Report on Practical 2

Submitted by: Kazi Jahidur Rahaman

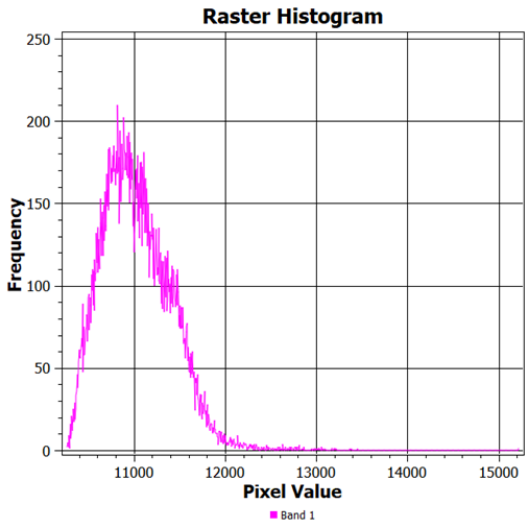
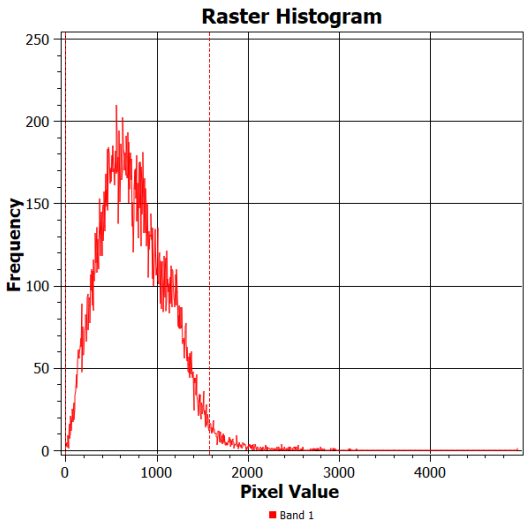
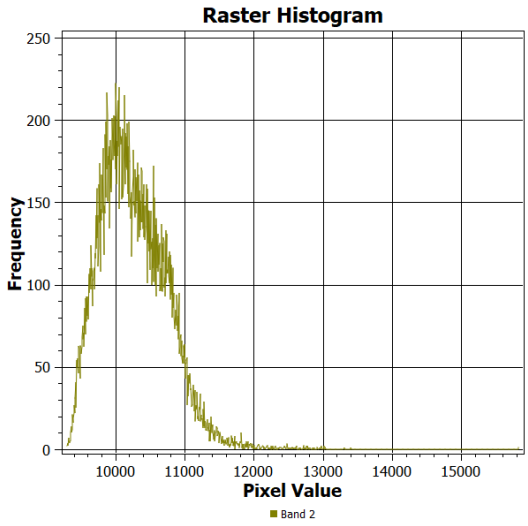
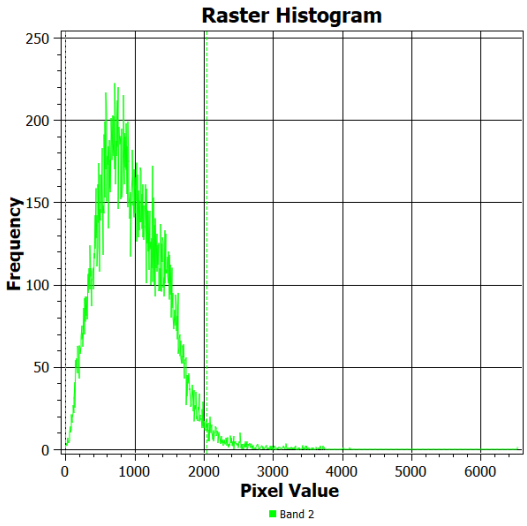
Course title: Digital Processing of Remotely Sensed Data

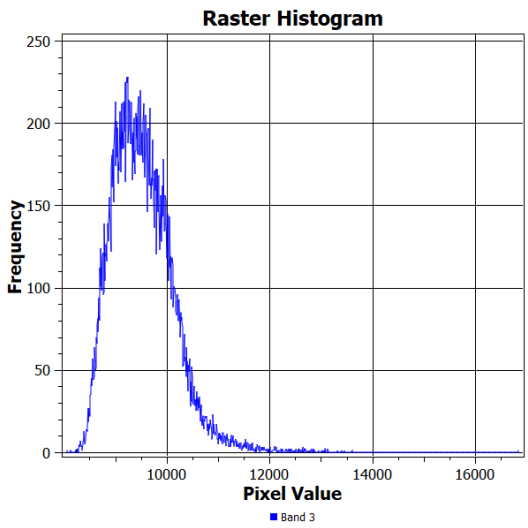
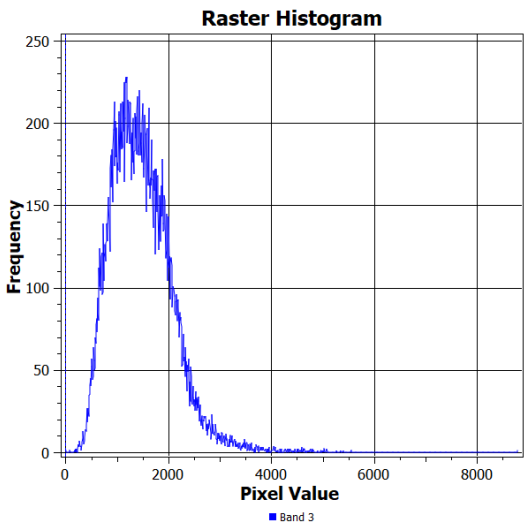
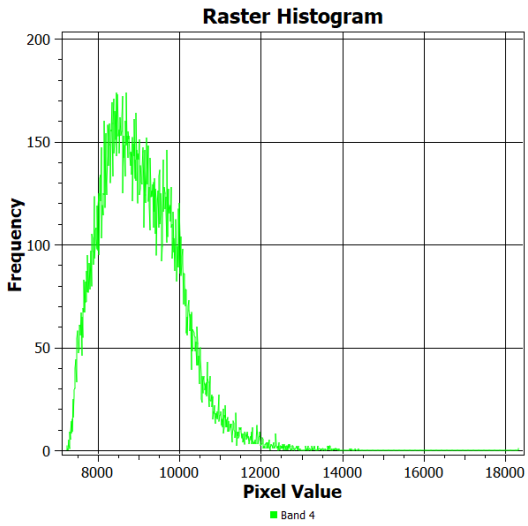
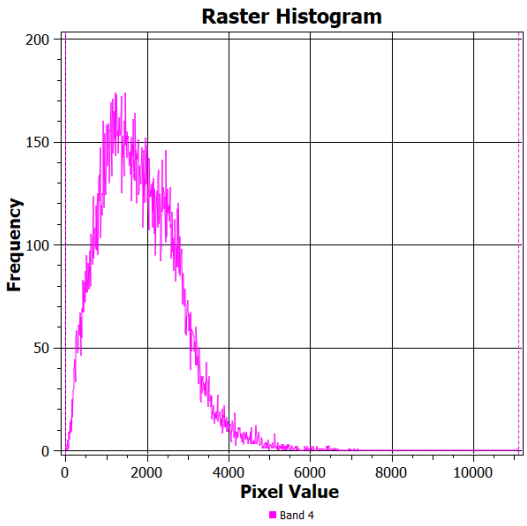
Warsaw University of Life Sciences, and

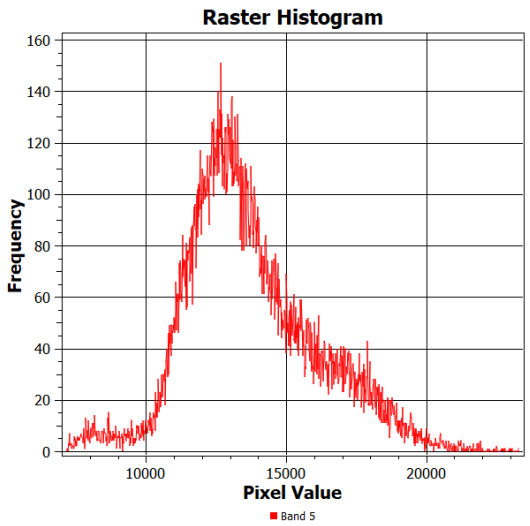
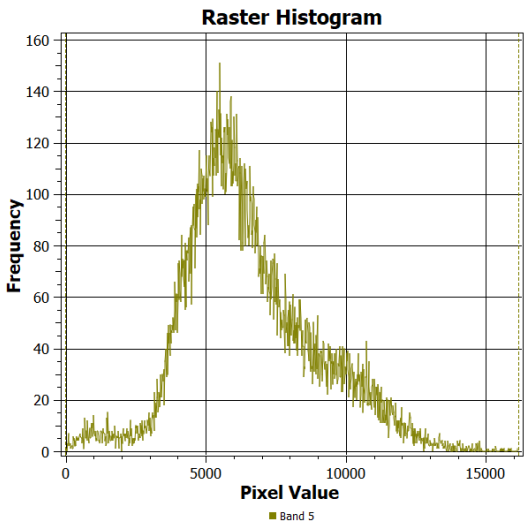
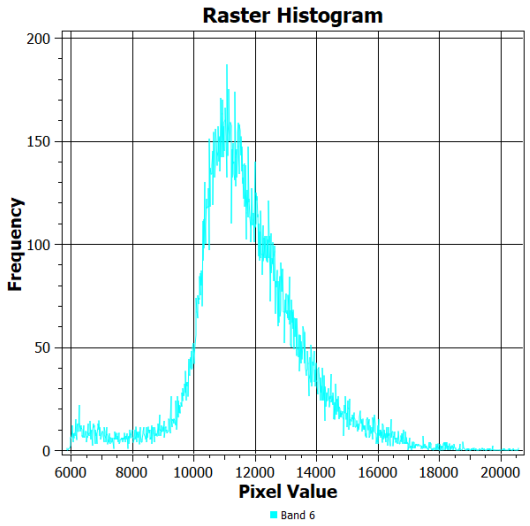
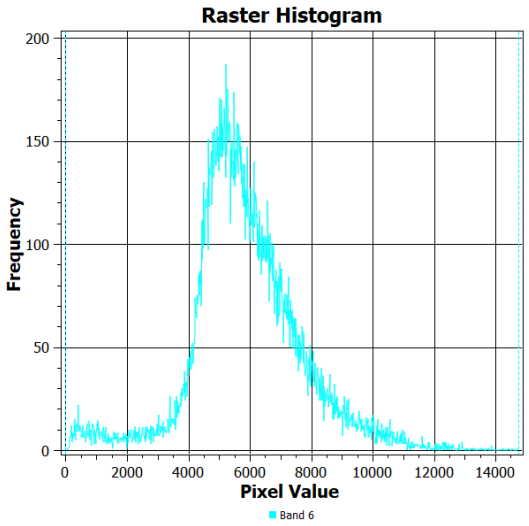
Eberswalde University for Sustainable Development

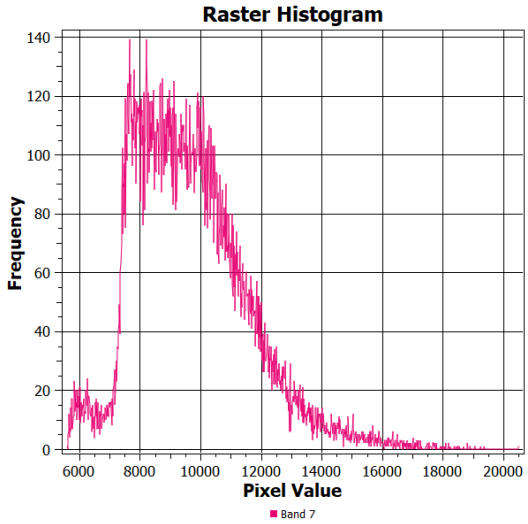
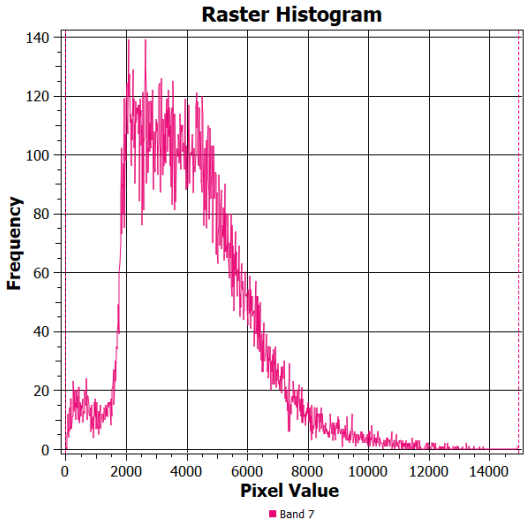
Date: 14/05/2023

Task 1

Band Name (Eestimated minimum)	Before Dark Objec Atmoshperic Correction	After Dark Objec Atmoshperic Correction
B1 (10262)		
B2 (9294)		

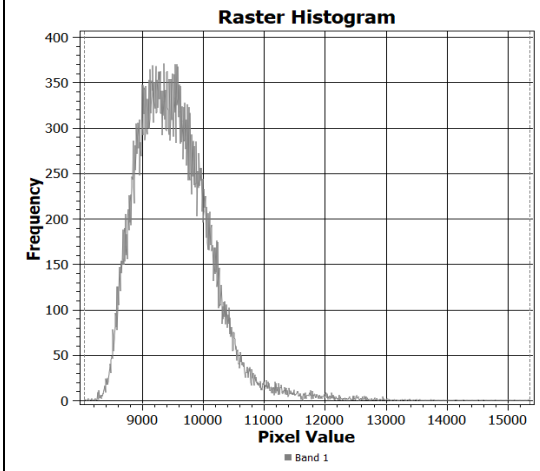
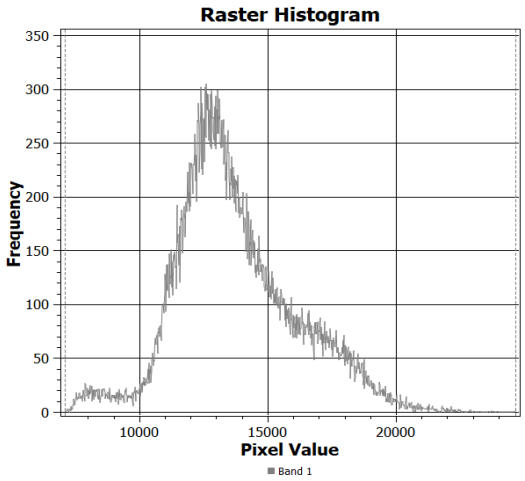
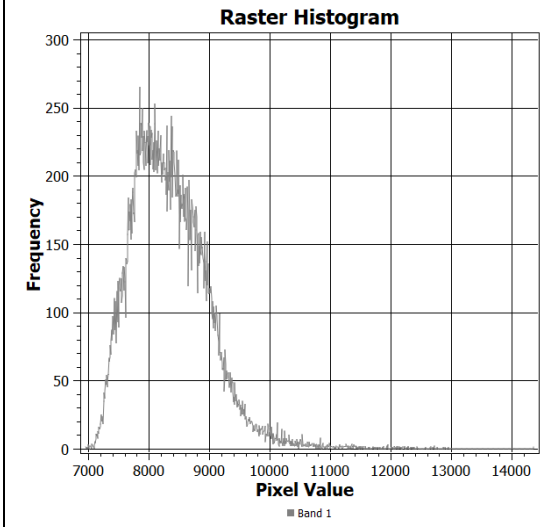
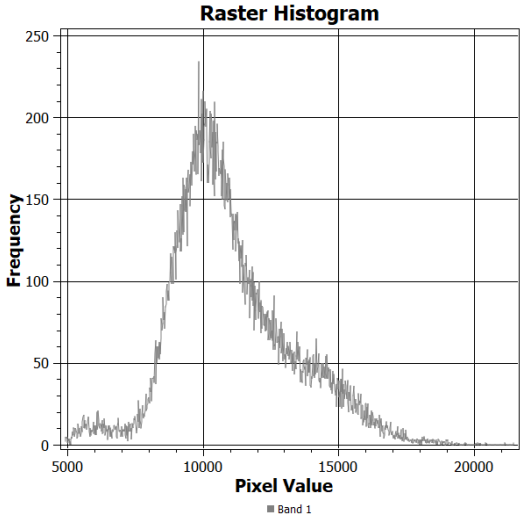
B3 (8054)		
B4 (7235)		

B5 (7166)		
B6 (5866)		

B7 (5579)	 Raster Histogram Frequency Pixel Value Band 7	 Raster Histogram Frequency Pixel Value Band 7

Task 2

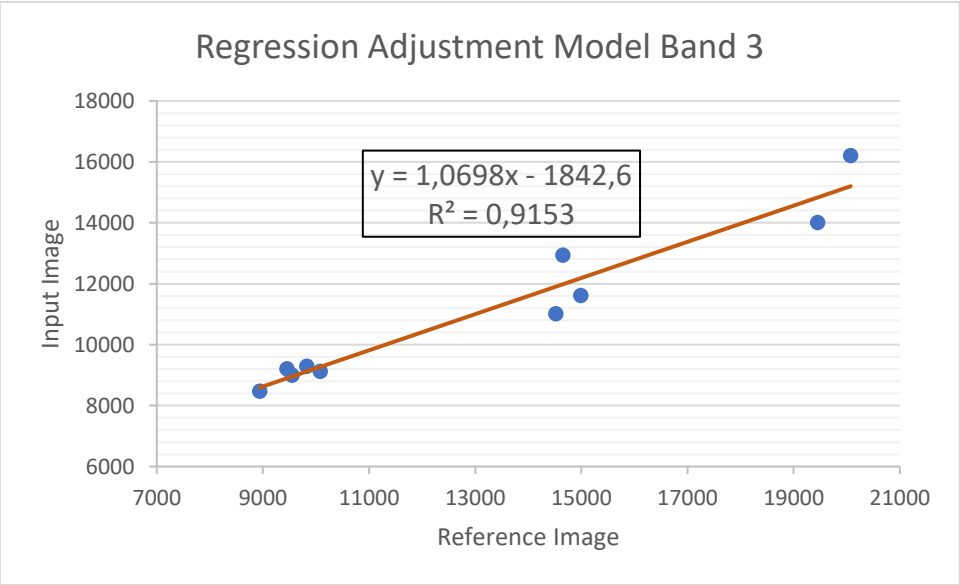
Histograms Before and After Regression Adjustment of Landsat 8 Level 1

	Band 3	Band 5
Before Correction		
After Correction		

Sample Points B3

X	Y	Point No	Reference Image	Input Image
234765	2639150	**Dark Point1**	10076	9132
247310	2632773	**Dark Point2**	9449	9207
228729	2646738	**Dark Point3**	8937	8478
225852	2639606	**Dark Point4**	9547	9002
236751	2651660	**Dark Point5**	9826	9295
236375	2639258	**Bright Point 1**	19449	14009
245567	2633802	**Bright Point 2**	14988	11620
245890	2637281	**Bright Point 3**	14517	11023
222457	2654728	**Bright Point 4**	20073	16211
227827	2631285	**Bright Point 5**	14648	12937

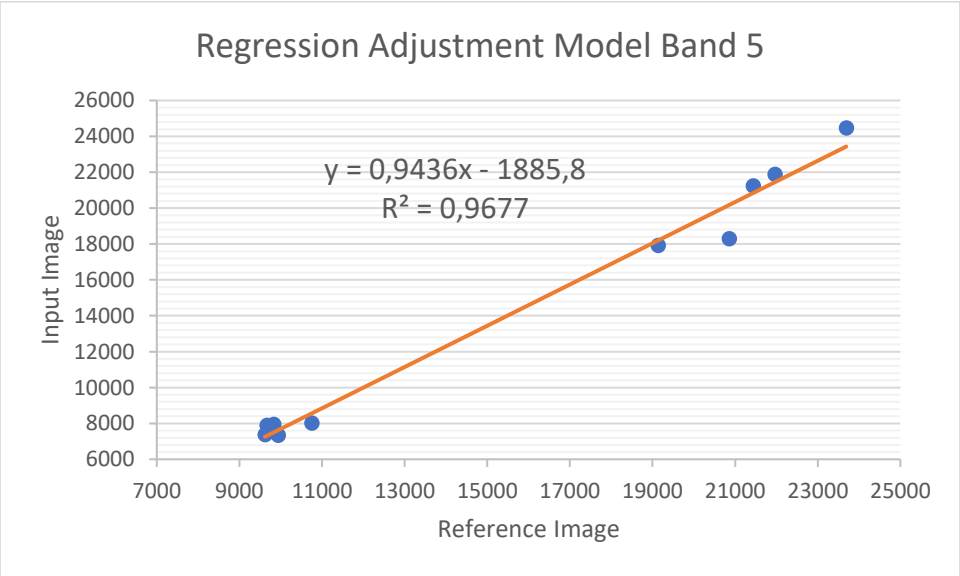
Regression Adjustment Model B3



Sample Points B5

X	Y	Point No	Reference Image	Input Image
230372	2640098	**Dark Point1**	9666	7890
228972	2646625	**Dark Point2**	9827	7949
226991	2630284	**Dark Point3**	9618	7373
229195	2656575	**Dark Point4**	10750	8018
221611	2651891	**Dark Point5**	9935	7329
228839	2654905	**Bright Point 1**	19139	17916
226465	2634432	**Bright Point 2**	21963	21881
231981	2639787	**Bright Point 3**	21440	21227
222778	2637158	**Bright Point 4**	23690	24472
230487	2644709	**Bright Point 5**	20854	18282

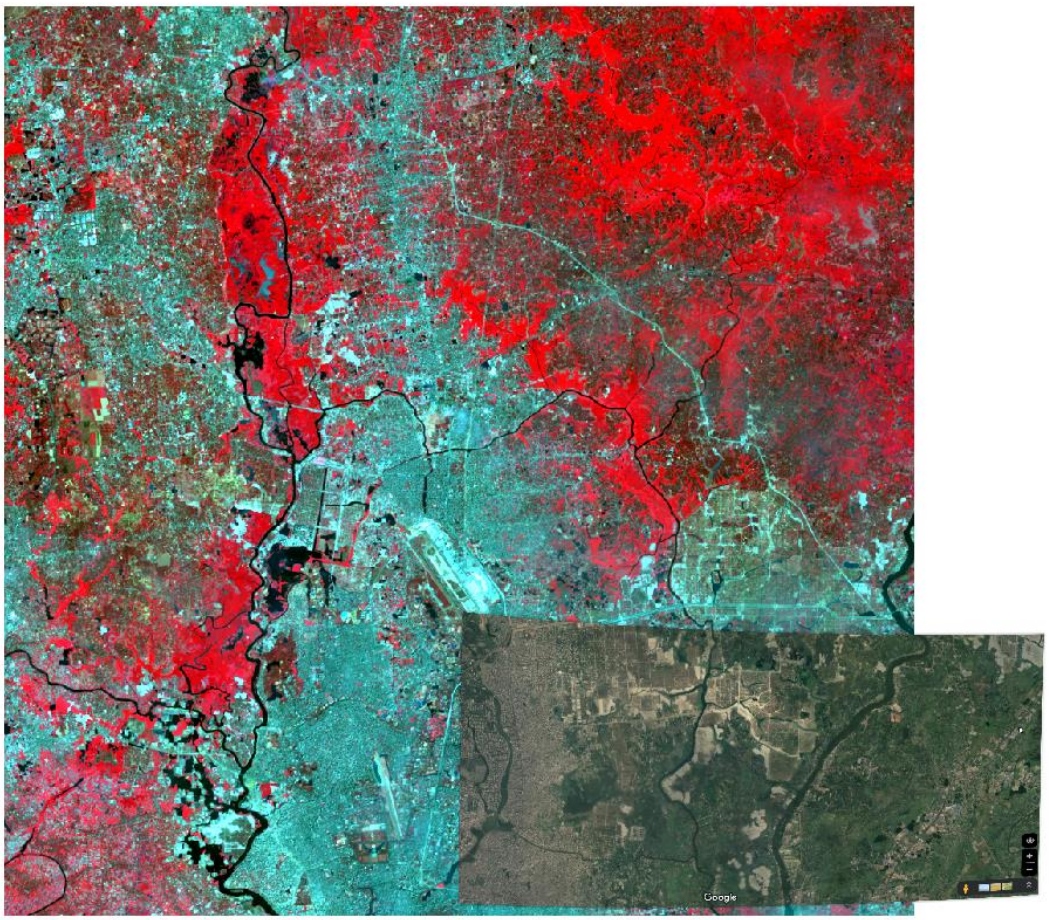
Regression Adjustment Model B5



Task 3

GCP Points with RMSE

GCP table

Enabled	ID	Source X	Source Y	Dest. X	Dest. Y	dX (pixels)	dY (pixels)	Residual (pixels)
☑	0	802.173152	-188.402005	244862.20	2635456.31	0.144689	0.144376	0.204400
☑	1	916.840732	-118.658075	246218.62	2636248.39	-0.371188	-0.287795	0.469688
☑	2	432.087380	-532.054571	240489.68	2631556.41	-0.058282	-0.299934	0.305544
☑	3	501.586178	-564.519289	241284.53	2631154.53	-0.193037	0.364638	0.412582
☑	4	536.135173	-593.051324	241677.86	2630828.94	-0.304416	-0.443446	0.537879
☑	5	533.061994	-590.042844	241644.83	2630864.00	-0.132267	-0.446646	0.465819
☑	6	971.576316	-355.772421	246813.87	2633490.06	-0.099875	0.234952	0.255299
☑	7	886.927699	-119.019505	245876.89	2636242.00	0.523889	0.586691	0.786554
☑	8	536.058764	-573.985508	241685.78	2631039.26	0.166829	0.290380	0.334892
☑	9	510.014814	-573.044869	241388.59	2631055.18	0.511224	0.291793	0.588636
☑	10	510.022163	-592.011978	241379.75	2630839.73	0.033316	0.070993	0.078421
☑	11	464.052186	-534.026766	240858.60	2631518.36	-0.010595	0.199948	0.200228
☑	12	971.009378	-290.006574	246825.83	2634247.43	0.258990	-0.178962	0.314807
☑	13	700.453318	-159.414698	243676.56	2635838.90	-0.080163	-0.160501	0.179407
☑	14	890.012733	-199.021417	245884.64	2635315.07	-0.389113	-0.366486	0.534529

Georeferenced Image