182	2033	Goe
38.092	2.3623	1760	Ana
38.504	2.3380	1716	Kao, Ana
40.550	2.2247	1668	Kao
41.670	2.1674	1662	Kao
45.942	1.9753	1549	Kao
47.067	1.9307	1528	Kao
47.985	1.8959	1563	Ana, Kao
49.346	1.8467	1552	He
53.815	1.7035	1770	He, Goe
56.444	1.6302	1541	He
56.821	1.6203	1556	Kao
59.871	1.5448	1651	Kao
61.098	1.5167	1506	Goe
62.335	1.4895	1767	Kao, He
65.711	1.4210	1473	Kao
65.983	1.4158	1487	Goe

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X-Ray Powder Diffraction Data for Transitional Zone

(Sample No. 22)

Angle	d Å	Intensity	Mineral
12.334	7.1759	1987	Kao
19.239	4.4641	1494	Kao
20.360	4.3617	1528	Kao
21.346	4.1624	1350	Goe
24.865	3.5808	3420	Kao
25.287	3.5219	1485	Ana
26.129	3.4103	1248	Kao
26.438	3.3712	1245	Kao, Goe
27.415	3.2532	1046	Rut
32.561	2.7499	1194	Kao
33.472	2.6771	811	He
35.027	2.5617	1431	Kao
35.949	2.4981	1477	Ru, Kao
37.074	2.4248	1259	Goe
37.775	2.3815	1277	Ana, Kao
38.470	2.3400	1483	Kao
39.323	2.2912	1353	Kao, He
40.392	2.2330	1270	Kao
41.611	2.1703	1226	Kao, Goe
44.575	2.0327	1191	Goe
45.491	1.9938	1194	Kao
47.651	1.9084	1228	Goe
48.106	1.8914	1170	Ana, Kao
51.699	1.7681	1101	Kao
52.855	1.7321	1191	Goe
53.818	1.7034	1347	He, Ru
55.206	1.6638	1219	Kao, Goe
58.036	1.5892	1154	Kao, He
58.514	1.5774	1115	Kao
61.624	1.5050	1096	Goe
62.305	1.4902	1384	Kao, He
63.358	1.4679	1097	He
64.008	1.4546	1175	Kao, He

X-Ray Powder Diffraction Data for Kaolinite

(Sample No. 23)

Angle	d Å°	Intensity	Mineral
12.357	7.1628	3157	Kao
19.934	4.4541	1526	Kao
20.409	4.3514	1517	Kao
21.365	4.1887	1182	Goe
24.912	3.5741	2042	Kao
25.273	3.5239	1449	Ana
26.876	3.3373	1030	Q
28.510	3.1307	1014	Kao
30.762	2.9064	997	Ank
33.572	2.6694	969	He
35.032	2.5613	1409	Kao, Ank
35.970	2.4967	1413	Kao, Goe
37.031	2.4276	1414	Goe, Ank
37.724	2.3845	1221	Ana, Kao
38.422	2.3428	1476	Kao
38.633	2.3305	1354	Kao
39.088	2.3044	1246	Kao
39.336	2.2905	1225	Q, Kao
45.020	2.0136	1044	Ank
45.608	1.9890	1145	Q, Kao
46.643	1.9473	1038	Kao
48.063	1.8930	1151	Ana
49.468	1.8425	1036	Q, He
53.109	1.7244	1043	Goe
53.618	1.7092	1188	Kao
54.614	1.6804	1168	He, Q
54.984	1.6700	1222	Q, Kao
56.333	1.6331	1139	He
59.557	1.5522	1120	Q, Kao
60.585	1.5283	1072	Kao
61.660	1.5042	1055	Ank, Goe
62.326	1.4897	1377	Kao
62.475	1.4865	1314	He
63.699	1.4609	1151	Kao, Goe
66.022	1.4150	1059	Q, Ank
68.891	1.3629	1084	Goe

X-Ray Powder Diffraction Data for Bentonite
(Sample No. 24)

Angle	d Å°	Intensity	Mineral
11.775	7.5153	1187	Mont
12.358	7.1624	2137	Kao
17.830	4.9745	1393	Goe
19.890	4.4937	1727	Mont
20.359	4.3619	1936	Kao
21.246	4.1818	1509	Goe
23.123	3.8464	1605	Kao
23.756	3.7453	1522	Magh
24.909	3.5746	3737	Kao
25.236	3.5290	1565	Ana
30.272	2.9524	1295	Cal
33.343	2.6871	718	He
35.004	2.5634	1376	Mont
35.432	2.5334	1538	Magh
35.987	2.4956	1720	Mont, He
36.907	2.4355	1670	Goe, Ana
38.457	2.3408	1785	Kao, Ana
38.876	2.3165	1490	Kao, Magh
39.307	2.2921	1602	He
40.405	2.2323	1454	Cal
41.268	2.1876	1494	Kao
43.032	2.1019	1312	Magh
44.270	2.0460	1340	Cal
45.508	1.9931	1498	Mont
48.486	1.8775	1398	Mont, Ana
50.102	1.8206	1428	Cal
53.554	1.7111	1532	Mont
61.438	1.5091	1409	Mont
62.328	1.4897	1646	Magh, Kao
64.135	1.4520	1471	He

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X-Ray Powder Diffraction Data for Bentonite with Spherical
Structure (Sample No. 25)

Angle	d Å°	Intensity	Mineral
6.105	14.4767	1467	Mont
12.347	7.1686	1928	Kao
18.893	4.4632	1251	Mont
20.362	4.3614	1504	Kao
21.260	4.1790	1467	Magh
23.149	3.8422	989	Magh
23.715	3.7517	834	Mont
24.881	3.5785	1762	Kao
25.266	3.5248	1209	Ana
26.412	3.3745	826	Mont
27.803	3.2087	767	Magh
30.531	2.9279	606	Magh
30.892	2.8945	595	Ank
33.154	2.7020	706	He
35.026	2.5618	1034	Mont
35.484	2.5298	939	Magh
35.960	2.4974	1096	He
37.803	2.3797	803	Ana
38.453	2.3410	1277	Kao
39.246	2.2955	986	He
48.640	1.8719	607	Mont, Ana
55.114	1.6663	808	He
55.338	1.6601	789	Kao, Ana
59.893	1.5443	665	Magh
62.319	1.4899	889	Magh, Kao
69.680	1.3494	614	Kao

X-Ray Powder Diffraction Data for Weathered Basalt
(Sample No. 26)

Angle	d Å°	Intensity	Mineral
5.845	15.1202	2183	Mont
19.912	4.4588	896	Mont
21.155	4.1996	795	Magh
23.695	3.7548	1733	Mont
26.466	3.3677	820	Mont
28.036	3.1826	1922	Kao
28.484	3.1335	1521	Kao
29.629	3.0149	1085	Magh, Mont
30.423	2.9381	1635	Magh
30.868	2.8967	1038	Ank
33.831	2.6495	779	Magh
34.397	2.6072	766	Mont
34.902	2.5706	913	Mont, Kao
35.633	2.5195	1227	Magh
35.808	2.5076	1088	Magh, Kao
37.240	2.4144	846	Ank, Mont
37.958	2.3704	742	Kao
38.559	2.3348	783	Kao
39.442	2.2845	869	Kao
40.009	2.2535	749	Mont
40.568	2.2237	766	Ank, Magh
41.936	2.1543	828	Mont
42.982	2.1042	838	Magh
45.482	1.9942	781	Kao
45.600	1.9869	825	Kao
48.423	1.8798	777	Magh
49.253	1.8500	788	Ank
50.833	1.7961	842	Ank
51.548	1.7726	789	Kao
55.502	1.6556	714	Kao
57.357	1.6064	810	Magh
59.326	1.5577	869	Magh, Kao
61.643	1.5046	794	Mont
62.429	1.4875	812	Magh, Kao
63.953	1.4557	750	Kao
67.680	1.3843	706	Ank
69.530	1.3519	752	Ank

X-Ray Powder Diffraction Data for Indurated Laterite
(Sample No. 28)

Angle	d Å°	Intensity	Mineral
18.362	4.8316	784	Gib
20.338	4.3664	406	Gib
20.845	4.1823	7704	Goe
24.260	3.6687	2601	He
25.387	3.5083	2400	Ana
27.365	3.2590	2316	Rut
28.040	3.1822	436	Gib
30.351	2.9449	2420	Cal
30.981	2.8865	2387	Ank
33.283	2.6919	3450	He
34.600	2.5923	2441	Goe
35.783	2.5093	3354	Magh
36.079	2.4894	2274	Rut
36.684	2.4497	2474	Goe
37.155	2.4198	706	Gib
37.773	2.3816	2522	Ana
39.334	2.2906	457	Gib
40.156	2.2456	2431	Goe, Gib
40.955	2.2036	2756	Ank, Goe
43.051	2.1010	2360	Magh
45.026	2.0134	2475	Goe, Gib
46.522	1.9520	443	Gib
47.434	1.9166	2403	Goe
47.659	1.9081	2469	Ana
49.155	1.8535	2410	Cal
52.455	1.7444	445	Gib
52.695	1.7370	2415	Goe
53.020	1.7271	2388	Goe
53.493	1.7129	2398	Goe
54.158	1.6935	2801	He, Rut
56.771	1.6216	2414	Cal, Gib
57.135	1.6121	2410	Cal
57.600	1.6002	2464	Goe
58.016	1.5897	2385	Cal, Gib
59.245	1.5596	2381	Goe, Cal
59.766	1.5473	373	Gib, Cal
60.805	1.5233	2401	Cal
62.517	1.4856	2644	Magh
64.138	1.4196	2695	Goe
64.978	1.4352	2453	Cal
65.557	1.4239	2366	Cal
66.882	1.3989	2406	Goe
67.304	1.3911	2482	Goe

X-Ray Powder Diffraction Data for Unindurated Laterite
(Sample No. 29)

Angle	d Å°	Intensity	Mineral
12.328	7.1798	1704	Kao
18.366	4.8304	988	Gib
19.941	4.4525	1417	Kao
20.377	4.3581	444	Kao, Gib
21.725	4.1666	1540	Goe
23.222	3.8303	1134	Kao
24.921	3.5728	1779	Kao
25.277	3.5233	1526	Ana
27.946	3.1926	1007	Gib
28.885	3.0910	1005	Magh
33.144	2.7028	1170	He
34.995	2.5640	1266	Kao
35.735	2.5126	1352	Magh
35.992	2.4952	1261	Goe, Kao
37.027	2.4278	1110	Goe
37.867	2.3758	1174	Kao, Ana
38.502	2.3382	1361	Kao
39.283	2.2934	1204	Kao, Cal
39.776	2.2661	996	Goe
40.939	2.2044	1087	Kao
42.058	2.1483	990	Kao
49.698	1.8345	965	Kao
52.569	1.7409	946	Gib
53.383	1.7162	944	He
55.077	1.6674	1075	Goe, Kao
60.132	1.5387	1080	Kao
62.402	1.4881	1218	Magh, Kao
63.282	1.4695	984	Goe, He

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X-Ray Powder Diffraction Data for Lithomarge

(Sample No. 30)

Angle	d Å°	Intensity	Mineral
12.193	7.2589	1552	Kao
20.394	4.3546	1790	Kao
21.371	4.1576	1985	Goe
24.195	3.6783	1488	Ank
24.933	3.5712	2007	Kao
25.267	3.5247	1807	Ana
27.903	3.2546	1459	Rut
29.482	3.0297	1643	Cal
30.965	2.8878	1551	Ank
33.195	2.6988	1835	He
35.064	2.5591	1731	Kao, Ank
35.703	2.5148	2042	Magh
37.057	2.4259	1755	Goe
38.363	2.3463	1730	Kao
38.953	2.3121	1613	Kao, Magh
39.286	2.2933	1651	Cal, Rut
42.530	2.1256	1541	Cal
44.245	2.0471	1495	Magh, Ank
48.677	1.8706	1534	Ana
49.478	1.8421	1555	Cal
54.169	1.6932	1697	He, Goe
55.478	1.6563	1549	Ana
56.040	1.6410	1604	Magh, He
56.518	1.6282	1590	Rut
57.460	1.6038	1501	Goe, He
58.831	1.5696	1543	Cal
60.020	1.5413	1535	Ank
62.441	1.4873	1729	Magh
64.121	1.4523	1719	Rut, Ank
67.326	1.3907	1531	Cal, Ank
67.589	1.3860	1556	Ank
68.763	1.3752	1569	Cal
69.763	1.3480	1611	Ana

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X-Ray Powder Diffraction Data for Ferruginous Kaolinite
(Sample No. 31)

Angle	d Å°	Intensity	Mineral
12.316	7.1866	2084	Kao
17.904	4.9541	1004	Goe
18.334	4.8388	2095	Gib
20.370	4.3596	2257	Gib, Kao
21.357	4.1603	1060	Goe
24.188	3.6795	2408	He
24.899	3.5759	5259	Kao
25.343	3.5143	2307	Ana
26.429	3.2493	2116	Rut
29.752	3.0023	2153	Cal
30.121	2.9668	2105	Cal
31.960	2.8002	2141	Magh
33.198	2.6986	1359	He
35.178	2.5138	2811	Magh
37.088	2.4239	2290	Goe, Magh
38.537	2.3361	2235	Kao, Magh
40.386	2.2333	2155	Cal, Magh
40.840	2.2095	2229	Kao, He
42.319	2.1887	2141	Rut
43.124	2.0976	2104	Cal, Magh
43.699	2.0713	2084	Gib, He
44.265	2.0462	2040	Cal, Gib
48.077	1.8925	2090	Ana
48.996	1.8591	2136	Cal
49.525	1.8905	2271	Ana
54.050	1.6966	2348	He, Go
55.131	1.6914	2007	Rut
57.523	1.6022	2095	Magh
57.939	1.5916	2100	Gib
58.154	1.5863	2086	Gib
62.615	1.4836	2197	Magh, Kao
63.811	1.4586	2097	Kao
64.133	1.4521	2229	Goe
64.657	1.4415	2098	Kao
65.810	1.4191	2045	Goe
67.030	1.3962	2069	Cal
68.893	1.3629	2101	Cal, Ana

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X-Ray Powder Diffraction Data for Transitional Zone

(Sample No. 32)

Angle	d Å°	Intensity	Mineral
8.808	10.0388	698	Mont
11.046	8.0098	775	Magh
12.314	7.1876	1699	Kao
14.755	6.0035	840	Magh, Mont
17.495	5.0689	840	Goe
19.919	4.4572	464	Mont
20.325	4.3691	1436	Kao
21.338	4.1640	1669	Goe
22.832	3.8948	1099	Magh
24.902	3.5756	1827	Kao
25.251	3.5269	1537	Ana
26.831	3.3226	924	Q
28.396	3.1430	926	Kao
33.549	2.6711	1022	He
35.003	2.5635	269	Mont
35.448	2.5322	1132	Mont, Goe
35.746	2.5119	1216	Magh
35.942	2.4986	1259	Goe
36.599	2.4552	1007	Q, Goe
37.014	2.4287	1138	Magh
37.854	2.3767	1094	Ana
38.384	2.3451	1331	Kao
39.253	2.2951	1111	Q, He
40.907	2.2060	962	Magh, Kao
41.587	2.1715	416	Mont
42.406	2.1315	924	Q
45.197	2.0062	1006	Mont
46.593	1.9492	946	Magh
48.003	1.8952	1013	Ana
52.026	1.7577	897	Goe
52.505	1.7428	901	Magh
53.934	1.7000	417	Mont
54.546	1.6823	1034	He, Mont
55.028	1.6688	1098	Kao
60.047	1.5407	942	Kao
60.800	1.5234	903	Goe
61.431	1.5093	580	Mont
62.325	1.4898	1205	Magh, Kao
63.725	1.4604	1093	Kao, Q
67.696	1.3840	912	Q

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X-Ray Powder Diffraction Data for Bentonite

(Sample No. 33)

Angle	d Å°	Intensity	Mineral
12.318	7.1855	1853	Kao
17.691	5.0132	472	Mont
18.305	4.8465	322	Gib
19.965	4.4472	321	Mont
20.362	4.3613	1218	Gib, Kao
21.280	4.1752	1025	Goe
23.152	3.8417	579	Kao
23.858	3.7295	532	Kao
24.933	3.5711	1759	Kao
25.301	3.5201	1331	Ana
33.126	2.7043	410	He
34.999	2.5637	777	Goe
35.484	2.5298	629	Magh
35.964	2.4971	346	He
36.999	2.4296	386	Goe
37.853	2.3767	636	Ana
38.444	2.3415	1033	Kao
41.177	2.1922	387	Goe
45.539	1.9919	457	Mont
48.015	1.8948	457	Mont, Ana
50.875	1.7948	347	Kao
53.873	1.7018	403	Mont
55.039	1.6684	598	Gib
56.240	1.6356	419	Gib
57.163	1.6114	358	Magh
57.412	1.6050	336	Goe
59.918	1.5437	364	Magh
62.320	1.4899	598	Magh, Kao
65.925	1.4169	283	Goe