

## Appendix A: Drilling Fluids Properties

Table A1: Formula of water based drilling fluids

Component	Concentration
Distilled water	350 g
Bentonite	20 g
Chrome lignosulfonate	3 g
Lignite	3 g

Table A2: Formula of oil based drilling fluids

Component	Concentration
Diesel oil	298 mL
30% Calcium Chloride brine	52 mL
Organophilic bentonite	5 g
Emulsifier	5 g
Calcium hydroxide	2 g

Table A3: Physical and chemical properties of synthetic (LAO-based) drilling fluids

Physical state	Liquid
Odor	Petroleum hydrocarbon
Color	Colorless to light yellow
Boiling point range	217 °C
Pour point	-35 °C
Density	0.762 gr/cm <sup>3</sup> at 16 °C
Solubility	0.1 – 1.0%

Table A4: Physical and chemical properties of synthetic (IO-based) drilling fluids

Physical state	Liquid
Odor	Petroleum hydrocarbon
Color	Colorless
Boiling point range	285 – 316 °C
Pour point	-24 °C
Density	0.790 gr/cm <sup>3</sup> at 16 °C
Solubility	Insoluble in water
Kinematic viscosity	3.09 cSt at 40 °C

Table A5: Formula of water based Aphron drilling fluids

Agents	Dosage	Function
Fresh water	100%	Based fluid
Bentonite	1.0~2.0%	Jel builder
DD	0.3~0.5%	Viscosity builder
DDS	0.2~0.4%	Viscosity builder
SMP-2	1~3%	Control fluid loss

<b>Agents</b>	<b>Dosage</b>	<b>Function</b>
MMH	1~2%	Foam stabilizer
FM-1	0.1~0.3%	Foamer
SF-1	0.1~0.3%	Foam stabilizer
HTS-1	0.4~0.6%	High temperature stabilizer
NW-1	0.4~0.6%	Shale inhibition
Graphite	0.4~0.5%	Lubricant
Na <sub>2</sub> SO <sub>3</sub>	1.0%	Oxygen scavenger
CaCO <sub>3</sub>	0~30%	Weighting material

Table A6: Physical properties of water based Aphron drilling fluids

<b>Mud properties</b>	<b>Values</b>
Density	1.00~1.08 g/cm <sup>3</sup>
Funnel Viscosity	40~50 s/qt
Plastic Viscosity	10~20 cP
Yield Point	10~20 Pa
YP/PV	0.8~1.2
Gel Strength (10 s)	2~4 Pa
Gel Strength (10 min)	3~6 Pa
Filtrate API(cm <sup>3</sup> /30 min)	3~5 mL
Cake thickness	0
Solids Content (% by Vol)	7%~8%
pH	10

## Appendix B: Utilized Data and Predicted Values

Table B1: The utilized data for prediction of mud density along with the predicted values using the developed RBF model.

Mud Type	Formulation	Initial Density (g/cm <sup>3</sup> )	Pressure (MPa)	Temperature (K)	Density (g/cm <sup>3</sup> )	Predicted Density (g/cm <sup>3</sup> )	AARD%	Status
Water-Base	Table A1	1.3182	0.1013	294.2611	1.28101	1.28093	0.00564	Train
Water-Base	Table A1	1.3182	0.1013	310.9278	1.27621	1.27644	0.01760	Train
Water-Base	Table A1	1.3182	0.1013	338.7056	1.26183	1.26151	0.02533	Train
Water-Base	Table A1	1.3182	0.1013	366.4833	1.24146	1.24172	0.02045	Train
Water-Base	Table A1	1.3182	0.1013	394.2611	1.21630	1.21637	0.00569	Train
Water-Base	Table A1	1.3182	0.1013	422.0389	1.18754	1.18746	0.00650	Train
Water-Base	Table A1	1.3182	13.887	294.2611	1.29419	1.29413	0.00479	Train
Water-Base	Table A1	1.3182	13.887	310.9278	1.28820	1.28823	0.00235	Train
Water-Base	Table A1	1.3182	13.887	338.7056	1.27262	1.27240	0.01692	Train
Water-Base	Table A1	1.3182	13.887	366.4833	1.25105	1.25184	0.06318	Train
Water-Base	Table A1	1.3182	13.887	394.2611	1.22588	1.22482	0.08658	Train
Water-Base	Table A1	1.3182	13.887	422.0389	1.19593	1.19654	0.05142	Test
Water-Base	Table A1	1.3182	13.887	449.8167	1.16717	1.16711	0.00479	Train
Water-Base	Table A1	1.3182	27.6728	294.2611	1.30377	1.30387	0.00706	Train
Water-Base	Table A1	1.3182	27.6728	310.9278	1.29658	1.29655	0.00251	Train
Water-Base	Table A1	1.3182	27.6728	338.7056	1.27981	1.27902	0.06122	Train
Water-Base	Table A1	1.3182	27.6728	366.4833	1.25824	1.25799	0.01944	Train
Water-Base	Table A1	1.3182	27.6728	394.2611	1.23068	1.23067	0.00048	Train
Water-Base	Table A1	1.3182	27.6728	422.0389	1.20431	1.20383	0.04035	Train
Water-Base	Table A1	1.3182	27.6728	449.8167	1.17675	1.17797	0.10321	Train
Water-Base	Table A1	1.3182	27.6728	477.5944	1.14919	1.14755	0.14250	Test
Water-Base	Table A1	1.3182	41.4585	294.2611	1.31096	1.31078	0.01445	Train
Water-Base	Table A1	1.3182	41.4585	310.9278	1.30258	1.30297	0.02985	Train
Water-Base	Table A1	1.3182	41.4585	338.7056	1.28580	1.28543	0.02852	Train
Water-Base	Table A1	1.3182	41.4585	366.4833	1.26543	1.26558	0.01174	Train
Water-Base	Table A1	1.3182	41.4585	394.2611	1.23787	1.23858	0.05764	Train
Water-Base	Table A1	1.3182	41.4585	422.0389	1.21150	1.21117	0.02741	Train
Water-Base	Table A1	1.3182	41.4585	449.8167	1.18634	1.18630	0.00327	Train
Water-Base	Table A1	1.3182	41.4585	477.5944	1.15878	1.15864	0.01173	Train
Water-Base	Table A1	1.3182	55.2442	394.2611	1.24506	1.24475	0.02439	Train
Water-Base	Table A1	1.3182	55.2442	422.0389	1.21869	1.21902	0.02671	Train
Water-Base	Table A1	1.3182	55.2442	449.8167	1.19473	1.19385	0.07330	Train
Water-Base	Table A1	1.3182	55.2442	477.5944	1.16717	1.16751	0.02952	Train
Water-Base	Table A1	1.3182	69.0299	422.0389	1.22588	1.22596	0.00607	Train
Water-Base	Table A1	1.3182	69.0299	449.8167	1.20192	1.20190	0.00106	Train
Water-Base	Table A1	1.3182	69.0299	477.5944	1.17555	1.17531	0.02093	Train
Water-Base	Table A1	1.3182	82.8156	449.8167	1.21031	1.21036	0.00435	Train
Water-Base	Table A1	1.3182	82.8156	477.5944	1.18394	1.18400	0.00468	Test
Water-Base	Table A1	1.3182	96.6013	477.5944	1.19233	1.19231	0.00201	Train
Water-Base	Table A1	1.6777	0.1013	294.2611	1.62972	1.63471	0.30656	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Water-Base	Table A1	1.6777	0.1013	310.9278	1.62612	1.62610	0.00175	Train
Water-Base	Table A1	1.6777	0.1013	338.7056	1.60815	1.61029	0.13340	Train
Water-Base	Table A1	1.6777	0.1013	366.4833	1.58418	1.58184	0.14768	Test
Water-Base	Table A1	1.6777	0.1013	394.2611	1.55063	1.55048	0.00975	Test
Water-Base	Table A1	1.6777	0.1013	422.0389	1.52187	1.52197	0.00642	Test
Water-Base	Table A1	1.6777	13.887	294.2611	1.64530	1.64536	0.00375	Train
Water-Base	Table A1	1.6777	13.887	310.9278	1.64170	1.63747	0.25770	Train
Water-Base	Table A1	1.6777	13.887	338.7056	1.62133	1.62264	0.08080	Train
Water-Base	Table A1	1.6777	13.887	366.4833	1.59617	1.59613	0.00190	Train
Water-Base	Table A1	1.6777	13.887	394.2611	1.56501	1.56535	0.02166	Train
Water-Base	Table A1	1.6777	13.887	422.0389	1.53625	1.53691	0.04280	Train
Water-Base	Table A1	1.6777	13.887	449.8167	1.50030	1.50008	0.01464	Train
Water-Base	Table A1	1.6777	27.6728	294.2611	1.65968	1.65994	0.01569	Train
Water-Base	Table A1	1.6777	27.6728	310.9278	1.65129	1.65058	0.04294	Train
Water-Base	Table A1	1.6777	27.6728	338.7056	1.63092	1.63184	0.05655	Train
Water-Base	Table A1	1.6777	27.6728	366.4833	1.60575	1.60495	0.04985	Test
Water-Base	Table A1	1.6777	27.6728	394.2611	1.57460	1.57469	0.00628	Train
Water-Base	Table A1	1.6777	27.6728	422.0389	1.54703	1.54659	0.02869	Train
Water-Base	Table A1	1.6777	27.6728	449.8167	1.51228	1.51227	0.00052	Train
Water-Base	Table A1	1.6777	27.6728	477.5944	1.47034	1.47045	0.00744	Test
Water-Base	Table A1	1.6777	41.4585	294.2611	1.66806	1.66801	0.00315	Train
Water-Base	Table A1	1.6777	41.4585	310.9278	1.65848	1.65850	0.00119	Train
Water-Base	Table A1	1.6777	41.4585	338.7056	1.63811	1.63823	0.00724	Train
Water-Base	Table A1	1.6777	41.4585	366.4833	1.61294	1.61265	0.01834	Test
Water-Base	Table A1	1.6777	41.4585	394.2611	1.58298	1.58326	0.01754	Test
Water-Base	Table A1	1.6777	41.4585	422.0389	1.55662	1.55464	0.12717	Train
Water-Base	Table A1	1.6777	41.4585	449.8167	1.52187	1.52205	0.01209	Test
Water-Base	Table A1	1.6777	41.4585	477.5944	1.48113	1.48263	0.10185	Train
Water-Base	Table A1	1.6777	55.2442	394.2611	1.59137	1.59171	0.02120	Test
Water-Base	Table A1	1.6777	55.2442	422.0389	1.56501	1.56423	0.04981	Train
Water-Base	Table A1	1.6777	55.2442	449.8167	1.53146	1.53156	0.00677	Train
Water-Base	Table A1	1.6777	55.2442	477.5944	1.49191	1.49167	0.01616	Train
Water-Base	Table A1	1.6777	69.0299	422.0389	1.57460	1.57470	0.00695	Train
Water-Base	Table A1	1.6777	69.0299	449.8167	1.53984	1.54036	0.03369	Test
Water-Base	Table A1	1.6777	69.0299	477.5944	1.50270	1.49704	0.37649	Train
Water-Base	Table A1	1.6777	82.8156	449.8167	1.54943	1.54910	0.02129	Train
Water-Base	Table A1	1.6777	82.8156	477.5944	1.51228	1.50473	0.49948	Test
Water-Base	Table A1	1.6777	96.6013	477.5944	1.52187	1.52194	0.00493	Train
Water-Base	Table A1	2.157	0.1013	294.2611	2.15219	2.15232	0.00595	Train
Water-Base	Table A1	2.157	0.1013	310.9278	2.14859	2.14839	0.00922	Train
Water-Base	Table A1	2.157	0.1013	338.7056	2.13421	2.13441	0.00907	Train
Water-Base	Table A1	2.157	0.1013	366.4833	2.10905	2.10879	0.01213	Train
Water-Base	Table A1	2.157	0.1013	394.2611	2.07789	2.07817	0.01358	Train
Water-Base	Table A1	2.157	0.1013	422.0389	2.04314	2.04305	0.00458	Train
Water-Base	Table A1	2.157	13.887	294.2611	2.17615	2.17607	0.00384	Train
Water-Base	Table A1	2.157	13.887	310.9278	2.17016	2.17244	0.10515	Train
Water-Base	Table A1	2.157	13.887	338.7056	2.15339	2.15349	0.00470	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Water-Base	Table A1	2.157	13.887	366.4833	2.12463	2.12475	0.00592	Train
Water-Base	Table A1	2.157	13.887	394.2611	2.09347	2.09324	0.01098	Train
Water-Base	Table A1	2.157	13.887	422.0389	2.05992	2.05990	0.00067	Train
Water-Base	Table A1	2.157	13.887	449.8167	2.02277	2.02283	0.00282	Train
Water-Base	Table A1	2.157	27.6728	294.2611	2.18933	2.18895	0.01750	Train
Water-Base	Table A1	2.157	27.6728	310.9278	2.18454	2.18546	0.04190	Train
Water-Base	Table A1	2.157	27.6728	338.7056	2.16417	2.16307	0.05065	Train
Water-Base	Table A1	2.157	27.6728	366.4833	2.13421	2.13487	0.03066	Test
Water-Base	Table A1	2.157	27.6728	394.2611	2.10545	2.10498	0.02260	Train
Water-Base	Table A1	2.157	27.6728	422.0389	2.07190	2.07186	0.00206	Test
Water-Base	Table A1	2.157	27.6728	449.8167	2.03595	2.03621	0.01279	Train
Water-Base	Table A1	2.157	27.6728	477.5944	1.99401	1.99392	0.00423	Train
Water-Base	Table A1	2.157	41.4585	294.2611	2.19892	2.19910	0.00791	Train
Water-Base	Table A1	2.157	41.4585	310.9278	2.19533	2.19509	0.01092	Train
Water-Base	Table A1	2.157	41.4585	338.7056	2.17376	2.17067	0.14218	Train
Water-Base	Table A1	2.157	41.4585	366.4833	2.14380	2.14430	0.02329	Train
Water-Base	Table A1	2.157	41.4585	394.2611	2.11624	2.11627	0.00135	Test
Water-Base	Table A1	2.157	41.4585	422.0389	2.08268	2.08324	0.02655	Train
Water-Base	Table A1	2.157	41.4585	449.8167	2.04913	2.04868	0.02202	Train
Water-Base	Table A1	2.157	41.4585	477.5944	2.00839	2.00686	0.07621	Train
Water-Base	Table A1	2.157	55.2442	394.2611	2.12702	2.12638	0.02999	Test
Water-Base	Table A1	2.157	55.2442	422.0389	2.09347	2.09401	0.02563	Test
Water-Base	Table A1	2.157	55.2442	449.8167	2.06111	2.06096	0.00752	Test
Water-Base	Table A1	2.157	55.2442	477.5944	2.02157	2.02184	0.01330	Test
Water-Base	Table A1	2.157	69.0299	422.0389	2.10425	2.10468	0.02007	Train
Water-Base	Table A1	2.157	69.0299	449.8167	2.07190	2.07185	0.00223	Train
Water-Base	Table A1	2.157	69.0299	477.5944	2.03475	2.03462	0.00635	Train
Water-Base	Table A1	2.157	82.8156	449.8167	2.08268	2.08257	0.00565	Train
Water-Base	Table A1	2.157	82.8156	477.5944	2.04673	2.04680	0.00310	Train
Water-Base	Table A1	2.157	96.6013	477.5944	2.05752	2.05888	0.06592	Train
Oil-Base	Table A2	1.3182	0.1013	294.2611	1.31216	1.31196	0.01581	Train
Oil-Base	Table A2	1.3182	0.1013	310.9278	1.30258	1.30304	0.03595	Train
Oil-Base	Table A2	1.3182	0.1013	338.7056	1.27262	1.27209	0.04163	Train
Oil-Base	Table A2	1.3182	0.1013	366.4833	1.24626	1.24641	0.01264	Train
Oil-Base	Table A2	1.3182	0.1013	394.2611	1.21869	1.21982	0.09278	Train
Oil-Base	Table A2	1.3182	0.1013	422.0389	1.18874	1.18882	0.00676	Test
Oil-Base	Table A2	1.3182	13.887	294.2611	1.33134	1.33141	0.00520	Test
Oil-Base	Table A2	1.3182	13.887	310.9278	1.32295	1.31955	0.25701	Test
Oil-Base	Table A2	1.3182	13.887	338.7056	1.29059	1.28961	0.07590	Train
Oil-Base	Table A2	1.3182	13.887	366.4833	1.26543	1.26587	0.03490	Train
Oil-Base	Table A2	1.3182	13.887	394.2611	1.24026	1.24006	0.01616	Test
Oil-Base	Table A2	1.3182	13.887	422.0389	1.21270	1.21232	0.03172	Train
Oil-Base	Table A2	1.3182	13.887	449.8167	1.18394	1.18405	0.00908	Train
Oil-Base	Table A2	1.3182	27.6728	294.2611	1.34572	1.34756	0.13707	Train
Oil-Base	Table A2	1.3182	27.6728	310.9278	1.33493	1.33478	0.01144	Train
Oil-Base	Table A2	1.3182	27.6728	338.7056	1.30497	1.30506	0.00653	Train
Oil-Base	Table A2	1.3182	27.6728	366.4833	1.28220	1.28190	0.02417	Test

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Oil-Base	Table A2	1.3182	27.6728	394.2611	1.25704	1.25734	0.02394	Train
Oil-Base	Table A2	1.3182	27.6728	422.0389	1.23307	1.23351	0.03508	Train
Oil-Base	Table A2	1.3182	27.6728	449.8167	1.20671	1.20653	0.01464	Train
Oil-Base	Table A2	1.3182	27.6728	477.5944	1.18874	1.18873	0.00090	Train
Oil-Base	Table A2	1.3182	41.4585	294.2611	1.35650	1.35766	0.08516	Train
Oil-Base	Table A2	1.3182	41.4585	310.9278	1.34691	1.34525	0.12325	Train
Oil-Base	Table A2	1.3182	41.4585	338.7056	1.31696	1.31711	0.01200	Train
Oil-Base	Table A2	1.3182	41.4585	366.4833	1.29539	1.29548	0.00731	Test
Oil-Base	Table A2	1.3182	41.4585	394.2611	1.27262	1.27215	0.03677	Train
Oil-Base	Table A2	1.3182	41.4585	422.0389	1.24985	1.24966	0.01558	Train
Oil-Base	Table A2	1.3182	41.4585	449.8167	1.22469	1.22487	0.01536	Train
Oil-Base	Table A2	1.3182	41.4585	477.5944	1.20791	1.20792	0.00100	Train
Oil-Base	Table A2	1.3182	55.2442	394.2611	1.28580	1.28579	0.00065	Train
Oil-Base	Table A2	1.3182	55.2442	422.0389	1.26423	1.26462	0.03105	Test
Oil-Base	Table A2	1.3182	55.2442	449.8167	1.24146	1.24121	0.02008	Train
Oil-Base	Table A2	1.3182	55.2442	477.5944	1.22469	1.22990	0.42587	Train
Oil-Base	Table A2	1.3182	69.0299	422.0389	1.27861	1.27860	0.00106	Train
Oil-Base	Table A2	1.3182	69.0299	449.8167	1.25584	1.25431	0.12229	Test
Oil-Base	Table A2	1.3182	69.0299	477.5944	1.24026	1.24604	0.46580	Test
Oil-Base	Table A2	1.3182	82.8156	449.8167	1.26783	1.26777	0.00470	Train
Oil-Base	Table A2	1.3182	82.8156	477.5944	1.25345	1.25350	0.00453	Train
Oil-Base	Table A2	1.3182	96.6013	477.5944	1.26663	1.24911	1.38318	Train
Oil-Base	Table A2	1.6777	0.1013	294.2611	1.71001	1.70985	0.00897	Test
Oil-Base	Table A2	1.6777	0.1013	310.9278	1.69203	1.69229	0.01504	Train
Oil-Base	Table A2	1.6777	0.1013	338.7056	1.66327	1.66260	0.04052	Test
Oil-Base	Table A2	1.6777	0.1013	366.4833	1.63451	1.63464	0.00776	Train
Oil-Base	Table A2	1.6777	0.1013	394.2611	1.60575	1.60562	0.00852	Train
Oil-Base	Table A2	1.6777	0.1013	422.0389	1.57579	1.57587	0.00511	Train
Oil-Base	Table A2	1.6777	13.887	294.2611	1.73397	1.73409	0.00663	Train
Oil-Base	Table A2	1.6777	13.887	310.9278	1.71720	1.71697	0.01295	Train
Oil-Base	Table A2	1.6777	13.887	338.7056	1.68844	1.68814	0.01763	Train
Oil-Base	Table A2	1.6777	13.887	366.4833	1.66087	1.65974	0.06810	Train
Oil-Base	Table A2	1.6777	13.887	394.2611	1.63092	1.63070	0.01355	Train
Oil-Base	Table A2	1.6777	13.887	422.0389	1.60336	1.60348	0.00806	Test
Oil-Base	Table A2	1.6777	13.887	449.8167	1.56980	1.56974	0.00426	Train
Oil-Base	Table A2	1.6777	27.6728	294.2611	1.74955	1.74953	0.00114	Test
Oil-Base	Table A2	1.6777	27.6728	310.9278	1.73277	1.73297	0.01159	Train
Oil-Base	Table A2	1.6777	27.6728	338.7056	1.70521	1.70570	0.02838	Train
Oil-Base	Table A2	1.6777	27.6728	366.4833	1.68005	1.67900	0.06248	Test
Oil-Base	Table A2	1.6777	27.6728	394.2611	1.65129	1.65158	0.01793	Train
Oil-Base	Table A2	1.6777	27.6728	422.0389	1.62732	1.62740	0.00473	Train
Oil-Base	Table A2	1.6777	27.6728	449.8167	1.59617	1.59615	0.00068	Train
Oil-Base	Table A2	1.6777	27.6728	477.5944	1.56860	1.56868	0.00463	Train
Oil-Base	Table A2	1.6777	41.4585	294.2611	1.76273	1.76438	0.09356	Train
Oil-Base	Table A2	1.6777	41.4585	310.9278	1.74596	1.74606	0.00583	Test
Oil-Base	Table A2	1.6777	41.4585	338.7056	1.71959	1.71929	0.01771	Train
Oil-Base	Table A2	1.6777	41.4585	366.4833	1.69563	1.69545	0.01049	Test

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Oil-Base	Table A2	1.6777	41.4585	394.2611	1.66926	1.66941	0.00890	Test
Oil-Base	Table A2	1.6777	41.4585	422.0389	1.64649	1.64574	0.04561	Test
Oil-Base	Table A2	1.6777	41.4585	449.8167	1.61893	1.61738	0.09580	Train
Oil-Base	Table A2	1.6777	41.4585	477.5944	1.59257	1.59247	0.00653	Train
Oil-Base	Table A2	1.6777	55.2442	394.2611	1.68484	1.68501	0.00974	Train
Oil-Base	Table A2	1.6777	55.2442	422.0389	1.66327	1.66374	0.02834	Train
Oil-Base	Table A2	1.6777	55.2442	449.8167	1.63691	1.63738	0.02907	Train
Oil-Base	Table A2	1.6777	55.2442	477.5944	1.61294	1.61499	0.12693	Train
Oil-Base	Table A2	1.6777	69.0299	422.0389	1.68005	1.67973	0.01872	Train
Oil-Base	Table A2	1.6777	69.0299	449.8167	1.65608	1.65550	0.03490	Train
Oil-Base	Table A2	1.6777	69.0299	477.5944	1.63331	1.63337	0.00327	Train
Oil-Base	Table A2	1.6777	82.8156	449.8167	1.67166	1.67204	0.02250	Train
Oil-Base	Table A2	1.6777	82.8156	477.5944	1.65009	1.65009	0.00016	Train
Oil-Base	Table A2	1.6777	96.6013	477.5944	1.66687	1.66679	0.00483	Train
Oil-Base	Table A2	2.157	0.1013	294.2611	2.15458	2.15460	0.00076	Train
Oil-Base	Table A2	2.157	0.1013	310.9278	2.13781	2.13555	0.10553	Train
Oil-Base	Table A2	2.157	0.1013	338.7056	2.10785	2.10766	0.00892	Train
Oil-Base	Table A2	2.157	0.1013	366.4833	2.07789	2.07805	0.00775	Train
Oil-Base	Table A2	2.157	0.1013	394.2611	2.04314	2.04298	0.00796	Train
Oil-Base	Table A2	2.157	0.1013	422.0389	2.00959	2.00965	0.00324	Test
Oil-Base	Table A2	2.157	13.887	294.2611	2.18694	2.18642	0.02369	Train
Oil-Base	Table A2	2.157	13.887	310.9278	2.16657	2.16655	0.00069	Train
Oil-Base	Table A2	2.157	13.887	338.7056	2.13301	2.13328	0.01246	Train
Oil-Base	Table A2	2.157	13.887	366.4833	2.10425	2.10358	0.03200	Train
Oil-Base	Table A2	2.157	13.887	394.2611	2.07310	2.07329	0.00921	Test
Oil-Base	Table A2	2.157	13.887	422.0389	2.04314	2.04299	0.00735	Train
Oil-Base	Table A2	2.157	13.887	449.8167	2.01078	2.01078	0.00025	Test
Oil-Base	Table A2	2.157	27.6728	294.2611	2.19892	2.19892	0.00001	Train
Oil-Base	Table A2	2.157	27.6728	310.9278	2.18334	2.18341	0.00303	Test
Oil-Base	Table A2	2.157	27.6728	338.7056	2.15219	2.15198	0.00980	Train
Oil-Base	Table A2	2.157	27.6728	366.4833	2.12463	2.12426	0.01725	Train
Oil-Base	Table A2	2.157	27.6728	394.2611	2.09706	2.09723	0.00812	Train
Oil-Base	Table A2	2.157	27.6728	422.0389	2.06830	2.07016	0.08975	Test
Oil-Base	Table A2	2.157	27.6728	449.8167	2.04074	2.04080	0.00280	Train
Oil-Base	Table A2	2.157	27.6728	477.5944	2.01078	2.00659	0.20861	Train
Oil-Base	Table A2	2.157	41.4585	294.2611	2.21210	2.21212	0.00068	Train
Oil-Base	Table A2	2.157	41.4585	310.9278	2.19892	2.19878	0.00625	Train
Oil-Base	Table A2	2.157	41.4585	338.7056	2.16896	2.16919	0.01028	Train
Oil-Base	Table A2	2.157	41.4585	366.4833	2.14260	2.14276	0.00768	Train
Oil-Base	Table A2	2.157	41.4585	394.2611	2.11624	2.11608	0.00720	Train
Oil-Base	Table A2	2.157	41.4585	422.0389	2.08868	2.09045	0.08511	Train
Oil-Base	Table A2	2.157	41.4585	449.8167	2.06351	2.06602	0.12174	Train
Oil-Base	Table A2	2.157	41.4585	477.5944	2.03595	2.03592	0.00166	Train
Oil-Base	Table A2	2.157	55.2442	394.2611	2.13421	2.13417	0.00210	Train
Oil-Base	Table A2	2.157	55.2442	422.0389	2.10905	2.10911	0.00308	Train
Oil-Base	Table A2	2.157	55.2442	449.8167	2.08388	2.08641	0.12109	Test
Oil-Base	Table A2	2.157	55.2442	477.5944	2.05872	2.05873	0.00046	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Oil-Base	Table A2	2.157	69.0299	422.0389	2.12582	2.12887	0.14321	Train
Oil-Base	Table A2	2.157	69.0299	449.8167	2.10425	2.10425	0.00005	Test
Oil-Base	Table A2	2.157	69.0299	477.5944	2.07909	2.07578	0.15904	Train
Oil-Base	Table A2	2.157	82.8156	449.8167	2.12103	2.12100	0.00123	Test
Oil-Base	Table A2	2.157	82.8156	477.5944	2.10186	2.09574	0.29097	Train
Oil-Base	Table A2	2.157	96.6013	477.5944	2.11983	2.11985	0.00063	Train
CGA	Table A3	0.85	1	303.15	0.87155	0.87249	0.10785	Train
CGA	Table A3	0.85	2	303.15	0.88000	0.87822	0.20238	Train
CGA	Table A3	0.85	3	303.15	0.88254	0.88293	0.04526	Train
CGA	Table A3	0.85	4	303.15	0.88592	0.88692	0.11365	Train
CGA	Table A3	0.85	5	303.15	0.88930	0.89041	0.12538	Train
CGA	Table A3	0.85	6	303.15	0.89268	0.89358	0.10128	Test
CGA	Table A3	0.85	7	303.15	0.89690	0.89657	0.03745	Train
CGA	Table A3	0.85	8	303.15	0.90028	0.89946	0.09145	Train
CGA	Table A3	0.85	9	303.15	0.90282	0.90233	0.05418	Train
CGA	Table A3	0.85	10	303.15	0.90535	0.90521	0.01542	Train
CGA	Table A3	0.85	11	303.15	0.90873	0.90813	0.06644	Train
CGA	Table A3	0.85	12	303.15	0.91127	0.91108	0.02083	Train
CGA	Table A3	0.85	13	303.15	0.91465	0.91406	0.06476	Train
CGA	Table A3	0.85	14	303.15	0.91803	0.91704	0.10791	Test
CGA	Table A3	0.85	15	303.15	0.91887	0.92000	0.12287	Train
CGA	Table A3	0.85	16	303.15	0.92225	0.92292	0.07229	Train
CGA	Table A3	0.85	17	303.15	0.92563	0.92577	0.01447	Test
CGA	Table A3	0.85	18	303.15	0.92817	0.92851	0.03727	Train
CGA	Table A3	0.85	19	303.15	0.93239	0.93114	0.13490	Test
CGA	Table A3	0.85	20	303.15	0.93578	0.93361	0.23149	Train
CGA	Table A3	0.85	1	313.15	0.86479	0.86339	0.16206	Train
CGA	Table A3	0.85	2	313.15	0.87155	0.86901	0.29172	Train
CGA	Table A3	0.85	3	313.15	0.87578	0.87363	0.24514	Train
CGA	Table A3	0.85	4	313.15	0.87831	0.87755	0.08709	Train
CGA	Table A3	0.85	5	313.15	0.88085	0.88099	0.01610	Train
CGA	Table A3	0.85	6	313.15	0.88423	0.88413	0.01039	Train
CGA	Table A3	0.85	7	313.15	0.88761	0.88712	0.05493	Train
CGA	Table A3	0.85	8	313.15	0.89014	0.89004	0.01142	Train
CGA	Table A3	0.85	9	313.15	0.89268	0.89296	0.03188	Train
CGA	Table A3	0.85	10	313.15	0.89521	0.89592	0.07950	Test
CGA	Table A3	0.85	11	313.15	0.89944	0.89894	0.05484	Train
CGA	Table A3	0.85	12	313.15	0.90282	0.90202	0.08774	Train
CGA	Table A3	0.85	13	313.15	0.90535	0.90516	0.02124	Train
CGA	Table A3	0.85	14	313.15	0.90873	0.90833	0.04452	Train
CGA	Table A3	0.85	15	313.15	0.91042	0.91151	0.11922	Train
CGA	Table A3	0.85	16	313.15	0.91296	0.91467	0.18778	Train
CGA	Table A3	0.85	17	313.15	0.91634	0.91780	0.15914	Train
CGA	Table A3	0.85	18	313.15	0.92056	0.92085	0.03150	Test
CGA	Table A3	0.85	19	313.15	0.92394	0.92382	0.01367	Test
CGA	Table A3	0.85	20	313.15	0.92732	0.92667	0.07005	Train
CGA	Table A3	0.85	1	323.15	0.85634	0.85689	0.06418	Train



Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	0.85	2	323.15	0.86310	0.86235	0.08683	Train
CGA	Table A3	0.85	3	323.15	0.86732	0.86684	0.05569	Train
CGA	Table A3	0.85	4	323.15	0.87070	0.87065	0.00603	Test
CGA	Table A3	0.85	5	323.15	0.87409	0.87400	0.00918	Train
CGA	Table A3	0.85	6	323.15	0.87662	0.87708	0.05223	Train
CGA	Table A3	0.85	7	323.15	0.88000	0.88000	0.00031	Test
CGA	Table A3	0.85	8	323.15	0.88254	0.88287	0.03827	Train
CGA	Table A3	0.85	9	323.15	0.88507	0.88575	0.07711	Train
CGA	Table A3	0.85	10	323.15	0.88930	0.88868	0.06935	Train
CGA	Table A3	0.85	11	323.15	0.89183	0.89167	0.01763	Train
CGA	Table A3	0.85	12	323.15	0.89437	0.89474	0.04147	Train
CGA	Table A3	0.85	13	323.15	0.89775	0.89786	0.01288	Train
CGA	Table A3	0.85	14	323.15	0.90113	0.90103	0.01067	Test
CGA	Table A3	0.85	15	323.15	0.90451	0.90422	0.03139	Train
CGA	Table A3	0.85	16	323.15	0.90789	0.90741	0.05204	Train
CGA	Table A3	0.85	17	323.15	0.91127	0.91058	0.07537	Train
CGA	Table A3	0.85	18	323.15	0.91465	0.91370	0.10346	Test
CGA	Table A3	0.85	19	323.15	0.91887	0.91676	0.23041	Train
CGA	Table A3	0.85	20	323.15	0.92225	0.91972	0.27434	Train
CGA	Table A3	0.85	1	333.15	0.84873	0.85109	0.27726	Train
CGA	Table A3	0.85	2	333.15	0.85634	0.85639	0.00614	Train
CGA	Table A3	0.85	3	333.15	0.85972	0.86077	0.12202	Train
CGA	Table A3	0.85	4	333.15	0.86310	0.86449	0.16111	Train
CGA	Table A3	0.85	5	333.15	0.86648	0.86778	0.14963	Train
CGA	Table A3	0.85	6	333.15	0.86986	0.87079	0.10727	Train
CGA	Table A3	0.85	7	333.15	0.87239	0.87367	0.14583	Train
CGA	Table A3	0.85	8	333.15	0.87493	0.87649	0.17788	Test
CGA	Table A3	0.85	9	333.15	0.87916	0.87931	0.01781	Test
CGA	Table A3	0.85	10	333.15	0.88169	0.88218	0.05571	Train
CGA	Table A3	0.85	11	333.15	0.88423	0.88511	0.10030	Train
CGA	Table A3	0.85	12	333.15	0.88761	0.88810	0.05616	Train
CGA	Table A3	0.85	13	333.15	0.88930	0.89115	0.20903	Train
CGA	Table A3	0.85	14	333.15	0.89352	0.89425	0.08109	Train
CGA	Table A3	0.85	15	333.15	0.89690	0.89736	0.05102	Train
CGA	Table A3	0.85	16	333.15	0.89859	0.90047	0.20942	Train
CGA	Table A3	0.85	17	333.15	0.90282	0.90357	0.08335	Train
CGA	Table A3	0.85	18	333.15	0.90535	0.90663	0.14091	Train
CGA	Table A3	0.85	19	333.15	0.90873	0.90963	0.09913	Train
CGA	Table A3	0.85	20	333.15	0.91211	0.91257	0.05001	Train
CGA	Table A3	0.85	1	343.15	0.84366	0.84385	0.02268	Train
CGA	Table A3	0.85	2	343.15	0.85042	0.84900	0.16748	Train
CGA	Table A3	0.85	3	343.15	0.85380	0.85328	0.06180	Train
CGA	Table A3	0.85	4	343.15	0.85803	0.85694	0.12726	Train
CGA	Table A3	0.85	5	343.15	0.86141	0.86019	0.14190	Train
CGA	Table A3	0.85	6	343.15	0.86479	0.86318	0.18608	Train
CGA	Table A3	0.85	7	343.15	0.86732	0.86604	0.14861	Train
CGA	Table A3	0.85	8	343.15	0.87070	0.86883	0.21504	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	0.85	9	343.15	0.87324	0.87163	0.18449	Train
CGA	Table A3	0.85	10	343.15	0.87662	0.87445	0.24698	Train
CGA	Table A3	0.85	11	343.15	0.87916	0.87733	0.20767	Train
CGA	Table A3	0.85	12	343.15	0.88085	0.88025	0.06702	Test
CGA	Table A3	0.85	13	343.15	0.88423	0.88322	0.11335	Train
CGA	Table A3	0.85	14	343.15	0.88761	0.88622	0.15604	Train
CGA	Table A3	0.85	15	343.15	0.89099	0.88923	0.19668	Train
CGA	Table A3	0.85	16	343.15	0.89352	0.89224	0.14288	Train
CGA	Table A3	0.85	17	343.15	0.89690	0.89523	0.18591	Train
CGA	Table A3	0.85	18	343.15	0.89944	0.89819	0.13877	Test
CGA	Table A3	0.85	19	343.15	0.90282	0.90110	0.19036	Train
CGA	Table A3	0.85	20	343.15	0.90620	0.90395	0.24781	Train
CGA	Table A3	0.85	1	353.15	0.83690	0.83425	0.31652	Test
CGA	Table A3	0.85	2	353.15	0.84197	0.83921	0.32787	Test
CGA	Table A3	0.85	3	353.15	0.84535	0.84337	0.23405	Test
CGA	Table A3	0.85	4	353.15	0.84873	0.84697	0.20706	Train
CGA	Table A3	0.85	5	353.15	0.85211	0.85020	0.22491	Test
CGA	Table A3	0.85	6	353.15	0.85465	0.85318	0.17156	Test
CGA	Table A3	0.85	7	353.15	0.85718	0.85603	0.13403	Train
CGA	Table A3	0.85	8	353.15	0.86056	0.85883	0.20156	Train
CGA	Table A3	0.85	9	353.15	0.86394	0.86161	0.26997	Train
CGA	Table A3	0.85	10	353.15	0.86648	0.86441	0.23832	Train
CGA	Table A3	0.85	11	353.15	0.86817	0.86725	0.10598	Train
CGA	Table A3	0.85	12	353.15	0.87070	0.87012	0.06723	Train
CGA	Table A3	0.85	13	353.15	0.87409	0.87302	0.12224	Train
CGA	Table A3	0.85	14	353.15	0.87662	0.87593	0.07846	Train
CGA	Table A3	0.85	15	353.15	0.88000	0.87885	0.13033	Train
CGA	Table A3	0.85	16	353.15	0.88254	0.88176	0.08741	Train
CGA	Table A3	0.85	17	353.15	0.88423	0.88465	0.04823	Test
CGA	Table A3	0.85	18	353.15	0.88845	0.88751	0.10618	Train
CGA	Table A3	0.85	19	353.15	0.89099	0.89032	0.07459	Train
CGA	Table A3	0.85	20	353.15	0.89437	0.89309	0.14258	Train
CGA	Table A3	0.85	1	363.15	0.82085	0.82298	0.25975	Train
CGA	Table A3	0.85	2	363.15	0.82507	0.82769	0.31721	Train
CGA	Table A3	0.85	3	363.15	0.82930	0.83169	0.28855	Train
CGA	Table A3	0.85	4	363.15	0.83268	0.83519	0.30240	Train
CGA	Table A3	0.85	5	363.15	0.83521	0.83836	0.37724	Train
CGA	Table A3	0.85	6	363.15	0.83859	0.84132	0.32504	Test
CGA	Table A3	0.85	7	363.15	0.84113	0.84415	0.35993	Train
CGA	Table A3	0.85	8	363.15	0.84366	0.84693	0.38773	Train
CGA	Table A3	0.85	9	363.15	0.84704	0.84970	0.31334	Train
CGA	Table A3	0.85	10	363.15	0.84958	0.85247	0.34037	Train
CGA	Table A3	0.85	11	363.15	0.85211	0.85526	0.36942	Test
CGA	Table A3	0.85	12	363.15	0.85465	0.85808	0.40103	Train
CGA	Table A3	0.85	13	363.15	0.85718	0.86091	0.43430	Train
CGA	Table A3	0.85	14	363.15	0.86056	0.86374	0.36953	Train
CGA	Table A3	0.85	15	363.15	0.86394	0.86658	0.30476	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	0.85	16	363.15	0.86563	0.86940	0.43479	Train
CGA	Table A3	0.85	17	363.15	0.86901	0.87219	0.36603	Train
CGA	Table A3	0.85	18	363.15	0.87155	0.87496	0.39162	Train
CGA	Table A3	0.85	19	363.15	0.87493	0.87770	0.31608	Test
CGA	Table A3	0.85	20	363.15	0.87747	0.88040	0.33442	Train
CGA	Table A3	0.85	1	373.15	0.81409	0.81171	0.29221	Train
CGA	Table A3	0.85	2	373.15	0.81831	0.81608	0.27267	Train
CGA	Table A3	0.85	3	373.15	0.82169	0.81984	0.22455	Train
CGA	Table A3	0.85	4	373.15	0.82507	0.82319	0.22836	Train
CGA	Table A3	0.85	5	373.15	0.82761	0.82624	0.16497	Train
CGA	Table A3	0.85	6	373.15	0.83014	0.82912	0.12355	Train
CGA	Table A3	0.85	7	373.15	0.83352	0.83189	0.19601	Train
CGA	Table A3	0.85	8	373.15	0.83606	0.83461	0.17316	Test
CGA	Table A3	0.85	9	373.15	0.83859	0.83731	0.15236	Test
CGA	Table A3	0.85	10	373.15	0.84113	0.84002	0.13110	Test
CGA	Table A3	0.85	11	373.15	0.84366	0.84275	0.10854	Train
CGA	Table A3	0.85	12	373.15	0.84620	0.84548	0.08453	Train
CGA	Table A3	0.85	13	373.15	0.84958	0.84823	0.15906	Test
CGA	Table A3	0.85	14	373.15	0.85127	0.85097	0.03510	Test
CGA	Table A3	0.85	15	373.15	0.85549	0.85371	0.20854	Train
CGA	Table A3	0.85	16	373.15	0.85718	0.85643	0.08745	Test
CGA	Table A3	0.85	17	373.15	0.86056	0.85914	0.16562	Test
CGA	Table A3	0.85	18	373.15	0.86310	0.86182	0.14791	Train
CGA	Table A3	0.85	19	373.15	0.86563	0.86448	0.13276	Test
CGA	Table A3	0.85	20	373.15	0.86901	0.86713	0.21647	Train
CGA	Table A3	0.85	1	383.15	0.80056	0.80174	0.14655	Train
CGA	Table A3	0.85	2	383.15	0.80563	0.80567	0.00492	Train
CGA	Table A3	0.85	3	383.15	0.80901	0.80911	0.01205	Test
CGA	Table A3	0.85	4	383.15	0.81155	0.81220	0.08047	Test
CGA	Table A3	0.85	5	383.15	0.81493	0.81506	0.01618	Test
CGA	Table A3	0.85	6	383.15	0.81747	0.81778	0.03815	Test
CGA	Table A3	0.85	7	383.15	0.82000	0.82041	0.05028	Test
CGA	Table A3	0.85	8	383.15	0.82254	0.82301	0.05759	Train
CGA	Table A3	0.85	9	383.15	0.82592	0.82560	0.03856	Train
CGA	Table A3	0.85	10	383.15	0.82930	0.82819	0.13377	Train
CGA	Table A3	0.85	11	383.15	0.83099	0.83079	0.02372	Train
CGA	Table A3	0.85	12	383.15	0.83437	0.83340	0.11553	Train
CGA	Table A3	0.85	13	383.15	0.83690	0.83602	0.10499	Train
CGA	Table A3	0.85	14	383.15	0.83944	0.83865	0.09431	Train
CGA	Table A3	0.85	15	383.15	0.84282	0.84126	0.18431	Train
CGA	Table A3	0.85	16	383.15	0.84451	0.84388	0.07483	Train
CGA	Table A3	0.85	17	383.15	0.84789	0.84648	0.16638	Train
CGA	Table A3	0.85	18	383.15	0.85042	0.84907	0.15907	Train
CGA	Table A3	0.85	19	383.15	0.85296	0.85166	0.15203	Train
CGA	Table A3	0.85	20	383.15	0.85634	0.85426	0.24316	Test
CGA	Table A3	0.85	1	393.15	0.79296	0.79257	0.04916	Train
CGA	Table A3	0.85	2	393.15	0.79718	0.79597	0.15251	Test

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	0.85	3	393.15	0.79972	0.79897	0.09306	Train
CGA	Table A3	0.85	4	393.15	0.80141	0.80171	0.03811	Train
CGA	Table A3	0.85	5	393.15	0.80394	0.80428	0.04186	Test
CGA	Table A3	0.85	6	393.15	0.80648	0.80674	0.03289	Train
CGA	Table A3	0.85	7	393.15	0.80817	0.80915	0.12195	Train
CGA	Table A3	0.85	8	393.15	0.81155	0.81155	0.00021	Test
CGA	Table A3	0.85	9	393.15	0.81324	0.81394	0.08614	Train
CGA	Table A3	0.85	10	393.15	0.81578	0.81634	0.06977	Test
CGA	Table A3	0.85	11	393.15	0.81747	0.81877	0.15917	Train
CGA	Table A3	0.85	12	393.15	0.82000	0.82120	0.14688	Train
CGA	Table A3	0.85	13	393.15	0.82254	0.82366	0.13652	Train
CGA	Table A3	0.85	14	393.15	0.82423	0.82612	0.23002	Train
CGA	Table A3	0.85	15	393.15	0.82761	0.82859	0.11904	Test
CGA	Table A3	0.85	16	393.15	0.83014	0.83107	0.11180	Train
CGA	Table A3	0.85	17	393.15	0.83183	0.83355	0.20710	Train
CGA	Table A3	0.85	18	393.15	0.83437	0.83605	0.20186	Train
CGA	Table A3	0.85	19	393.15	0.83606	0.83857	0.30048	Train
CGA	Table A3	0.85	20	393.15	0.84028	0.84111	0.09905	Train
CGA	Table A3	0.85	1	403.15	0.78028	0.78111	0.10674	Test
CGA	Table A3	0.85	2	403.15	0.78366	0.78386	0.02553	Train
CGA	Table A3	0.85	3	403.15	0.78620	0.78632	0.01624	Train
CGA	Table A3	0.85	4	403.15	0.78789	0.78860	0.09062	Train
CGA	Table A3	0.85	5	403.15	0.79042	0.79077	0.04349	Train
CGA	Table A3	0.85	6	403.15	0.79296	0.79288	0.01042	Train
CGA	Table A3	0.85	7	403.15	0.79549	0.79496	0.06655	Test
CGA	Table A3	0.85	8	403.15	0.79803	0.79706	0.12138	Train
CGA	Table A3	0.85	9	403.15	0.80056	0.79918	0.17324	Test
CGA	Table A3	0.85	10	403.15	0.80141	0.80132	0.01072	Train
CGA	Table A3	0.85	11	403.15	0.80310	0.80350	0.05006	Test
CGA	Table A3	0.85	12	403.15	0.80563	0.80571	0.00990	Train
CGA	Table A3	0.85	13	403.15	0.80817	0.80796	0.02643	Train
CGA	Table A3	0.85	14	403.15	0.81070	0.81023	0.05886	Test
CGA	Table A3	0.85	15	403.15	0.81324	0.81253	0.08748	Test
CGA	Table A3	0.85	16	403.15	0.81578	0.81486	0.11236	Train
CGA	Table A3	0.85	17	403.15	0.81747	0.81722	0.02962	Train
CGA	Table A3	0.85	18	403.15	0.82000	0.81963	0.04517	Train
CGA	Table A3	0.85	19	403.15	0.82254	0.82209	0.05441	Train
CGA	Table A3	0.85	20	403.15	0.82592	0.82461	0.15839	Train
CGA	Table A3	1.15	1	303.15	1.27429	1.27850	0.33010	Train
CGA	Table A3	1.15	2	303.15	1.29500	1.29258	0.18707	Train
CGA	Table A3	1.15	3	303.15	1.30571	1.30332	0.18331	Train
CGA	Table A3	1.15	4	303.15	1.31214	1.31156	0.04443	Train
CGA	Table A3	1.15	5	303.15	1.31714	1.31800	0.06500	Test
CGA	Table A3	1.15	6	303.15	1.32286	1.32320	0.02546	Train
CGA	Table A3	1.15	7	303.15	1.32714	1.32760	0.03478	Train
CGA	Table A3	1.15	8	303.15	1.33071	1.33154	0.06273	Train
CGA	Table A3	1.15	9	303.15	1.33500	1.33527	0.02030	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	1.15	10	303.15	1.33929	1.33894	0.02601	Train
CGA	Table A3	1.15	11	303.15	1.34214	1.34266	0.03839	Train
CGA	Table A3	1.15	12	303.15	1.34714	1.34645	0.05097	Train
CGA	Table A3	1.15	13	303.15	1.35000	1.35033	0.02462	Train
CGA	Table A3	1.15	14	303.15	1.35429	1.35426	0.00236	Train
CGA	Table A3	1.15	15	303.15	1.35786	1.35817	0.02284	Train
CGA	Table A3	1.15	16	303.15	1.36143	1.36199	0.04149	Train
CGA	Table A3	1.15	17	303.15	1.36500	1.36565	0.04756	Train
CGA	Table A3	1.15	18	303.15	1.36857	1.36905	0.03478	Train
CGA	Table A3	1.15	19	303.15	1.37286	1.37211	0.05498	Train
CGA	Table A3	1.15	20	303.15	1.37571	1.37475	0.06984	Train
CGA	Table A3	1.15	1	313.15	1.27071	1.27143	0.05642	Train
CGA	Table A3	1.15	2	313.15	1.28786	1.28536	0.19426	Train
CGA	Table A3	1.15	3	313.15	1.29714	1.29590	0.09580	Train
CGA	Table A3	1.15	4	313.15	1.30357	1.30391	0.02602	Train
CGA	Table A3	1.15	5	313.15	1.31000	1.31010	0.00792	Test
CGA	Table A3	1.15	6	313.15	1.31500	1.31506	0.00426	Test
CGA	Table A3	1.15	7	313.15	1.31857	1.31922	0.04931	Train
CGA	Table A3	1.15	8	313.15	1.32286	1.32294	0.00579	Train
CGA	Table A3	1.15	9	313.15	1.32643	1.32646	0.00191	Test
CGA	Table A3	1.15	10	313.15	1.33000	1.32995	0.00411	Train
CGA	Table A3	1.15	11	313.15	1.33357	1.33350	0.00494	Train
CGA	Table A3	1.15	12	313.15	1.33857	1.33717	0.10422	Train
CGA	Table A3	1.15	13	313.15	1.34143	1.34096	0.03527	Train
CGA	Table A3	1.15	14	313.15	1.34500	1.34482	0.01370	Train
CGA	Table A3	1.15	15	313.15	1.34857	1.34869	0.00886	Train
CGA	Table A3	1.15	16	313.15	1.35214	1.35251	0.02713	Train
CGA	Table A3	1.15	17	313.15	1.35643	1.35618	0.01845	Train
CGA	Table A3	1.15	18	313.15	1.36000	1.35963	0.02741	Test
CGA	Table A3	1.15	19	313.15	1.36286	1.36276	0.00699	Train
CGA	Table A3	1.15	20	313.15	1.36714	1.36552	0.11865	Train
CGA	Table A3	1.15	1	323.15	1.26357	1.26360	0.00231	Train
CGA	Table A3	1.15	2	323.15	1.27929	1.27728	0.15749	Train
CGA	Table A3	1.15	3	323.15	1.28857	1.28757	0.07795	Train
CGA	Table A3	1.15	4	323.15	1.29500	1.29534	0.02593	Train
CGA	Table A3	1.15	5	323.15	1.30071	1.30130	0.04532	Train
CGA	Table A3	1.15	6	323.15	1.30500	1.30603	0.07905	Train
CGA	Table A3	1.15	7	323.15	1.30929	1.30999	0.05314	Train
CGA	Table A3	1.15	8	323.15	1.31357	1.31351	0.00489	Train
CGA	Table A3	1.15	9	323.15	1.31714	1.31684	0.02284	Train
CGA	Table A3	1.15	10	323.15	1.32071	1.32015	0.04202	Train
CGA	Table A3	1.15	11	323.15	1.32357	1.32355	0.00121	Train
CGA	Table A3	1.15	12	323.15	1.32857	1.32708	0.11223	Train
CGA	Table A3	1.15	13	323.15	1.33143	1.33073	0.05267	Train
CGA	Table A3	1.15	14	323.15	1.33500	1.33447	0.03950	Train
CGA	Table A3	1.15	15	323.15	1.33786	1.33825	0.02902	Test
CGA	Table A3	1.15	16	323.15	1.34214	1.34198	0.01159	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	1.15	17	323.15	1.34429	1.34560	0.09751	Train
CGA	Table A3	1.15	18	323.15	1.34857	1.34901	0.03270	Train
CGA	Table A3	1.15	19	323.15	1.35286	1.35214	0.05348	Train
CGA	Table A3	1.15	20	323.15	1.35571	1.35491	0.05930	Train
CGA	Table A3	1.15	1	333.15	1.25429	1.25550	0.09663	Train
CGA	Table A3	1.15	2	333.15	1.27071	1.26885	0.14661	Test
CGA	Table A3	1.15	3	333.15	1.27929	1.27887	0.03252	Test
CGA	Table A3	1.15	4	333.15	1.28571	1.28643	0.05612	Train
CGA	Table A3	1.15	5	333.15	1.29071	1.29222	0.11706	Train
CGA	Table A3	1.15	6	333.15	1.29500	1.29680	0.13936	Test
CGA	Table A3	1.15	7	333.15	1.29929	1.30063	0.10305	Train
CGA	Table A3	1.15	8	333.15	1.30286	1.30403	0.08979	Train
CGA	Table A3	1.15	9	333.15	1.30643	1.30725	0.06285	Train
CGA	Table A3	1.15	10	333.15	1.31000	1.31046	0.03498	Train
CGA	Table A3	1.15	11	333.15	1.31429	1.31375	0.04112	Train
CGA	Table A3	1.15	12	333.15	1.31786	1.31717	0.05251	Train
CGA	Table A3	1.15	13	333.15	1.32071	1.32071	0.00029	Train
CGA	Table A3	1.15	14	333.15	1.32429	1.32436	0.00495	Train
CGA	Table A3	1.15	15	333.15	1.32786	1.32804	0.01331	Train
CGA	Table A3	1.15	16	333.15	1.33071	1.33169	0.07344	Train
CGA	Table A3	1.15	17	333.15	1.33429	1.33523	0.07037	Train
CGA	Table A3	1.15	18	333.15	1.33714	1.33858	0.10788	Train
CGA	Table A3	1.15	19	333.15	1.34143	1.34167	0.01804	Train
CGA	Table A3	1.15	20	333.15	1.34429	1.34443	0.01042	Train
CGA	Table A3	1.15	1	343.15	1.24714	1.24663	0.04091	Train
CGA	Table A3	1.15	2	343.15	1.26286	1.25956	0.26141	Test
CGA	Table A3	1.15	3	343.15	1.27143	1.26930	0.16769	Train
CGA	Table A3	1.15	4	343.15	1.27714	1.27666	0.03733	Train
CGA	Table A3	1.15	5	343.15	1.28214	1.28233	0.01460	Train
CGA	Table A3	1.15	6	343.15	1.28571	1.28683	0.08733	Train
CGA	Table A3	1.15	7	343.15	1.29000	1.29060	0.04690	Train
CGA	Table A3	1.15	8	343.15	1.29429	1.29397	0.02468	Test
CGA	Table A3	1.15	9	343.15	1.29786	1.29716	0.05393	Train
CGA	Table A3	1.15	10	343.15	1.30071	1.30033	0.02901	Train
CGA	Table A3	1.15	11	343.15	1.30500	1.30358	0.10858	Train
CGA	Table A3	1.15	12	343.15	1.30786	1.30695	0.06941	Test
CGA	Table A3	1.15	13	343.15	1.31143	1.31044	0.07535	Train
CGA	Table A3	1.15	14	343.15	1.31500	1.31402	0.07444	Train
CGA	Table A3	1.15	15	343.15	1.31786	1.31764	0.01693	Test
CGA	Table A3	1.15	16	343.15	1.32071	1.32123	0.03901	Train
CGA	Table A3	1.15	17	343.15	1.32429	1.32471	0.03174	Train
CGA	Table A3	1.15	18	343.15	1.32714	1.32802	0.06617	Train
CGA	Table A3	1.15	19	343.15	1.33071	1.33108	0.02782	Train
CGA	Table A3	1.15	20	343.15	1.33357	1.33383	0.01984	Test
CGA	Table A3	1.15	1	353.15	1.23357	1.23665	0.24975	Train
CGA	Table A3	1.15	2	353.15	1.25000	1.24905	0.07567	Train
CGA	Table A3	1.15	3	353.15	1.25929	1.25845	0.06655	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	1.15	4	353.15	1.26500	1.26561	0.04840	Train
CGA	Table A3	1.15	5	353.15	1.27000	1.27117	0.09214	Train
CGA	Table A3	1.15	6	353.15	1.27429	1.27563	0.10553	Test
CGA	Table A3	1.15	7	353.15	1.27857	1.27941	0.06541	Train
CGA	Table A3	1.15	8	353.15	1.28214	1.28279	0.05054	Train
CGA	Table A3	1.15	9	353.15	1.28571	1.28600	0.02264	Train
CGA	Table A3	1.15	10	353.15	1.28929	1.28919	0.00754	Train
CGA	Table A3	1.15	11	353.15	1.29214	1.29245	0.02406	Test
CGA	Table A3	1.15	12	353.15	1.29643	1.29581	0.04749	Test
CGA	Table A3	1.15	13	353.15	1.29857	1.29928	0.05500	Train
CGA	Table A3	1.15	14	353.15	1.30214	1.30283	0.05316	Test
CGA	Table A3	1.15	15	353.15	1.30571	1.30641	0.05362	Train
CGA	Table A3	1.15	16	353.15	1.31071	1.30996	0.05752	Train
CGA	Table A3	1.15	17	353.15	1.31286	1.31340	0.04140	Train
CGA	Table A3	1.15	18	353.15	1.31571	1.31668	0.07407	Train
CGA	Table A3	1.15	19	353.15	1.31929	1.31974	0.03376	Train
CGA	Table A3	1.15	20	353.15	1.32286	1.32250	0.02723	Train
CGA	Table A3	1.15	1	363.15	1.22357	1.22600	0.19862	Train
CGA	Table A3	1.15	2	363.15	1.24071	1.23775	0.23876	Train
CGA	Table A3	1.15	3	363.15	1.24929	1.24672	0.20559	Train
CGA	Table A3	1.15	4	363.15	1.25429	1.25363	0.05251	Test
CGA	Table A3	1.15	5	363.15	1.25929	1.25906	0.01817	Test
CGA	Table A3	1.15	6	363.15	1.26429	1.26348	0.06395	Train
CGA	Table A3	1.15	7	363.15	1.26786	1.26726	0.04739	Train
CGA	Table A3	1.15	8	363.15	1.27143	1.27067	0.05953	Train
CGA	Table A3	1.15	9	363.15	1.27500	1.27393	0.08427	Test
CGA	Table A3	1.15	10	363.15	1.27929	1.27715	0.16704	Train
CGA	Table A3	1.15	11	363.15	1.28143	1.28043	0.07774	Train
CGA	Table A3	1.15	12	363.15	1.28500	1.28380	0.09306	Train
CGA	Table A3	1.15	13	363.15	1.28786	1.28727	0.04615	Test
CGA	Table A3	1.15	14	363.15	1.29214	1.29079	0.10444	Test
CGA	Table A3	1.15	15	363.15	1.29500	1.29434	0.05121	Train
CGA	Table A3	1.15	16	363.15	1.29929	1.29785	0.11116	Train
CGA	Table A3	1.15	17	363.15	1.30286	1.30126	0.12288	Train
CGA	Table A3	1.15	18	363.15	1.30500	1.30452	0.03711	Train
CGA	Table A3	1.15	19	363.15	1.30786	1.30756	0.02306	Train
CGA	Table A3	1.15	20	363.15	1.31214	1.31034	0.13733	Train
CGA	Table A3	1.15	1	373.15	1.21571	1.21571	0.00021	Test
CGA	Table A3	1.15	2	373.15	1.22786	1.22667	0.09700	Train
CGA	Table A3	1.15	3	373.15	1.23714	1.23512	0.16321	Test
CGA	Table A3	1.15	4	373.15	1.24214	1.24171	0.03473	Test
CGA	Table A3	1.15	5	373.15	1.24643	1.24696	0.04254	Train
CGA	Table A3	1.15	6	373.15	1.25071	1.25130	0.04695	Test
CGA	Table A3	1.15	7	373.15	1.25500	1.25505	0.00428	Train
CGA	Table A3	1.15	8	373.15	1.25857	1.25848	0.00733	Test
CGA	Table A3	1.15	9	373.15	1.26143	1.26175	0.02557	Train
CGA	Table A3	1.15	10	373.15	1.26500	1.26500	0.00013	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	1.15	11	373.15	1.26857	1.26829	0.02246	Train
CGA	Table A3	1.15	12	373.15	1.27214	1.27165	0.03876	Train
CGA	Table A3	1.15	13	373.15	1.27500	1.27508	0.00641	Train
CGA	Table A3	1.15	14	373.15	1.27857	1.27857	0.00019	Test
CGA	Table A3	1.15	15	373.15	1.28143	1.28206	0.04946	Train
CGA	Table A3	1.15	16	373.15	1.28429	1.28552	0.09581	Train
CGA	Table A3	1.15	17	373.15	1.28857	1.28888	0.02441	Train
CGA	Table A3	1.15	18	373.15	1.29071	1.29210	0.10792	Train
CGA	Table A3	1.15	19	373.15	1.29429	1.29512	0.06441	Train
CGA	Table A3	1.15	20	373.15	1.29714	1.29791	0.05923	Test
CGA	Table A3	1.15	1	383.15	1.20571	1.20668	0.08065	Test
CGA	Table A3	1.15	2	383.15	1.21714	1.21673	0.03388	Train
CGA	Table A3	1.15	3	383.15	1.22500	1.22456	0.03597	Train
CGA	Table A3	1.15	4	383.15	1.23000	1.23074	0.06049	Train
CGA	Table A3	1.15	5	383.15	1.23571	1.23575	0.00316	Train
CGA	Table A3	1.15	6	383.15	1.23929	1.23995	0.05299	Train
CGA	Table A3	1.15	7	383.15	1.24286	1.24363	0.06185	Test
CGA	Table A3	1.15	8	383.15	1.24571	1.24702	0.10501	Train
CGA	Table A3	1.15	9	383.15	1.24929	1.25027	0.07851	Train
CGA	Table A3	1.15	10	383.15	1.25286	1.25350	0.05074	Train
CGA	Table A3	1.15	11	383.15	1.25643	1.25675	0.02568	Train
CGA	Table A3	1.15	12	383.15	1.26000	1.26007	0.00537	Train
CGA	Table A3	1.15	13	383.15	1.26286	1.26344	0.04624	Train
CGA	Table A3	1.15	14	383.15	1.26643	1.26686	0.03372	Train
CGA	Table A3	1.15	15	383.15	1.26929	1.27027	0.07743	Train
CGA	Table A3	1.15	16	383.15	1.27286	1.27365	0.06187	Train
CGA	Table A3	1.15	17	383.15	1.27500	1.27694	0.15182	Train
CGA	Table A3	1.15	18	383.15	1.27929	1.28009	0.06255	Train
CGA	Table A3	1.15	19	383.15	1.28214	1.28307	0.07243	Test
CGA	Table A3	1.15	20	383.15	1.28500	1.28584	0.06515	Test
CGA	Table A3	1.15	1	393.15	1.19643	1.19878	0.19656	Train
CGA	Table A3	1.15	2	393.15	1.20714	1.20782	0.05627	Train
CGA	Table A3	1.15	3	393.15	1.21500	1.21494	0.00468	Train
CGA	Table A3	1.15	4	393.15	1.22143	1.22065	0.06420	Train
CGA	Table A3	1.15	5	393.15	1.22500	1.22533	0.02700	Train
CGA	Table A3	1.15	6	393.15	1.22929	1.22932	0.00250	Train
CGA	Table A3	1.15	7	393.15	1.23286	1.23287	0.00066	Train
CGA	Table A3	1.15	8	393.15	1.23714	1.23616	0.07901	Train
CGA	Table A3	1.15	9	393.15	1.23929	1.23934	0.00404	Train
CGA	Table A3	1.15	10	393.15	1.24357	1.24249	0.08673	Train
CGA	Table A3	1.15	11	393.15	1.24643	1.24567	0.06098	Test
CGA	Table A3	1.15	12	393.15	1.25000	1.24890	0.08826	Train
CGA	Table A3	1.15	13	393.15	1.25357	1.25217	0.11157	Train
CGA	Table A3	1.15	14	393.15	1.25643	1.25548	0.07592	Train
CGA	Table A3	1.15	15	393.15	1.26000	1.25878	0.09692	Train
CGA	Table A3	1.15	16	393.15	1.26286	1.26204	0.06470	Train
CGA	Table A3	1.15	17	393.15	1.26643	1.26523	0.09486	Train



Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
CGA	Table A3	1.15	18	393.15	1.26857	1.26830	0.02149	Train
CGA	Table A3	1.15	19	393.15	1.27214	1.27121	0.07277	Train
CGA	Table A3	1.15	20	393.15	1.27571	1.27395	0.13794	Train
CGA	Table A3	1.15	1	403.15	1.19286	1.19033	0.21235	Test
CGA	Table A3	1.15	2	403.15	1.19857	1.19828	0.02434	Train
CGA	Table A3	1.15	3	403.15	1.20500	1.20462	0.03177	Train
CGA	Table A3	1.15	4	403.15	1.21000	1.20976	0.01979	Train
CGA	Table A3	1.15	5	403.15	1.21357	1.21405	0.03946	Train
CGA	Table A3	1.15	6	403.15	1.21643	1.21776	0.10908	Train
CGA	Table A3	1.15	7	403.15	1.22000	1.22110	0.08999	Test
CGA	Table A3	1.15	8	403.15	1.22357	1.22423	0.05399	Train
CGA	Table A3	1.15	9	403.15	1.22643	1.22727	0.06853	Train
CGA	Table A3	1.15	10	403.15	1.23000	1.23029	0.02381	Train
CGA	Table A3	1.15	11	403.15	1.23357	1.23334	0.01859	Train
CGA	Table A3	1.15	12	403.15	1.23643	1.23643	0.00029	Train
CGA	Table A3	1.15	13	403.15	1.23929	1.23957	0.02247	Train
CGA	Table A3	1.15	14	403.15	1.24214	1.24273	0.04753	Train
CGA	Table A3	1.15	15	403.15	1.24571	1.24589	0.01466	Train
CGA	Table A3	1.15	16	403.15	1.24857	1.24902	0.03644	Train
CGA	Table A3	1.15	17	403.15	1.25143	1.25209	0.05285	Train
CGA	Table A3	1.15	18	403.15	1.25500	1.25506	0.00506	Test
CGA	Table A3	1.15	19	403.15	1.25786	1.25791	0.00404	Train
CGA	Table A3	1.15	20	403.15	1.26071	1.26061	0.00777	Train
Synthetic	Table A4	0.7521	0.5865	298.15	0.75199	0.75184	0.02103	Train
Synthetic	Table A4	0.7521	7.8457	298.15	0.75724	0.75728	0.00548	Train
Synthetic	Table A4	0.7521	14.137	298.15	0.76191	0.76195	0.00551	Train
Synthetic	Table A4	0.7521	20.7505	298.15	0.76599	0.76636	0.04804	Train
Synthetic	Table A4	0.7521	27.5256	298.15	0.77066	0.77069	0.00343	Train
Synthetic	Table A4	0.7521	34.1394	298.15	0.77533	0.77522	0.01333	Train
Synthetic	Table A4	0.7521	40.9141	298.15	0.77941	0.77930	0.01473	Train
Synthetic	Table A4	0.7521	47.5267	298.15	0.78234	0.78255	0.02586	Train
Synthetic	Table A4	0.7521	54.6243	298.15	0.78701	0.78655	0.05841	Train
Synthetic	Table A4	0.7521	61.8827	298.15	0.79110	0.79160	0.06264	Train
Synthetic	Table A4	0.7521	69.4635	298.15	0.79461	0.79600	0.17482	Train
Synthetic	Table A4	0.7521	75.9152	298.15	0.79870	0.79859	0.01385	Train
Synthetic	Table A4	0.7521	84.1411	298.15	0.80280	0.80276	0.00485	Train
Synthetic	Table A4	0.7521	88.9806	298.15	0.80630	0.80580	0.06193	Train
Synthetic	Table A4	0.7521	95.2703	298.15	0.80864	0.80876	0.01423	Train
Synthetic	Table A4	0.7521	0.2496	323.15	0.73057	0.73075	0.02470	Train
Synthetic	Table A4	0.7521	7.0255	323.15	0.73640	0.73676	0.04887	Test
Synthetic	Table A4	0.7521	14.2862	323.15	0.74396	0.74342	0.07337	Train
Synthetic	Table A4	0.7521	20.7388	323.15	0.74863	0.74844	0.02471	Train
Synthetic	Table A4	0.7521	27.998	323.15	0.75387	0.75357	0.04031	Train
Synthetic	Table A4	0.7521	34.7731	323.15	0.75854	0.75858	0.00526	Test
Synthetic	Table A4	0.7521	42.0315	323.15	0.76263	0.76304	0.05379	Train
Synthetic	Table A4	0.7521	48.1608	323.15	0.76614	0.76599	0.01916	Train
Synthetic	Table A4	0.7521	54.7746	323.15	0.77080	0.76963	0.15265	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Synthetic	Table A4	0.7521	63.0004	323.15	0.77490	0.77528	0.04932	Train
Synthetic	Table A4	0.7521	69.2911	323.15	0.77898	0.77904	0.00723	Train
Synthetic	Table A4	0.7521	75.7429	323.15	0.78191	0.78202	0.01313	Test
Synthetic	Table A4	0.7521	82.5178	323.15	0.78658	0.78574	0.10718	Train
Synthetic	Table A4	0.7521	89.9373	323.15	0.79009	0.79056	0.05958	Train
Synthetic	Table A4	0.7521	96.7116	323.15	0.79360	0.79324	0.04485	Train
Synthetic	Table A4	0.7521	0.8794	348.15	0.70800	0.71008	0.29349	Train
Synthetic	Table A4	0.7521	7.3339	348.15	0.71556	0.71531	0.03435	Test
Synthetic	Table A4	0.7521	14.1098	348.15	0.72138	0.72194	0.07749	Train
Synthetic	Table A4	0.7521	20.4011	348.15	0.72605	0.72698	0.12811	Test
Synthetic	Table A4	0.7521	27.9832	348.15	0.73188	0.73232	0.06014	Train
Synthetic	Table A4	0.7521	34.759	348.15	0.73770	0.73747	0.03069	Train
Synthetic	Table A4	0.7521	42.3399	348.15	0.74179	0.74245	0.08822	Test
Synthetic	Table A4	0.7521	49.5983	348.15	0.74588	0.74617	0.03883	Train
Synthetic	Table A4	0.7521	55.7276	348.15	0.74939	0.74966	0.03678	Train
Synthetic	Table A4	0.7521	62.6636	348.15	0.75348	0.75425	0.10207	Train
Synthetic	Table A4	0.7521	70.0831	348.15	0.75757	0.75845	0.11615	Train
Synthetic	Table A4	0.7521	76.051	348.15	0.76107	0.76116	0.01079	Train
Synthetic	Table A4	0.7521	83.9557	348.15	0.76690	0.76580	0.14441	Test
Synthetic	Table A4	0.7521	90.2454	348.15	0.76925	0.77020	0.12347	Train
Synthetic	Table A4	0.7521	96.5365	348.15	0.77334	0.77367	0.04252	Train
Synthetic	Table A4	0.7521	0.7045	373.15	0.68774	0.68775	0.00230	Train
Synthetic	Table A4	0.7521	6.9974	373.15	0.69472	0.69287	0.26605	Test
Synthetic	Table A4	0.7521	14.4186	373.15	0.70112	0.70121	0.01290	Train
Synthetic	Table A4	0.7521	20.8724	373.15	0.70753	0.70732	0.02851	Train
Synthetic	Table A4	0.7521	27.8099	373.15	0.71393	0.71328	0.09144	Train
Synthetic	Table A4	0.7521	35.0698	373.15	0.72034	0.71987	0.06462	Train
Synthetic	Table A4	0.7521	42.0061	373.15	0.72500	0.72544	0.05999	Train
Synthetic	Table A4	0.7521	48.7816	373.15	0.73025	0.72977	0.06606	Test
Synthetic	Table A4	0.7521	54.9117	373.15	0.73491	0.73365	0.17176	Train
Synthetic	Table A4	0.7521	62.9767	373.15	0.73959	0.73939	0.02614	Test
Synthetic	Table A4	0.7521	70.5587	373.15	0.74541	0.74431	0.14762	Train
Synthetic	Table A4	0.7521	76.2047	373.15	0.74892	0.74751	0.18826	Train
Synthetic	Table A4	0.7521	83.7847	373.15	0.75243	0.75244	0.00111	Train
Synthetic	Table A4	0.7521	90.2372	373.15	0.75710	0.75701	0.01142	Train
Synthetic	Table A4	0.7521	96.6896	373.15	0.76118	0.76077	0.05349	Test
Synthetic	Table A4	0.7521	0.2095	398.15	0.67095	0.67154	0.08830	Train
Synthetic	Table A4	0.7521	7.309	398.15	0.67851	0.67712	0.20496	Train
Synthetic	Table A4	0.7521	14.7306	398.15	0.68549	0.68575	0.03738	Train
Synthetic	Table A4	0.7521	21.0231	398.15	0.69190	0.69205	0.02242	Test
Synthetic	Table A4	0.7521	27.961	398.15	0.69888	0.69854	0.04789	Train
Synthetic	Table A4	0.7521	35.0593	398.15	0.70470	0.70550	0.11258	Train
Synthetic	Table A4	0.7521	41.5131	398.15	0.71111	0.71122	0.01649	Train
Synthetic	Table A4	0.7521	48.7719	398.15	0.71578	0.71646	0.09527	Test
Synthetic	Table A4	0.7521	55.5473	398.15	0.72102	0.72114	0.01649	Train
Synthetic	Table A4	0.7521	62.9681	398.15	0.72685	0.72685	0.00058	Train
Synthetic	Table A4	0.7521	70.2272	398.15	0.73152	0.73242	0.12310	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Synthetic	Table A4	0.7521	76.6796	398.15	0.73618	0.73700	0.11105	Train
Synthetic	Table A4	0.7521	83.132	398.15	0.74085	0.74164	0.10616	Test
Synthetic	Table A4	0.7521	89.5844	398.15	0.74551	0.74601	0.06630	Train
Synthetic	Table A4	0.7521	96.682	398.15	0.74960	0.74959	0.00235	Train
Synthetic	Table A4	0.7521	0.1955	423.15	0.65011	0.65275	0.40710	Train
Synthetic	Table A4	0.7521	6.4888	423.15	0.65766	0.65880	0.17308	Test
Synthetic	Table A4	0.7521	14.3968	423.15	0.66870	0.66889	0.02767	Train
Synthetic	Table A4	0.7521	20.5285	423.15	0.67568	0.67570	0.00284	Test
Synthetic	Table A4	0.7521	27.9512	423.15	0.68441	0.68339	0.14787	Train
Synthetic	Table A4	0.7521	34.5659	423.15	0.69023	0.69046	0.03365	Train
Synthetic	Table A4	0.7521	42.1491	423.15	0.69780	0.69793	0.01929	Train
Synthetic	Table A4	0.7521	48.7637	423.15	0.70362	0.70339	0.03268	Train
Synthetic	Table A4	0.7521	55.3779	423.15	0.70886	0.70849	0.05262	Train
Synthetic	Table A4	0.7521	62.7991	423.15	0.71527	0.71452	0.10521	Train
Synthetic	Table A4	0.7521	69.2518	423.15	0.71994	0.71979	0.02085	Test
Synthetic	Table A4	0.7521	76.6727	423.15	0.72576	0.72539	0.05141	Train
Synthetic	Table A4	0.7521	83.4477	423.15	0.73043	0.73013	0.04051	Train
Synthetic	Table A4	0.7521	90.0607	423.15	0.73452	0.73419	0.04413	Train
Synthetic	Table A4	0.7521	96.8357	423.15	0.73861	0.73764	0.13109	Train
Synthetic	Table A4	0.7521	0.0203	448.15	0.62926	0.62834	0.14717	Train
Synthetic	Table A4	0.7521	7.2833	448.15	0.64030	0.64006	0.03774	Train
Synthetic	Table A4	0.7521	14.0619	448.15	0.65018	0.65116	0.15050	Test
Synthetic	Table A4	0.7521	20.5176	448.15	0.65947	0.65977	0.04487	Train
Synthetic	Table A4	0.7521	27.6179	448.15	0.66820	0.66793	0.04000	Train
Synthetic	Table A4	0.7521	34.8786	448.15	0.67576	0.67594	0.02638	Train
Synthetic	Table A4	0.7521	41.6553	448.15	0.68274	0.68292	0.02560	Train
Synthetic	Table A4	0.7521	48.5931	448.15	0.68972	0.68933	0.05731	Train
Synthetic	Table A4	0.7521	55.3689	448.15	0.69555	0.69530	0.03571	Train
Synthetic	Table A4	0.7521	62.6285	448.15	0.70138	0.70180	0.06063	Train
Synthetic	Table A4	0.7521	69.8887	448.15	0.70778	0.70806	0.03993	Train
Synthetic	Table A4	0.7521	76.6637	448.15	0.71245	0.71323	0.10920	Train
Synthetic	Table A4	0.7521	83.1161	448.15	0.71711	0.71759	0.06581	Train
Synthetic	Table A4	0.7521	89.7305	448.15	0.72236	0.72184	0.07138	Train
Synthetic	Table A4	0.7521	96.9894	448.15	0.72703	0.72729	0.03613	Train
Synthetic	Table A4	0.7819	0.1713	298.15	0.78141	0.78157	0.02058	Train
Synthetic	Table A4	0.7819	7.0213	298.15	0.78767	0.78747	0.02581	Train
Synthetic	Table A4	0.7819	14.3851	298.15	0.79158	0.79103	0.06913	Test
Synthetic	Table A4	0.7819	20.5502	298.15	0.79549	0.79579	0.03788	Train
Synthetic	Table A4	0.7819	28.2564	298.15	0.80097	0.80111	0.01763	Train
Synthetic	Table A4	0.7819	35.2777	298.15	0.80566	0.80529	0.04585	Train
Synthetic	Table A4	0.7819	41.2715	298.15	0.80879	0.80870	0.01137	Test
Synthetic	Table A4	0.7819	47.6078	298.15	0.81192	0.81215	0.02832	Train
Synthetic	Table A4	0.7819	54.2866	298.15	0.81583	0.81548	0.04260	Train
Synthetic	Table A4	0.7819	62.3354	298.15	0.81818	0.81880	0.07631	Train
Synthetic	Table A4	0.7819	69.5283	298.15	0.82209	0.82169	0.04776	Train
Synthetic	Table A4	0.7819	75.0081	298.15	0.82678	0.82482	0.23686	Train
Synthetic	Table A4	0.7819	82.2008	298.15	0.82991	0.82988	0.00322	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Synthetic	Table A4	0.7819	89.2218	298.15	0.83226	0.83231	0.00607	Train
Synthetic	Table A4	0.7819	95.7294	298.15	0.83460	0.83451	0.01048	Train
Synthetic	Table A4	0.7819	0.5138	323.15	0.76264	0.76246	0.02341	Test
Synthetic	Table A4	0.7819	7.8776	323.15	0.76812	0.76878	0.08610	Train
Synthetic	Table A4	0.7819	14.2138	323.15	0.77359	0.77296	0.08165	Test
Synthetic	Table A4	0.7819	20.8927	323.15	0.77828	0.77856	0.03550	Test
Synthetic	Table A4	0.7819	27.5714	323.15	0.78298	0.78325	0.03549	Test
Synthetic	Table A4	0.7819	34.5927	323.15	0.78767	0.78758	0.01167	Train
Synthetic	Table A4	0.7819	41.9565	323.15	0.79158	0.79211	0.06665	Train
Synthetic	Table A4	0.7819	48.9778	323.15	0.79549	0.79635	0.10838	Test
Synthetic	Table A4	0.7819	55.3141	323.15	0.80019	0.79989	0.03681	Train
Synthetic	Table A4	0.7819	62.8491	323.15	0.80331	0.80351	0.02422	Train
Synthetic	Table A4	0.7819	69.6992	323.15	0.80722	0.80687	0.04334	Train
Synthetic	Table A4	0.7819	76.2067	323.15	0.81114	0.81132	0.02265	Test
Synthetic	Table A4	0.7819	83.0569	323.15	0.81505	0.81650	0.17870	Train
Synthetic	Table A4	0.7819	88.8793	323.15	0.81818	0.81839	0.02647	Train
Synthetic	Table A4	0.7819	96.4145	323.15	0.82130	0.82152	0.02592	Train
Synthetic	Table A4	0.7819	0.5138	348.15	0.74465	0.74456	0.01227	Test
Synthetic	Table A4	0.7819	7.1926	348.15	0.75091	0.75088	0.00306	Train
Synthetic	Table A4	0.7819	13.8713	348.15	0.75560	0.75587	0.03562	Train
Synthetic	Table A4	0.7819	20.5502	348.15	0.76186	0.76151	0.04506	Train
Synthetic	Table A4	0.7819	27.9139	348.15	0.76655	0.76646	0.01155	Train
Synthetic	Table A4	0.7819	35.1065	348.15	0.77203	0.77099	0.13364	Train
Synthetic	Table A4	0.7819	42.2991	348.15	0.77672	0.77595	0.09838	Train
Synthetic	Table A4	0.7819	48.4641	348.15	0.78063	0.78031	0.04120	Test
Synthetic	Table A4	0.7819	55.9991	348.15	0.78532	0.78522	0.01346	Train
Synthetic	Table A4	0.7819	62.8491	348.15	0.78923	0.78897	0.03398	Train
Synthetic	Table A4	0.7819	69.6992	348.15	0.79315	0.79256	0.07399	Train
Synthetic	Table A4	0.7819	76.7203	348.15	0.79784	0.79729	0.06874	Train
Synthetic	Table A4	0.7819	83.3994	348.15	0.80097	0.80202	0.13193	Train
Synthetic	Table A4	0.7819	89.907	348.15	0.80488	0.80395	0.11502	Train
Synthetic	Table A4	0.7819	96.5855	348.15	0.80879	0.80845	0.04141	Train
Synthetic	Table A4	0.7819	0.685	373.15	0.72744	0.72718	0.03585	Train
Synthetic	Table A4	0.7819	7.8776	373.15	0.73448	0.73446	0.00260	Train
Synthetic	Table A4	0.7819	14.2138	373.15	0.74074	0.74087	0.01806	Train
Synthetic	Table A4	0.7819	22.0914	373.15	0.74778	0.74850	0.09644	Train
Synthetic	Table A4	0.7819	28.5989	373.15	0.75325	0.75352	0.03550	Train
Synthetic	Table A4	0.7819	35.2777	373.15	0.75795	0.75855	0.08009	Train
Synthetic	Table A4	0.7819	41.4428	373.15	0.76342	0.76347	0.00615	Test
Synthetic	Table A4	0.7819	48.2928	373.15	0.76812	0.76890	0.10168	Train
Synthetic	Table A4	0.7819	55.3141	373.15	0.77359	0.77398	0.05067	Test
Synthetic	Table A4	0.7819	63.0204	373.15	0.77828	0.77878	0.06362	Test
Synthetic	Table A4	0.7819	70.0418	373.15	0.78298	0.78294	0.00454	Train
Synthetic	Table A4	0.7819	77.0628	373.15	0.78689	0.78781	0.11668	Train
Synthetic	Table A4	0.7819	83.913	373.15	0.79158	0.79232	0.09299	Train
Synthetic	Table A4	0.7819	90.0779	373.15	0.79471	0.79410	0.07711	Test
Synthetic	Table A4	0.7819	96.5855	373.15	0.79784	0.79863	0.09886	Train

Mud Type	Formulation	Initial Density (g/cm3)	Pressure (MPa)	Temperature (K)	Density (g/cm3)	Predicted Density (g/cm3)	AARD%	Status
Synthetic	Table A4	0.7819	0.8563	398.15	0.71336	0.71413	0.10820	Train
Synthetic	Table A4	0.7819	8.3913	398.15	0.72275	0.72193	0.11375	Train
Synthetic	Table A4	0.7819	14.5563	398.15	0.72822	0.72886	0.08717	Train
Synthetic	Table A4	0.7819	21.0639	398.15	0.73526	0.73552	0.03502	Test
Synthetic	Table A4	0.7819	28.5989	398.15	0.74230	0.74182	0.06536	Train
Synthetic	Table A4	0.7819	35.2777	398.15	0.74700	0.74719	0.02625	Train
Synthetic	Table A4	0.7819	42.4703	398.15	0.75404	0.75308	0.12719	Test
Synthetic	Table A4	0.7819	49.4915	398.15	0.75873	0.75852	0.02714	Test
Synthetic	Table A4	0.7819	55.8279	398.15	0.76342	0.76303	0.05199	Train
Synthetic	Table A4	0.7819	63.1916	398.15	0.76812	0.76791	0.02614	Train
Synthetic	Table A4	0.7819	70.0418	398.15	0.77281	0.77257	0.03074	Train
Synthetic	Table A4	0.7819	76.7203	398.15	0.77750	0.77758	0.01070	Test
Synthetic	Table A4	0.7819	82.5433	398.15	0.78220	0.78168	0.06643	Train
Synthetic	Table A4	0.7819	89.7354	398.15	0.78532	0.78438	0.12033	Train
Synthetic	Table A4	0.7819	96.4145	398.15	0.78923	0.78810	0.14317	Test
Synthetic	Table A4	0.7819	0.5138	423.15	0.69694	0.69572	0.17402	Train
Synthetic	Table A4	0.7819	7.5351	423.15	0.70397	0.70423	0.03582	Train
Synthetic	Table A4	0.7819	13.7001	423.15	0.71180	0.71200	0.02779	Test
Synthetic	Table A4	0.7819	20.7214	423.15	0.71884	0.71990	0.14844	Test
Synthetic	Table A4	0.7819	27.5714	423.15	0.72666	0.72642	0.03235	Train
Synthetic	Table A4	0.7819	34.9352	423.15	0.73292	0.73318	0.03538	Train
Synthetic	Table A4	0.7819	41.614	423.15	0.73917	0.73925	0.00969	Train
Synthetic	Table A4	0.7819	48.6353	423.15	0.74465	0.74519	0.07287	Test
Synthetic	Table A4	0.7819	55.3141	423.15	0.75012	0.75037	0.03222	Train
Synthetic	Table A4	0.7819	62.5066	423.15	0.75560	0.75570	0.01276	Train
Synthetic	Table A4	0.7819	70.2127	423.15	0.76186	0.76156	0.03960	Test
Synthetic	Table A4	0.7819	76.5493	423.15	0.76655	0.76658	0.00318	Train
Synthetic	Table A4	0.7819	83.3994	423.15	0.77046	0.77139	0.12015	Train
Synthetic	Table A4	0.7819	89.907	423.15	0.77281	0.77421	0.18080	Train
Synthetic	Table A4	0.7819	96.2429	423.15	0.77828	0.77788	0.05188	Train
Synthetic	Table A4	0.7819	0.1713	448.15	0.67034	0.67191	0.23371	Train
Synthetic	Table A4	0.7819	7.1926	448.15	0.68520	0.68414	0.15573	Train
Synthetic	Table A4	0.7819	14.0426	448.15	0.69537	0.69517	0.02882	Train
Synthetic	Table A4	0.7819	20.7214	448.15	0.70397	0.70396	0.00141	Train
Synthetic	Table A4	0.7819	27.9139	448.15	0.71180	0.71167	0.01856	Train
Synthetic	Table A4	0.7819	34.9352	448.15	0.71806	0.71854	0.06717	Train
Synthetic	Table A4	0.7819	41.614	448.15	0.72509	0.72481	0.03875	Train
Synthetic	Table A4	0.7819	48.1216	448.15	0.73057	0.73059	0.00245	Train
Synthetic	Table A4	0.7819	55.6566	448.15	0.73839	0.73691	0.20003	Train
Synthetic	Table A4	0.7819	63.0204	448.15	0.74387	0.74297	0.12000	Train
Synthetic	Table A4	0.7819	69.6992	448.15	0.74856	0.74846	0.01306	Train
Synthetic	Table A4	0.7819	76.7203	448.15	0.75404	0.75408	0.00618	Test
Synthetic	Table A4	0.7819	83.2278	448.15	0.75795	0.75871	0.10064	Train
Synthetic	Table A4	0.7819	89.5644	448.15	0.76264	0.76241	0.02958	Train
Synthetic	Table A4	0.7819	96.2429	448.15	0.76733	0.76783	0.06463	Test