Table. S4. Heavy mineral data and calculated percentages and heavy mineral indexes for south Sistan basin sandstones

Sam no:	**13AM186**	**13AM157**	**13AM237**	**12AM123**	**13AM206**	**13AM166**	**13AM224**	**13AM218**	**13AM293**	**12AM135**	**13AM246**	**12AM124**	**13AM263**	**13AM260**	**13AM252**	**13AM280**	**12AM134**	**12AM97**	**12AM105**
Zircon- Monazite	25.2	7.4	3.0	6.9	61.0	35.9	46.5	40.4	25.1	24.5	32.9	26.9	31.5	27.5	28.6	26.0	8.7	5.0	11.5
Tourmaline	0.0	2.9	1.5	1.1	3.5	3.8	4.6	11.1	8.1	4.0	2.1	3.9	29.7	11.6	16.7	5.2	3.5	2.0	3.8
Rutile, Brokite, Anatas	1.8	8.7	1.6	2.7	0.9	4.5	4.2	2.6	2.6	0.0	0.8	0.0	1.0	5.8	6.0	4.1	6.1	0.0	0.0
Sphene (Titanite)	7.2	0.0	0.8	2.3	1.8	2.4	2.8	2.6	0.0	6.8	7.9	1.3	0.3	1.2	0.0	0.4	0.9	0.0	1.9
Spinel	5.5	17.3	0.8	3.4	7.9	13.4	8.7	4.3	15.7	14.7	20.4	5.2	0.0	10.0	12.0	6.7	12.2	0.0	1.9
Apatite	17.1	18.7	4.9	11.7	19.7	11.4	20.6	16.6	31.9	14.8	20.0	20.3	19.3	22.0	22.7	39.5	13.0	2.0	14.5
Epidote group	21.6	36.2	70.3	54.2	1.3	15.5	8.7	0.4	0.0	14.9	0.0	11.7	0.3	1.2	1.3	0.7	0.0	5.0	28.8
Garnet	0.0	0.0	0.0	1.1	0.5	1.7	0.3	0.4	0.0	4.2	0.0	27.5	0.0	8.8	1.3	1.1	0.0	61.4	21.2
Hornblend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	2.0	0.0
Amphibole	2.7	0.0	5.7	1.9	0.0	0.3	3.5	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7
Piroxen group	4.5	0.0	10.3	11.0	0.9	0.0	0.0	0.8	0.4	2.0	2.5	0.0	1.8	1.2	0.4	0.0	0.0	22.8	4.8
Starolite	6.3	0.0	0.0	0.8	0.0	2.1	0.0	6.4	0.0	0.0	4.6	0.0	1.0	0.4	0.4	15.2	9.6	0.0	0.0
Cloritoid	8.1	7.3	0.0	2.3	0.0	8.6	0.0	11.9	5.5	4.7	5.0	3.3	8.0	8.2	10.7	0.7	14.8	0.0	2.9
kayanite	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.9
andolosite	0.0	1.4	0.0	0.0	2.6	0.0	0.0	1.7	10.6	8.7	2.5	0.0	5.6	2.3	0.0	0.0	31.3	0.0	0.0
Others <1%	0.0	0.0	1.1	0.7	0.0	0.3	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sam no:	**13AM186**	**13AM157**	**13AM237**	**12AM123**	**13AM206**	**13AM166**	**13AM224**	**13AM218**	**13AM293**	**12AM135**	**13AM246**	**12AM124**	**13AM263**	**13AM260**	**13AM252**	**13AM280**	**12AM134**	**12AM97**	**12AM105**
ZTR	16.2	19.0	5.0	6.8	65.4	40.0	53.9	53.2	35.8	25.0	30.8	30.8	62.2	44.8	50.0	35.3	17.4	6.0	15.4
Apatite/tourmaline (ATi)	100.0	86.5	76.5	91.2	84.9	75.0	81.7	59.9	79.8	78.6	90.6	83.8	39.3	65.5	57.6	88.4	79.0	50.0	79.1
Garnet/ Zircon (GZi)	0.0	0.0	0.0	24.9	0.8	5.0	0.7	1.1	0.0	16.8	0.0	50.6	0.0	24.3	4.5	4.1	0.0	93.9	64.7
TiO2/Zircon (RZi)	10.5	53.8	44.9	43.9	1.4	12.0	8.2	6.1	9.4	0.0	2.9	0.0	3.2	17.4	18.0	13.5	41.4	0.0	0.0
Spinel/Zircon (CZi)	26.3	69.9	28.6	50.0	11.5	29.1	15.8	9.8	38.5	41.3	42.3	16.3	0.0	26.8	30.4	20.5	58.3	0.0	14.3
Monazite/Zircon (Mzi)	39.3	0.0	37.5	50.4	0.0	8.9	0.0	2.1	0.0	14.5	15.2	0.0	0.0	0.0	4.5	0.0	0.0	19.9	0.0

Sam no:	**13AM186**	**13AM157**	**13AM237**	**12AM123**	**13AM206**	**13AM166**	**13AM224**	**13AM218**	**13AM293**	**12AM135**	**13AM246**	**12AM124**	**13AM263**	**13AM260**	**13AM252**	**13AM280**	**12AM134**	**12AM97**	**12AM105**
ZTR	50.8	34.4	7.0	13.8	96.0	72.0	85.9	97.0	98.8	57.4	93.5	44.0	95.2	80.2	94.5	95.2	100.0	7.1	21.9
MET	40.7	65.6	81.1	71.9	2.7	28.0	14.1	1.5	0.0	38.6	0.0	56.0	0.5	17.8	4.7	4.8	0.0	67.6	71.2
VOL	8.5	0.0	11.8	14.3	1.3	0.0	0.0	1.5	1.2	4.0	6.5	0.0	4.3	2.1	0.8	0.0	0.0	25.2	6.8
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100