

# SDMI ORTHO 2012 Acceptance Report

## Acceptance Overview for 2013 NM1 20130628 delivery

NM1\_20130628:      42 Tiles      16,800 km<sup>2</sup>

The 20130628 delivery of NM1\_20130318\_20130628 has been inspected and evaluated by UAF-GINA staff. The evaluation has determined that all corrections or modifications necessary have been completed and this delivery complies with the Scope of Work under this contract.

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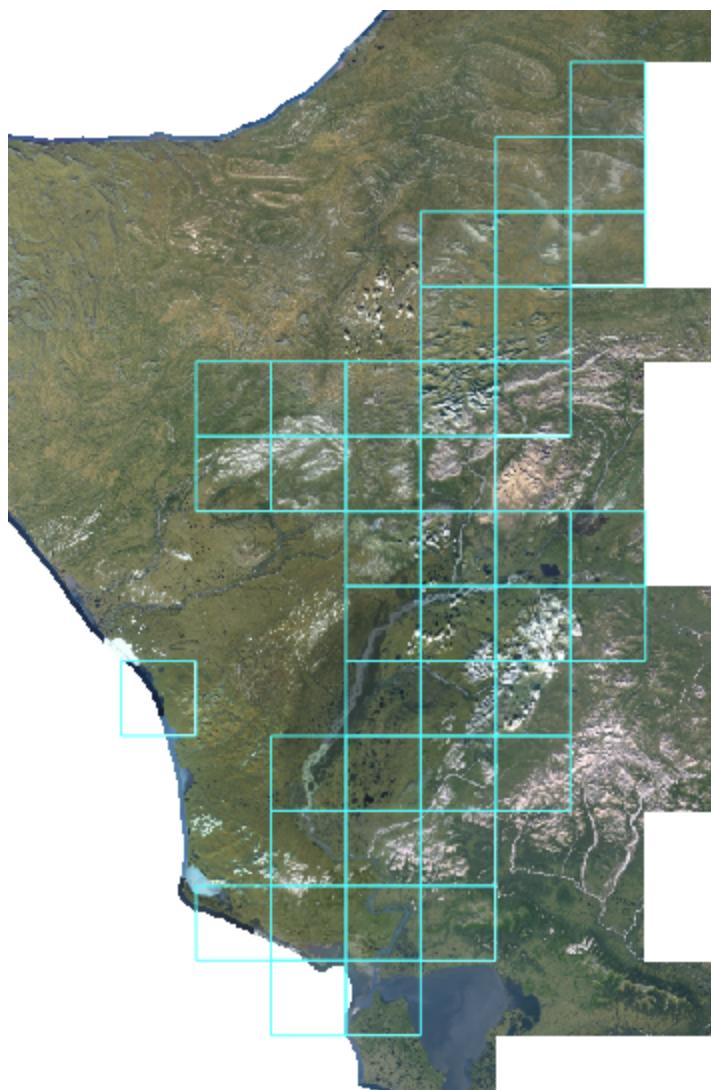
[Figure 1 - North West NM1 20130628 Delivery](#)



## Radiometric Accuracy Assessment - PASSED

Radiometric quality for all three image types (CIR, PAN, and RGB) was visually evaluated based on these categories: cloud/shadow, haze, blend, contrast, saturation, artifact, blurry, ghosting, color, location, and nodata. All images were within allowable limits. New imagery blended well with 2010 and 2011 ortho tiles (Figure 2).

Figure 2 - Block - NM1 20130318 20130628



*Tile 0966\_1200 exhibits 30% cloud cover over Baird Mountains. Figure 3 illustrates the heaviest concentration of cover. Minor contrast issues related to seasonal icing and sediment transport can be observed in littoral/estuarine/riparian/coastal environments (Figure 4).*

Figure 3- NM1 20130318 20130628 cloud cover

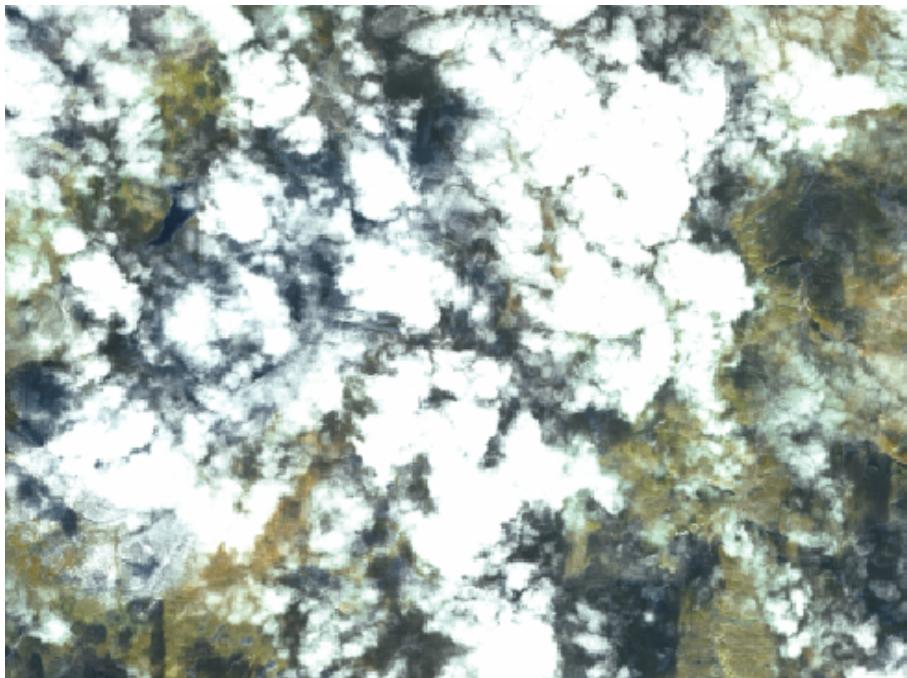
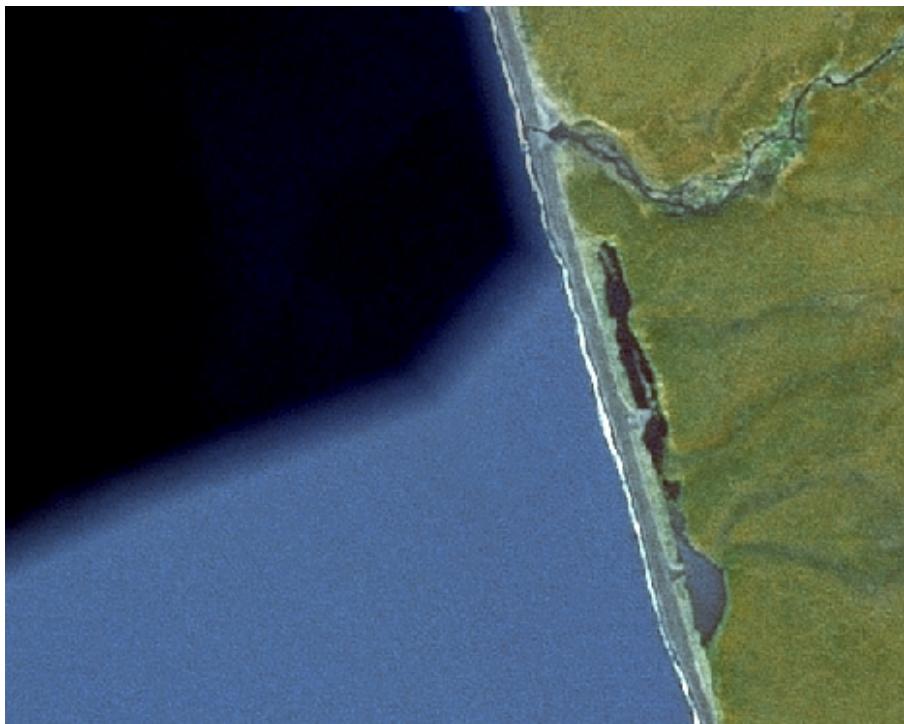


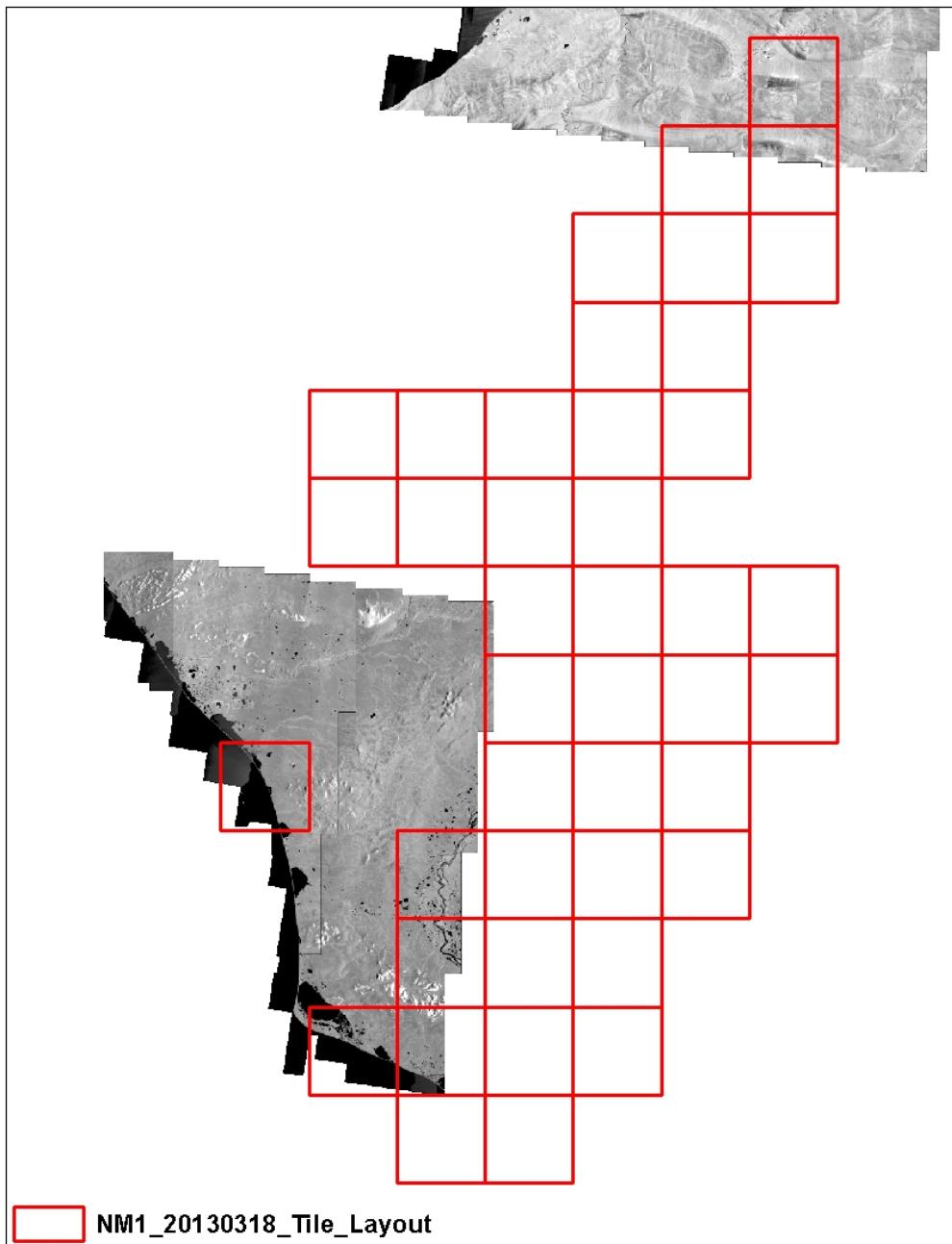
Figure 4 - NM1 20130318 20130628 seasonal contrast



## Geometric Accuracy Assessment - PASSED (RGB, CIR, PAN)

The geometric accuracy assessment was based on methodology developed by i-cubed, *Alaska SDMI QC Setup & Procedures*. The RMSE was calculated based on the i3tools toolbox, RMS Reporter tool developed for use in ArcMap. Control points were chosen from the base imagery, and were adjusted for the delivered images if necessary and the RMSE was calculated based on these differences. Control points were chosen based on them being photo identifiable in the base imagery. Only partial coverage of a high resolution base image was available for the NM1\_20130318\_20130628 delivery (Figure 5). Due to this lack of coverage, only 10 tiles out of the delivery were evaluated.

Figure 5 - High resolution base imagery coverage for NM1\_20130318\_20130628 delivery.



### Block - NM1\_20130318\_20130628 - PASSED

The NM1\_20130318\_20130628 delivery images (CIR, PAN, and RGB) were compared to 2012 SDMI IFSAR ORI base images at 0.625 meters spatial resolution. A total of 50 ground control points were

analyzed. All points fell within the National Map Accuracy Standard (NMAS) CE90 of 12.2 meters and generated an RMSE of 3.98 meters in RGB and Pan(Figure 6), and 4.21 meters in CIR. These errors are acceptable based on map accuracy of the National Standard for Spatial Data Accuracy (NSSDA) CE95 of 13.9 meters or a RMSE of 8 meters. All tiles for the NM1\_20130318\_20130628 delivery fell within acceptable standards.

Figure 6 - NM1 20130318 20130628 RMS Report (RGB and PAN)

FID	POINT_X1	POINT_X2	POINT_Y1	POINT_Y2	X_Diff.	Y_Diff.	XY_Diff.	Ratio_to_RMS
0	-316586.04	-316586.0399	2156842.941	2156844.66	0	-1.72127	1.72127	0.43
1	-314565.292	-314565.2923	2156173.367	2156173.37	0	0	0	0
2	-302950.376	-302950.9845	2153446.598	2153445.69	0.608599	0.91289	1.09716	0.28
3	-319254.213	-319254.2131	2146124.364	2146121.61	0	2.75404	2.75404	0.69
4	-309167.978	-309167.9782	2149276.476	2149286.13	0	-9.65421	9.65421	2.43
5	-303946.2	-303946.1996	2146760.731	2146760.73	0	0	0	0
6	-310857.318	-310856.8547	2143592.519	2143593.45	-0.463074	-0.92614	1.035458	0.26
7	-307922.68	-307922.6805	2138753.952	2138753.95	0	0	0	0
8	-319538.526	-319538.323	2139944.979	2139942.65	-0.202929	2.33369	2.342496	0.59
9	-301431.91	-301431.9104	2136341.609	2136341.61	0	0	0	0
10	-301061.881	-301061.881	2130843.578	2130843.58	0	0	0	0
11	-319296.716	-319296.3541	2133941.116	2133945.1	-0.362279	-3.98507	4.001503	1.01
12	-338804.929	-338806.1894	2138926.325	2138922.54	1.260625	3.78188	3.986451	1
13	-334668.779	-334668.9344	2138017.069	2138015.98	0.15537	1.08759	1.098632	0.28
14	-328062.293	-328060.1636	2137169.382	2137165.43	-2.128888	3.95365	4.49038	1.13
15	-323536.866	-323534.8891	2138641.562	2138642.06	-1.976619	-0.49415	2.037451	0.51
16	-332452.983	-332454.7076	2134161.37	2134158.35	1.724753	3.01832	3.476353	0.87
17	-378233.618	-378237.4067	2031104.483	2031099.65	3.788514	4.83718	6.144196	1.55
18	-379087.453	-379084.6681	2026652.327	2026646.5	-2.784688	5.82253	6.454173	1.62
19	-378837.298	-378842.729	2028371.429	2028367.81	5.431344	3.62089	6.52766	1.64
20	-379989.225	-379986.7658	2020955.617	2020951.77	-2.45928	3.84263	4.562221	1.15
21	-378504.341	-378507.7249	2025509.292	2025514.94	3.383979	-5.6454	6.581934	1.66
22	-378457.65	-378455.6773	2019195.385	2019194.89	-1.972457	0.49311	2.033161	0.51
23	-377942.245	-377942.2453	2018519.497	2018519.5	0	0	0	0
24	-379154.598	-379152.1174	2006892.627	2006894.75	-2.480804	-2.12252	3.264886	0.82
25	-379244.395	-379248.2038	2011884.905	2011883.91	3.80896	0.99143	3.935875	0.99
26	-377994.861	-377993.8682	2002842.474	2002845.95	-0.993279	-3.47647	3.615584	0.91
27	-386726.445	-386723.2373	1977224.879	1977225.34	-3.208027	-0.45829	3.240597	0.82
28	-391798.03	-391799.4026	1978500.173	1978499.35	1.372623	0.82358	1.600743	0.4
29	-392471.648	-392465.7186	1967344.472	1967345.13	-5.929642	-0.65885	5.966133	1.5
30	-386188.315	-386186.147	1963862.288	1963860.55	-2.168339	1.73467	2.776828	0.7
31	-399229.621	-399226.2396	1961123.169	1961122.62	-3.381054	0.54533	3.42475	0.86
32	-397311.315	-397309.3547	1956418.982	1956417.31	-1.96067	1.67641	2.579647	0.65
33	-386996.521	-386993.6727	1959686.169	1959685.52	-2.848486	0.64738	2.921125	0.73
34	-387981.371	-387982.4696	1956290.261	1956286.97	1.098442	3.29532	3.473573	0.87
35	-398220.352	-398220.3522	1946851.874	1946851.87	0	0	0	0
36	-390787.756	-390785.5931	1943424.689	1943425.41	-2.163162	-0.72105	2.280172	0.57
37	-428564.811	-428564.0352	1989751.995	1989753.51	-0.775869	-1.51369	1.70095	0.43
38	-426546.16	-426544.2901	1992008.979	1992006.12	-1.869822	2.85973	3.416766	0.86
39	-422556.311	-422556.3115	1984581.411	1984581.41	0	0	0	0
40	-432728.274	-432726.5121	1998969.194	1998967.73	-1.762184	1.46849	2.293852	0.58
41	-420310.366	-420301.4006	1994609.868	1994608.81	-8.965812	1.0548	9.027646	2.27
42	-416034.195	-416033.4751	1936573.713	1936575.01	-0.719489	-1.29508	1.481518	0.37
43	-404186.982	-404192.3767	1936117.772	1936124.26	5.394644	-6.48294	8.433902	2.12
44	-404913.446	-404911.7352	1929518.098	1929518.1	-1.710713	0	1.710713	0.43
45	-409254.218	-409251.4152	1931880.295	1931880.76	-2.803268	-0.46722	2.841937	0.71
46	-394542.352	-394542.3517	1937050.676	1937050.68	0	0	0	0
47	-398312.658	-398312.6584	1932036.873	1932039.54	0	-2.66999	2.66999	0.67
48	-390400.016	-390394.747	1929514.611	1929511.26	-5.269219	3.35314	6.245656	1.57
49	-392608.19	-392601.31	1925359.21	1925359	-6.879815	0.2064	6.88291	1.73
					Sum of Sq. Dif	392.834337	397.41968	790.254
					n = 50			
					RMS in X,Y	2.80297819	2.8192896	
					RMS	3.97556039		
					Average Error	3.11569		

Figure 7 - NM1 20130318 20130628 RMS Report (CIR)

FID	POINT_X1	POINT_X2	POINT_Y1	POINT_Y2	X_Diff.	Y_Diff.	XY_Diff.	Ratio_to_RMS
0	-316586.039886	-316586.039886	2156842.9409	2156844.66217	0	-1.7212700001	1.7212700001	0.41
1	-314565.292288	-314565.292288	2156173.36748	2156173.36748	0	0	0	0
2	-302950.375918	-302950.984517	2153446.59816	2153445.68527	0.608599	0.9128900003	1.0971603782	0.26
3	-319254.213113	-319254.213113	2146124.36444	2146121.6104	0	2.75404	2.75404	0.65
4	-309167.97822	-309167.97822	2149276.47589	2149286.1301	0	-9.6542100003	9.6542100003	2.29
5	-303946.199557	-303946.199557	2146760.73137	2146760.73137	0	0	0	0
6	-310857.317755	-310856.854681	2143592.51931	2143593.44545	-0.463074	-0.9261400001	1.0354577873	0.25
7	-307922.68049	-307922.68049	2138753.95156	2138753.95156	0	0	0	0
8	-319538.525905	-319536.139118	2139944.97916	2139937.88069	-2.386787	7.0984700001	7.488993826	1.78
9	-301431.910373	-301431.910373	2136341.60892	2136341.60892	0	0	0	0
10	-301061.881008	-301061.881008	2130843.57765	2130843.57765	0	0	0	0
11	-319296.716428	-319296.354149	2133941.11601	2133945.10108	-0.362279	-3.9850699999	4.0015033397	0.95
12	-338804.928822	-338806.189447	2138926.32521	2138922.54333	1.260625	3.7818800001	3.9864510189	0.95
13	-334668.779047	-334668.934417	2138017.0688	2138015.98121	0.15537	1.0875900001	1.098631806	0.26
14	-328062.292517	-328060.163629	2137169.38168	2137165.42803	-2.128888	3.95365	4.4903799883	1.07
15	-323536.865734	-323534.889115	2138641.56187	2138642.05602	-1.976619	-0.4941500002	2.0374510777	0.48
16	-332452.982845	-332454.707598	2134161.37013	2134158.35181	1.724753	3.0183200003	3.4763527633	0.83
17	-378233.618142	-378237.406656	2031104.48348	2031099.6463	3.788514	4.83718	6.1441963413	1.46
18	-379087.452771	-379084.668083	2026652.32718	2026646.50465	-2.784688	5.82253	6.4541725154	1.53
19	-378837.297639	-378842.728983	2028371.42933	2028367.80844	5.431344	3.6208899999	6.5276597673	1.55
20	-379989.225038	-379986.765758	2020955.61679	2020951.77416	-2.45928	3.8426299999	4.5622213268	1.08
21	-378504.340923	-378507.724902	2025509.29195	2025514.93735	3.383979	-5.6454	6.5819339888	1.56
22	-378457.649754	-378455.677297	2019195.38527	2019194.89216	-1.972457	0.4931099999	2.0331611075	0.48
23	-377942.245317	-377942.245317	2018519.49689	2018519.49689	0	0	0	0
24	-379154.598248	-379148.721599	2006892.62727	2006896.23547	-5.876649	-3.6081999999	6.8959488621	1.64
25	-379244.394853	-379248.203813	2011884.9051	2011883.91367	3.80896	0.9914300002	3.9358747092	0.93
26	-377994.861457	-377993.868178	2002842.47396	2002845.95043	-0.993279	-3.4764699999	3.6155838854	0.86
27	-386726.445348	-386723.237321	1977224.8788	1977225.33709	-3.208027	-0.45829	3.2405966977	0.77
28	-391798.029931	-391799.402554	1978500.17321	1978499.34963	1.3726229999	0.8235799999	1.6007429263	0.38
29	-392471.64823	-392465.718588	1967344.47219	1967345.13104	-5.929642	-0.65885	5.9661325472	1.42
30	-386188.315336	-386186.146997	1963862.28804	1963860.55337	-2.168339	1.7346699999	2.7768280515	0.66
31	-399229.620634	-399226.23958	1961123.16878	1961122.62345	-3.381054	0.5453299999	3.424749766	0.81
32	-397311.315419	-397311.499678	1956418.98202	1956419.01733	0.184259	-0.0353099999	0.1876117672	0.04
33	-386996.521212	-386995.893301	1959686.16922	1959686.97917	-0.627911	-0.8099499999	1.0248371706	0.24
34	-387981.371205	-387982.502895	1956290.26087	1956287.5102	1.13169	2.7506700002	2.9743751791	0.71
35	-398220.352198	-398217.40088	1946851.87408	1946852.18942	-2.951318	-0.31534	2.9681167856	0.7
36	-390787.75627	-390782.986341	1943424.68941	1943424.92245	-4.769929	-0.2330399998	4.7756183167	1.13
37	-428564.811086	-428564.035217	1989751.99465	1989753.50834	-0.775869	-1.5136899999	1.7009497703	0.4
38	-426546.1599	-426544.290078	1992008.97944	1992006.11971	-1.869822	2.8597299999	3.4167660125	0.81
39	-422556.311473	-422556.311473	1984581.41087	1984581.41087	0	0	0	0
40	-432728.274265	-432726.512081	1998969.19394	1998967.72545	-1.762184	1.4684899999	2.2938516364	0.54
41	-420310.366413	-420301.400601	1994609.86845	1994608.81365	-8.965812	1.0548	9.027645754	2.14
42	-416034.194628	-416033.475139	1936573.71301	1936575.00809	-0.719489	-1.2950799998	1.4815183519	0.35
43	-404186.982045	-404192.376689	1936117.77219	1936124.25513	5.394644	-6.48294	8.4339015248	2
44	-404913.445892	-404911.735179	1929518.09782	1929518.09782	-1.710713	0	1.710713	0.41
45	-409254.218464	-409251.415196	1931880.29517	1931880.76239	-2.803268	-0.46722	2.8419370169	0.67
46	-394542.351715	-394542.351715	1937050.6758	1937050.6758	0	0	0	0
47	-398312.658411	-398312.658411	1932036.87323	1932039.54322	0	-2.6699900001	2.6699900001	0.63
48	-390400.01621	-390394.746991	1929514.61082	1929511.25768	-5.269219	3.35314	6.2456558286	1.48
49	-392608.189837	-392601.310022	1925359.20998	1925359.00358	-6.879815	0.2064	6.8829103869	1.63
				Sum of Sq. Dif4	42.198026576	444.644567606	886.842594182	
				n = 50				
				RMS in X,Y	2.9738797103	2.982095128		
				RMS	4.2115142032			
				Average Error	3.3047620596			

## CIR tile offset - (0960\_1194) - FIXED

A tile was found to have an offset. This was brought to Aerometric's attention and they determined that specific tile was clipped from the wrong mosaic during processing. Redelivered tile corrected issue and cleanly mosaiced with the block.

