

CONTENT

Abbreviations.....	6
--------------------	---

General Introduction.....9

1. Introduction.....	10
2. Sampling.....	11
3. Sampled sites.....	12
4. Acknowledgements.....	34
5. References.....	35

Results of environmental sampling in Kazakhstan: heavy metals in sediments and soils..... 37

1. Introduction.....	38
2. Results.....	39
3. Discussion.....	44
4. Health risk assessment.....	48
5. Conclusions.....	52
6. References.....	53

‘Dangerous State of Play’

Heavy Metal Contamination of Kazakhstan’s Playgrounds.....55

1. Introduction.....	56
2. Methodology of sampling and sample analysis.....	56
3. Results.....	57
4. Discussion.....	62
5. Exposure and Health Impacts.....	64
6. Recommendations.....	68
7. References.....	70

Persistent Organic Pollutants in Ekibastuz, Blakhash and Temirtau..... 73

Summary.....	74
1. Introduction.....	76
2. Sampling campaign.....	78
3. Results.....	82
4. Discussion.....	93
5. Conclusions.....	99
6. References.....	102

Persistent Organic Pollutants (POPs) in free range chicken eggs from hot spots in Central Kazakhstan.....103

1. Introduction.....	104
2. Sampling and analytical methods.....	105
3. The Kazakhstani, EU, and other limits for POPs in eggs.....	108
4. Results.....	109
5. Discussion.....	117
6. Conclusions and recommendations.....	124
7. References.....	125

Photos..... 129