



TOWNEND

mineralogy laboratory

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Our reference 23757 part 1

XRF AND XRD ANALYSIS OF NINE GLAUCONITE ROCKS.

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1. XRF RESULTS

WT%	GNT 15	GNT16	GNT17	GNT 18	GNT 32
Na2O	0.07	0.06	0.05	0.04	0.03
MgO	1.02	0.68	4.82	0.91	4.52
Al2O3	4.39	3.33	2.19	4.47	1.79
SiO2	77.42	83.01	59.83	78.68	65.62
K2O	3.69	2.59	2.0	3.19	1.72
CaO	2.04	2.21	10.13	2.4 2	7.5
TiO2	0.17	0.22	0.15	0.24	0.17
MnO	0.07	0.03	0.07	0.02	0.05
Fe2O3	8.69	4.58	7.45	6.14	7.61
P2O5	1.414	1.592	1.121	1.788	1.056
LOI	1.02	1.0	11.87	1.51	9.64
SO3	0.018	0.018	0.014	0.013	0.018

WT%	GNT 33	GNT 35	GNT 36	GNT 38
Na2O	0.08	0.09	0.03	0.04
MgO	8.07	0.68	2.24	0.88
Al2O3	4.84	9.18	3.03	4.76
SiO2	47.97	78.46	75.88	81.88
K2O	3.13	5.78	2.34	3.34
CaO	12.13	0.06	2.78	0.05
TiO2	0.27	0.35	0.2	0.25
MnO	0.05	0.01	0.04	0.02
Fe2O3	4.9	3.88	9.13	6.2
P2O5	0.516	0.083	0.431	0.894
LOI	17.98	1.5	4.21	1.53
SO3	0.02	0.003	0.008	0.004

2 XRD RESULTS

XRD PROCEDURES

XRD	PANALYTICAL XPRT PRO
DETECTOR	PIXCEL 1D
ANGULAR RANGE	5° TO 110°
DIVERGENCE SLIT	1/2°
ANTI SCATTER SLIT	1°
RADIATION	Co Kα 1.788965
SLIT TYPE	FIXED
GENERATOR	40Kv 40 Ma

XRD RESULTS

	GNT15	GNT16	GNT17	GNT18	GNT32
QUARTZ	DOMINANT	DOMINANT	MAJOR	DOMINANT	DOMINANT
MICA/GLAUCONITE	MAJOR	MAJOR	MAJOR	MAJOR	MAJOR
K-FELDSPAR	ACCESSORY	ACCESSORY	TRACE	ACCESSORY	TRACE
APATITE	ACCESSORY	ACCESSORY	ACCESSORY	ACCESSORY	ACCESSORY
DOLOMITE			MINOR		MINOR
CALCITE			ACCESSORY		ACCESSORY
KAOLINITE				ACCESSORY	

	GNT33	GNT35	GNT36	GNT38
QUARTZ	MAJOR	DOMINANT	DOMINANT	DOMINANT
MICA/GLAUCONITE	MAJOR	MINOR	MAJOR	MAJOR
K-FELDSPAR	MINOR	MAJOR	ACCESSORY	ACCESSORY
APATITE	ACCESSORY			
DOLOMITE	MAJOR		?	
CALCITE	TRACE	TRACE		
KAOLINITE		ACCESSORY	TRACE	
CHLORITE	ACCESSORY			
GOETHITE			ACCESSORY	
PLAGIOCLASE	ACCESSORY			

TRACE: <1%, ACCESSORY:1-10%, MINOR:11-20%, MAJOR: 21-50%, DOMINANT:>50%

Note. A calcium bearing mineral could not be found in sample GNT36. However this is probably due to sampling error i.e. It is likely to be dolomite. Glauconite has a mica like structure and hence needs other techniques for absolute identification.

XRD TRACES









