

Table 3 - Partial analyses of kyanitic materials and concentrates from the Mt. Montro area compared to U.S. National Stockpile specification P-27-R and pure kyanite (Adapted from Offerberg and Tremaine, 1961, and Klinefelter and Cooper, 1961).

Sample No. (1)	1			4			7			8			Spec. P-27-R (5)			Pure kyanite (Al_2SiO_5)
	Feed 114 kg	Heavy conc.	Non- mag. conc.	Feed 34 kg	Heavy conc.	Non- mag. conc.	Feed 44 kg	Heavy conc.	Non- mag. conc.	Feed 40 kg	Heavy conc.	Non- mag. conc.	Type A	Type B	Type C	
	(3)	(4)	(4)	(2)	(3)	(4)	(2)	(3)	(4)	(2)	(3)	(4)				
Weight percent	100.00	39.4	22.4	100.00	81.2	38.1	100.00	83.5	81.3	100.00	80.3	77.2				
Al_2O_3	30.1	55.5	61.5	44.6	59.6	61.0	47.1	62.6	62.5	45.5	60.6	62.5	59.00	60.00	59.00	62.9
SiO_2	53.5	39.2	38.0	46.2	36.4	37.7	50.8	37.4	36.5	51.5	38.1	36.8	39.00	37.50	38.00	37.1
FeO	4.3	*	*	0.8	*	*	0.4	*	*	0.4	*	*	*	*	*	*
Fe_2O_3	4.1	*	*	6.0	*	*	0.7	*	*	0.9	*	*	0.75	1.50	1.25	
Total Fe	6.2	5.8	0.2	4.8	4.7	0.4	0.8	0.8	0.3	0.9	0.7	0.2	0.52	1.04	0.87	
MgO	3.25	*	*	0.15	*	*	0.10	*	*	0.45	*	*	*	*	*	*
CaO	0.50	*	*	0.00	*	*	0.05	*	*	0.05	*	*	*	*	*	*
$\text{CaO} + \text{MgO}$	3.75	*	*	0.15	*	*	0.15	*	*	0.50	*	*	0.20	0.20	0.20	
TiO_2	0.54	*	*	0.61	*	*	0.21	*	*	0.28	*	*	1.25	2.00	2.00	
MnO_2	0.08	*	*	0.03	*	*	0.03	*	*	0.04	*	*	*	*	*	*
P_2O_5	0.05	*	*	0.05	*	*	0.05	*	*	0.05	*	*	*	*	*	*
Ignition loss	1.50	*	*	1.06	*	*	0.56	*	*	0.50	*	*	*	*	*	*
Total	97.9	*	*	99.5	*	*	100.0	*	*	99.7	*	*	*	*	*	100.0
$\text{Na}_2\text{O} + \text{K}_2\text{O}$	*	*	*	*	*	*	*	*	*	*	*	*	0.20	0.20	0.20	
Total flux	*	*	*	*	*	*	*	*	*	*	*	*	2.00	3.50	3.50	

(1) Sample 1, fresh kyanite-bearing rock blasted from Mt. Montro; Sample 4, disintegrated rock debris overlying bedrock on road 0.5 km W of Harrisville; Samples 7 and 8, kyanite-bearing alluvial gravels from swamps near the road 3 mi and 1.8 mi W of Lloydsville. Analyses and beneficiation tests made at the Strassa laboratory, Sweden.

(2) Samples 4, 7, and 8 are washed and hand-jigged concentrates of original materials.

(3) Concentration effected in liquid with specific gravity of 3.06.

(4) Separated by Franz isodynamic separator in two passes at 0.5A and 1.5-1.7A; tilt values not specified.

(5) Total Fe for Spec. P-27-R, types A, B, and C, calculated from values given for Fe_2O_3 .

* Value not stated by authors.