

**Table 1: Stable and radiogenic isotopic analyses of diagenetic minerals.**

Well Location	Depth (m)	Component	$\delta^{18}\text{O}$	$\delta^{13}\text{C}$	$^{87}\text{Sr}/^{86}\text{Sr}$
a-25-E/94-P-16	1142.43	Ferroan Matrix Dolomite	-8.39	3.38	0.708791±6
a-25-E/94-P-16	1142.56	Ferroan Matrix Dolomite	-9.16	3.17	0.708447±12
a-41-A/94-P-15	1141.86	Ferroan Matrix Dolomite	-6.80	3.1	0.708526±18
b-50-I/94-P-10	1137.22	Ferroan Matrix Dolomite	-10.21	1.65	0.709416±22
b-50-I/94-P-10	1137.36	Ferroan Matrix Dolomite	-7.93	4.01	0.708422±8
b-50-I/94-P-10	1137.39	Ferroan Matrix Dolomite	-7.84	3.93	0.709202±41
b-50-I/94-P-10	1137.55	Ferroan Matrix Dolomite	-7.79	3.93	0.708350±8
b-50-I/94-P-10	1137.72	Ferroan Matrix Dolomite	-7.80	3.88	
b-86-E/94-P-16	1161.87	Ferroan Matrix Dolomite	-8.90	2.94	0.709269±6
b-86-E/94-P-16	1161.89	Ferroan Matrix Dolomite	-8.37	3.42	0.708597±18
b-86-E/94-P-16	1162.05	Ferroan Matrix Dolomite	-11.06	1.15	0.708778±17
b-86-E/94-P-16	1162.09	Ferroan Matrix Dolomite	-8.88	3.07	0.708571±11
c-32-G/94-P-10	1143.30	Ferroan Matrix Dolomite	-8.34	4.11	
c-32-G/94-P-10	1143.51	Ferroan Matrix Dolomite	-8.63	4.44	
c-32-G/94-P-10	1143.63	Ferroan Matrix Dolomite	-8.03	4.44	
c-92-J/94-P-10	1169.75	Ferroan Matrix Dolomite	-7.41	4.40	0.708705±17
d-37-I/94-P-10	1127.47	Ferroan Matrix Dolomite	-7.97	2.8	0.708498±11
d-37-I/94-P-10	1127.74	Ferroan Matrix Dolomite	-8.01	2.84	
d-37-I/94-P-10	1128.03	Ferroan Matrix Dolomite	-8.91	3.15	0.708451±12
a-25-E/94-P-16	1146.16	Ferroan Saddle Dolomite Cement	-8.55	1.54	0.709882±15
a-41-A/94-P-15	1135.85	Ferroan Saddle Dolomite Cement	-12.23	0.45	0.709850±12
a-41-A/94-P-15	1141.86	Ferroan Saddle Dolomite Cement	-10.73	1.6	0.708585±38
a-89-I/94-P-10	1150.90	Ferroan Saddle Dolomite Cement	-11.90	1.83	0.710253±19
b-50-I/94-P-10	1146.33	Ferroan Saddle Dolomite Cement	-9.72	2.70	0.708684±46
b-68-D/94-P-10	1142.46	Ferroan Saddle Dolomite Cement	-11.93	0.06	0.710046±10
b-86-E/94-P-16	1162.05	Ferroan Saddle Dolomite Cement	-12.40	0.4	
c-32-E/94-P-16	1145.35	Ferroan Saddle Dolomite Cement	-11.18	0.90	0.708776±10
c-34-A/94-P-10	1138.08	Ferroan Saddle Dolomite Cement	-11.71	0.62	0.712274±10
c-34-A/94-P-10	1140.98	Ferroan Saddle Dolomite Cement	-10.80	1.15	0.708643±18
c-74-A/94-P-10	1171.05	Ferroan Saddle Dolomite Cement	-11.71	0.94	0.708977±18
c-74-A/94-P-15	1171.54	Ferroan Saddle Dolomite Cement	-10.69	1.86	0.709870±22
c-92-J/94-P-10	1175.10	Ferroan Saddle Dolomite Cement	-12.07	0.32	0.709688±34
c-92-J/94-P-10	1176.32	Ferroan Saddle Dolomite Cement	-9.93	2.66	0.709085±10
d34-I/94-P-10	1135.08	Ferroan Saddle Dolomite Cement	-11.01	2.13	0.709782±22
d-37-I/94-P-10	1130.36	Ferroan Saddle Dolomite Cement	-11.18	1.54	
d-37-I/94-P-10	1130.36	Ferroan Saddle Dolomite Cement	-11.77	1.04	0.709237±12
d-37-I/94-P-10	1137.17	Ferroan Saddle Dolomite Cement	-10.13	2.48	0.710493±12
a-25-E/94-P-16	1152.94	Perthitic Ferroan Saddle Dolomite Cement	-12.83	0.87	0.709744±12
a-25-E/94-P-16	1153.15	Perthitic Ferroan Saddle Dolomite Cement	-12.04	0.85	0.708908±24
a-25-E/94-P-16	1154.77	Barite Cement			0.708773±15
b-50-I/94-P-10	1149.47	Barite Cement			0.708352±20
b-86-E/94-P-16	1162.05	Barite Cement			0.709118
c-74-A/94-P-19	1170.25	Barite Cement			0.712099±18
c-92-J/94-P-10	1178.30	Barite Cement			0.709605±19
a-41-A/94-P-15	1132.75	Radiaxial Bladed Calcite Cement	-6.44	3.87	0.709453±11
c-94-I/94-P-10	1132.49	Radiaxial Bladed Calcite Cement	-5.87	3.88	0.708386±10
c-32-E/94-P-16	1150.86	Calcite Micrite	-6.42	1.77	0.708449±10
c-32-E/94-P-16	1151.15	Calcite Micrite	-7.26	1.27	0.708561±10
c-34-A/94-P-10	1147.09	Calcite Micrite	-6.68	1.62	0.708518±10
c-34-A/94-P-15	1146.27	Calcite Micrite	-7.20	1.57	0.709977±10
a-25-E/94-P-16	1152.94	Non-Ferroan Equant Calcite Cement	-7.98	3.73	0.708636±12
a-25-E/94-P-16	1153.15	Non-Ferroan Equant Calcite Cement	-5.74	4.16	0.708050±12
a-25-I/94-P-10	1119.96	Non-Ferroan Equant Calcite Cement	-8.79	3.22	0.707959±11
a-89-I/94-P-10	1149.22	Non-Ferroan Equant Calcite Cement	-8.24	3.50	0.719048±21
c-74-A/94-P-15	1171.05	Non-Ferroan Equant Calcite Cement	-8.11	3.94	0.709781±16
c-74-A/94-P-15	1172.16	Non-Ferroan Equant Calcite Cement	-6.70	3.79	0.710972±8

c-74-A/94-P-15	1177.33	Non-Ferroan Equant Calcite Cement	-6.17	1.45	0.708785±24
d-37-I/94-P-10	1137.36	Non-Ferroan Equant Calcite Cement	-9.14	3.10	0.708656±10
a-89-I/94-P-10	1150.90	Ferroan Equant Calcite Cement	-12.43	0.71	0.708813±25
c-32-E/94-P-16	1147.54	Ferroan Equant Calcite Cement	-12.69	1.47	0.710322±21
c-34-A/94-P-15	1138.08	Ferroan Equant Calcite Cement	-11.67	3.03	0.713007±10
d-37-I/94-P-10	1137.17	Ferroan Equant Calcite Cement	-15.16	-0.16	0.712492±11
a-25-E/94-P-16	1142.56	Strom Calcite + Equant Calcite Cement	-5.44	3.87	
a-25-E/94-P-16	1146.16	Strom Calcite with Calcite Cement	-7.92	3.33	
d-37-I/94-P-10	1128.03	Calcite Coral with abundant Calcite Cement	-9.95	2.81	0.709078±11
a-25-E/94-P-16	1152.94	Calcite Matrix, Fossils and Calcite Cements	-7.33	3.09	
a-25-E/94-P-16	1154.77	Calcite Fossils, Micrite and Calcite Cements	-5.91	3.55	
a-41-A/94-P-15	1135.85	Calcite Fossils, Matrix and Calcite Cements	-9.56	3.2	
a-41-A/94-P-15	1141.86	Calcite Matrix, Fossils and Calcite Cements	-7.48	3.01	0.708598±11
d-37-I/94-P-10	1130.36	Calcite Matrix, Calcite Fossil and Equant Calcite Cement	-10.74	2.26	0.708887±15
d-37-I/94-P-10	1137.17	Calcite Fossil (pure?)	-7.67	3.87	0.708557±12
a-25-E/94-P-16	1153.15	Peloidal Matrix and Calcite Cements	-6.14	3.54	