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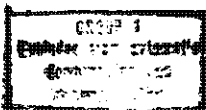
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5 November 1969

MEMORANDUM FOR: Director of Special Projects

SUBJECT : OAK Report Interpretability Ratings --  
KH-4B vs. KH-4A

1. Recent NPIC briefings to COMIREX in connection with the KH-4 high/low issue suggest the increased scale and resolution of KH-4B at 85 nm vice 100 nm is of some value to the PI's, principally with regard to the relatively small Ground Force targets. The missile and space targets were described as relatively insensitive to 100 vice 85 nm.
2. I have hypothesized KH-4B imagery from 85 nm should do relatively better than KH-4A imagery from 100 nm against the Ground Force targets than against other categories of targets. Accordingly, I sorted my data bank on PI ratings to test this hypothesis. I concluded the results did not substantiate the hypothesis, although they clearly demonstrated the KH-4B produced better imagery in general. I did not address the intelligence significance of the improved imagery.
3. The conclusions and data were made available to [REDACTED] who expressed considerable interest in the data and disagreement with my conclusions. I had stated a comparison of 22,959 ratings from six KH-4B missions for all targets except Ground Force with 25,760 ratings from six KH-4A missions (same comparison) showed the percentage of GOOD and FAIR ratings for the KH-4B (low) to be .084 percent greater than those for the KH-4A (high). When 4779 KH-4B ratings for Ground Force targets only were compared with 5767 ratings from KH-4A, the result was the percentage of GOOD and FAIR for the 4B was .072 greater, i. e., it was not relatively greater.
4. In brief, [REDACTED] made the following points: (a) the nature and volume of data is such that it is perfectly sound to deal with the percent GOOD only as distinct from the percent GOOD and



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SUBJECT: OAK Report Interpretability Ratings --  
KH-4B vs. KH-4A

FAIR, (b) the percent FAIR is not a very meaningful category but merely a convenient middle-ground, i. e. , some of the FAIR belong in GOOD and some in POOR, (c) for the KH-4 system, one should focus upon the GOOD since GOOD interpretability is necessary to be of any value against Ground Force targets, and finally (d), even more important than percentages, were the actual number of GOOD target pictures delivered by the KH-4B system (because of its wider swath, the 4A produces a larger number of target photographs--nonetheless, the data shows the 4B produces a larger number of GOOD target photographs than the 4A). If one accepts [REDACTED] assumptions, then the data does indeed substantiate his conclusions.

5. [REDACTED] stated he was focused upon GOOD pictures, which were relevant to the issue. He felt the data made a case for flying low, and requested I provide him further data on heavy and medium bomber fields vice fighter fields. His rationale sounds reasonable to me, and the additional data is attached.

6. I believe there may well be useful applications of this data for performance evaluation by the Program Office. For example, you will note mission 1105 (UTB) shows up very well in comparison with other missions, particularly when we sort CLEAR only ratings. By sorting only CLEAR ratings, I have attempted to eliminate or at least diminish the variables caused by the interaction of atmospheric factors. This is the same approach used when we select an MIP frame, the differences being the attached involves several thousand MIP frames vice one, does not involve magnifying or blowing up the film until it comes apart, and finally represents the ratings of all PI's for all targets taken during the mission.

7. As you know, our technical analysis indicates excessive moisture in the UTB on 1105 caused degradation of the imagery. When I showed the data on 1105 to John McMahon, he suggested a reason why the 1105 ratings were not much worse was because: (a) due to very poor weather during the first two days of the mission hardly any operational photography was taken, and (b) technical analysis showed

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Page Two

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SUBJECT: OAK Report Interpretability Ratings --  
KH-4B vs. KH-4A

it took two days for the excessive moisture to out-gas from the UTB. The point was if we had taken substantial operational photography during the first two days of 1105, the interpretability ratings for the mission would have been much worse.

8. According to the NPIC Mission Coverage Index for 1105, we took 699 operational frames during the first two days (25 revs). If we divide the total number of operational frames by 18 (the number of days the mission flew), the resultant is 920 operational frames for each two-day period. Thus, the 699 frames were less than "average", but were certainly a very substantial amount of photography. The data shows the percent GOOD for the first 25 revs of 1105 is higher than any other mission in the group (13 interleaved 4A and 4B missions), and the percent GOOD and FAIR is the second highest. Indeed, during its first two days, 1105's imagery was substantially better than for the remainder of the mission.

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SA/IS/OSP

Attachments: a/s

Distribution:

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Page Three

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Attachment to:  
[REDACTED]

## 1. NPIC Definition of Photographic Interpretation (PI) Suitability

OAK Report Interpretability Ratings (KH-4A vs. 4B):

- 1/ 2. Worldwide & Communist Countries -- All Weather -- All Targets  
 3. Worldwide & Communist Countries -- CLEAR Only -- All Targets  
 4. Communist Countries -- CLEAR Only & All Weather -- All Targets --  
 Ranking of 13 Missions
- 2/ 5. Communist Countries -- All Weather -- Ground Force Targets  
 6. Communist Countries -- CLEAR Only -- Ground Force Targets
- 3/ 7. Communist Countries -- All Weather -- Heavy & Medium Bomber  
 Airfields  
 8. Communist Countries -- CLEAR Only -- Heavy & Medium Bomber  
 Airfields
- 4/ 9. Communist Countries -- All Weather -- Fighter Airfields  
 10. Communist Countries -- CLEAR Only -- Fighter Airfields  
 11. Communist Countries -- All Weather -- All Targets -- Atmospheric  
 12. Communist Countries -- All Weather -- First 25 Operational Bays
13. Communist Countries -- CLEAR Only -- 34 Representative Targets  
 From 13 Missions

1/ 11,175 targets2/ COMIREX [REDACTED]3/ COMIREX [REDACTED] 47 targets4/ COMIREX [REDACTED] 292 targets



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## PART VI. PI SUITABILITY

### A. Definition of Photographic Interpretation (PI) Suitability

The PI suitability is an assessment of the information content of photographic reconnaissance material and its interpretability. A number of interrelated factors are involved, such as the quality of the photography, the extent of target coverage, scale, and weather limitations. However, the fundamental criteria for assigning a PI suitability rating may be reduced to (a) the scope of the photographic coverage and (b) the degree to which a photographic interpreter may extract useful and reliable information from the material.

PI suitability ratings are categorized as Excellent, Good, Fair, Poor, and Unusable. These ratings refer to the overall interpretive value of the photography obtained from a particular reconnaissance mission. Individual targets may also be assigned PI suitability ratings. The standards that determine assignment of the various ratings are:

Excellent: The photography is free of degradations by camera malfunction or processing faults and the weather conditions are favorable throughout. The imagery contains sharp, well-defined edges and corners with no unusual distortions. Contrast is optimum and shadow details, as well as details in the highlight areas, are readily detectable. Observation of small objects and high order of mensuration are made possible by the consistently good quality of the photography.

Good: The photography is relatively free of degradation or limiting atmospheric conditions. Edges and corners are well defined. No unusual distortions are present. Detection and accurate mensuration of small objects are feasible, but to a lesser degree than in material rated as "Excellent."

Fair: Degradation is present and the acuity of the photography is less than optimum. Edges and corners are not crisply defined and there is loss of detail in shadow and/or highlight areas. Detection and identification of small objects are possible, but accuracy of mensuration is reduced by the fall-off in image quality and the less-than-optimum contrast that prevails.

Poor: Camera-induced degradations and/or weather limitations severely reduce the effectiveness of the photography. Definition of edges and corners is not sharp. Only gross terrain features and culture may be detected or identified and distortion of form may exist. Accurate mensuration of even large objects is doubtful.

Unuseable: Degradation of photography completely precludes detection, identification, and mensuration of cultural details.

- 19 -

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OAK REPORT IN INTERPRETABILITY RATINGS -- WORLDWIDE & 1/ COMMUNIST COUNTRIES -- ALL WEATHER -- ALL TARGETS

Mission Number	Number Ratings	Worldwide -- All Weather						Communist Bloc -- All Weather									
		Number			Percent			Number			Percent						
		GOOD	FAIR	POOR	GOOD & FAIR	POOR	% Communist	GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD & FAIR			
1101	5439	978	3213	1248	.591	.229	.771	.832	.180	.229	.771	4527	2867	1135	.633	.251	.749
1102	3414	690	2115	609	.620	.178	.822	.765	.202	.178	.822	2611	1614	451	.618	.173	.827
1103	7974	496	4883	2595	.612	.325	.575	.867	.062	.325	.575	6914	4343	2265	.628	.328	.672
1104	5360	537	3228	1595	.602	.298	.702	.910	100	.298	.702	4880	2888	1528	.592	.312	.687
1105	6605	1100	3870	1635	.586	.248	.752	.757	167	.248	.752	5001	2767	1373	.553	.275	.725
1106	4331	556	2488	1285	.574	.297	.703	.879	.129	.297	.703	3805	2223	1086	.584	.285	.715
Total:	33123	4359	19797	8967				.837				27738	16702	7838			.717
Avg :	5520	726	3299	1494	.598	.271	.729		.132	.271	.729	4623	2483	1306	.602	.283	.717
1043	6350	1128	2778	2444	.437	.385	.615	.717	.178	.385	.615	4550	2191	2150	.482	.473	.527
1044	5086	902	3034	1150	.597	.226	.774	.799	.177	.226	.774	4065	2481	981	.610	.241	.759
1045	4956	822	2953	1181	.596	.238	.762	.680	.166	.238	.762	3371	2046	901	.607	.267	.733
1046	8222	570	4624	3028	.562	.368	.632	.862	.069	.368	.632	7089	4135	2653	.583	.374	.626
1047	7234	425	4049	2760	.550	.352	.618	.868	.059	.352	.618	6277	3640	2668	.580	.377	.623
1048	6445	600	3728	2117	.578	.328	.672	.809	.093	.328	.672	5209	2941	1730	.565	.332	.668
1049	6357	328	2905	3124	.457	.491	.509	.868	.052	.491	.509	5516	2410	2870	.437	.520	.480
Total:	38300	3647	21293	13360				.823				31527	17653	11503			.635
Avg :	6383	607	3548	2226	.556	.349	.651		.095	.349	.651	5254	2942	1917	.560	.365	.635
Total:	38293	4447	2166	12680				.798				30561	17434	10783			.647
Avg :	6382	741	3527	2113	.331	.669	.669	.798	.116	.331	.669	5093	2905	1797	.570	.353	.647

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ With 1043 substituted for 1049 which was severely affected by adverse atmospherics.

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OAK REPORT INTERPRETABILITY RATINGS -- WORLDWIDE & COMMUNIST COUNTRIES -- CLEAR ONLY -- ALL TARGETS

Mission Number	Number Ratings	Worldwide -- Clear Only						Communist Bloc -- Clear Only									
		Number			Percent			Number			Percent						
		GOOD	FAIR	POOR	GOOD & FAIR	FAIR	POOR	GOOD	FAIR	POOR	GOOD & FAIR	FAIR	POOR				
1101	4200	957	2824	419	.227	.672	.099	.900	.816	3429	514	2538	377	.149	.740	.109	.890
1102	2769	675	1885	209	.243	.680	.075	.924	.762	2111	535	1433	143	.253	.678	.067	.932
1103	5316	487	4133	696	.091	.777	.076	.869	.836	4448	297	3653	498	.066	.821	.111	.888
1104	3549	503	2639	407	.141	.743	.114	.885	.876	3111	430	2316	365	.138	.744	.117	.882
1105	5199	1080	3450	669	.207	.663	.128	.871	.735	3824	841	2448	535	.219	.640	.139	.860
1106	3387	556	2226	605	.164	.657	.178	.821	.874	2963	494	1976	493	.166	.666	.166	.833
Total:	24420	4258	17157	3005	.174	.702	.122	.876	.814	19886	3111	14364	2411	.156	.722	.121	.878
Avg :	4070	709	2859	500	.269	.536	.194	.805	.629	3314	518	2394	401	.071	.664	.263	.736
1043	4077	1098	2188	791	.227	.680	.091	.870	.811	2567	184	1706	677	.188	.709	.101	.898
1014	3886	885	2644	357	.199	.657	.143	.857	.673	3155	595	2239	321	.153	.673	.173	.826
1045	4056	809	2667	580	.090	.668	.240	.759	.845	2731	418	1840	473	.056	.704	.238	.704
1046	6177	562	4128	1487	.090	.701	.207	.792	.850	5222	293	3681	1248	.066	.733	.199	.800
1047	4561	414	3199	948	.120	.693	.185	.814	.803	3881	260	2848	773	.134	.677	.188	.811
013	4907	593	3402	912	.093	.714	.192	.807	.813	2944	531	4671	742	.082	.718	.199	.800
019	3457	323	2469	665	.132	.684	.183	.817	.804	2812	231	2021	560	.107	.703	.189	.810
Total:	27044	3586	18509	4949	.157	.658	.133	.816	.777	21745	2328	15300	4117	.106	.696	.196	.803
Avg :	4507	597	3084	824	.157	.658	.133	.816	.777	3624	388	2550	686	.106	.696	.196	.803
Total:	27664	4361	18228	5075	.157	.658	.133	.816	.777	21500	2281	14985	4234	.106	.696	.196	.803
Avg :	4610	726	3038	845	.157	.658	.133	.816	.777	3583	380	2497	705	.106	.696	.196	.803

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ With 1043 substituted for 1049 which was severely affected by adverse atmospherics.





### OAK REPORT INTERPRETABILITY RATINGS -- RANKING OF 13 MISSIONS -- COMMUNIST COUNTRIES

Percent GOOD & FAIR	
CLEAR Only	All Weather

Percent GOOD	
CLEAR Only	All Weather

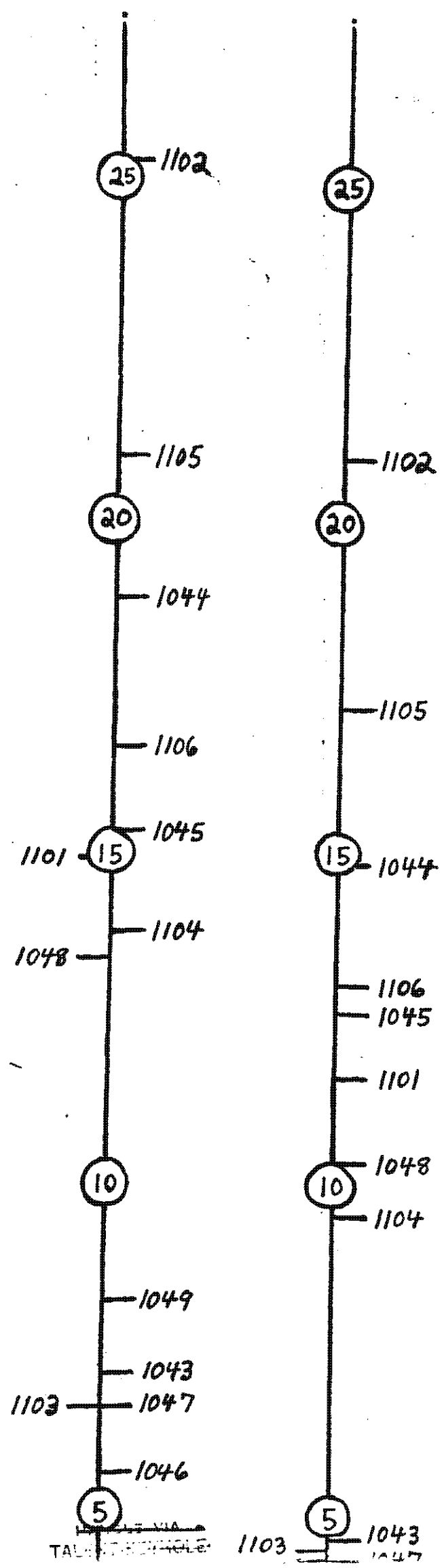
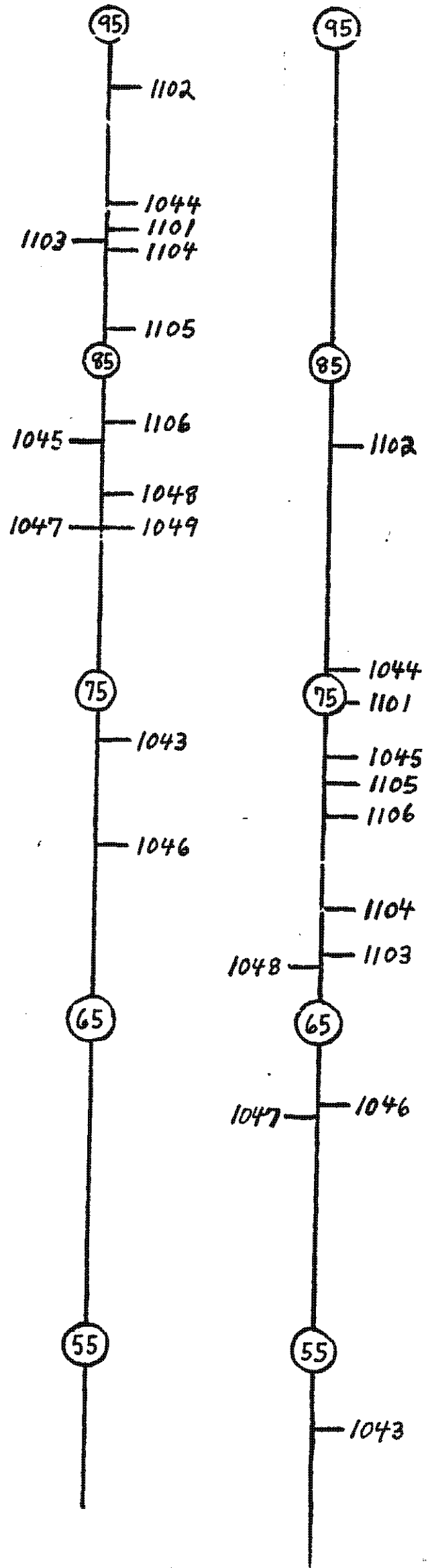


TABLE VIA  
TABLE BY PHONE

OAK REPORT INTERPRETABILITY RATINGS -- 1/ COMMUNIST COUNTRIES -- ALL WEATHER -- GROUND FORCES

All Targets Except Ground Forces												Ground Forces Only					
Mission Number	Number Ratings	Number			Percent			Number Ratings	% Total <u>2/</u>	Number			Percent				
		GOOD	FAIR	POOR	GOOD	FAIR	POOR			GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD & FAIR	
101	3848	464	2373	1011	.120	.616	.262	.737	.150	61	494	124	.089	.727	.182	.817	
102	2212	480	1333	399	.217	.602	.180	.819	.152	66	281	52	.165	.704	.130	.869	
103	5655	258	3620	1777	.045	.640	.314	.685	.182	48	723	198	.038	.574	.387	.612	
104	4036	408	2381	1251	.101	.589	.310	.691	.173	56	507	277	.066	.600	.328	.667	
105	4100	667	2279	1154	.162	.555	.281	.718	.180	194	488	219	.215	.541	.243	.756	
106	3108	324	1854	870	.123	.596	.279	.720	.183	112	369	216	.160	.529	.309	.690	
Total:	22959	2661	13840	6462	.115	.602	.281	.718	.172	537	2862	1376	.112	.598	.287	.711	
Avg :	3826	443	2306	1077						89	477	229					
1043	3757	189	1736	1832	.050	.462	.487	.512	.174	20	455	318	.025	.573	.401	.598	
1044	3335	497	1979	859	.149	.593	.257	.742	.180	106	502	122	.145	.687	.167	.832	
1045	2849	375	1653	821	.131	.580	.288	.711	.155	49	393	80	.093	.752	.153	.846	
1046	5764	277	3217	2270	.048	.558	.393	.606	.187	24	918	383	.018	.692	.289	.710	
1047	5308	241	3086	1981	.045	.581	.373	.626	.154	28	554	387	.028	.571	.399	.600	
1048	4306	491	2387	1428	.114	.554	.321	.668	.173	47	554	302	.052	.613	.334	.665	
1049	4198	195	1941	2062	.046	.462	.491	.508	.239	41	469	808	.031	.355	.613	.386	
Total:	25760	2076	14263	9421	.080	.553	.365	.634	.183	295	3390	2082	.051	.587	.361	.639	
Avg :	4293	346	2377	1570						49	565	347					
1050	25319	2070	14058	9191	.081	.555	.363	.636	.171	274	3376	1592	.052	.644	.303	.696	
Avg :	4219	345	2343	1531						45	562	265					

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ Percent of the total number of OAK Report ratings for the mission.  
 3/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.



OAK REPORT INTERPRETABILITY RATINGS -- 1/ COMMUNIST COUNTRIES -- CLEAR ONLY -- GROUND FORCES

Mission Number	All Targets Except Ground Forces										Ground Forces Only					
	Number			Percent			Number Ratings	% Total	Number			Percent				
	GOOD	FAIR	POOR	GOOD	FAIR	POOR			GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD & FAIR	
101	2861	453	2077	331	.158	.726	.116	.884	568	.125	61	461	46	.811	.081	.919
102	1764	470	1174	120	.266	.666	.068	.932	347	.133	65	259	23	.746	.066	.933
103	3690	251	3034	405	.068	.822	.110	.890	758	.110	46	619	93	.816	.122	.877
104	2609	377	1929	203	.144	.739	.116	.884	502	.103	53	387	62	.770	.123	.876
105	3126	554	2015	457	.209	.645	.146	.854	698	.140	187	433	78	.620	.111	.888
106	2450	382	1654	414	.156	.675	.169	.831	513	.135	112	322	79	.627	.154	.846
Total:	16500	2587	11883	2030	.157	.720	.123	.877	3386	.122	524	2487	381	.732	.112	.887
AVG :	2750	431	1980	358	.079	.627	.293	.706	564		87	413	63			
1043	2088	165	1311	612	.195	.698	.107	.893	479		19	395	65	.824	.135	.864
1044	2511	489	1753	269	.162	.648	.190	.810	644	.158	106	486	52	.754	.080	.919
1045	2275	369	1474	432	.063	.673	.264	.736	456	.135	49	366	41	.802	.089	.910
1046	4268	269	2871	1128	.070	.727	.203	.797	954	.135	24	810	120	.849	.125	.874
1047	3303	232	2401	670	.148	.662	.190	.810	578	.092	28	447	103	.773	.178	.821
1048	3269	484	2165	620	.083	.711	.206	.794	675	.130	47	506	122	.749	.130	.819
1049	2291	190	1629	472	.113	.686	.200	.800	521	.094	41	392	88	.752	.068	.831
Total:	17917	2033	12293	3591	.113	.686	.200	.800	3828	.121	295	3007	526	.785	.137	.862
AVG :	2986	338	2048	598	.113	.676	.210	.789	638		49	501	87			
3/Total:	17714	2008	11975	3731	.113	.676	.210	.789	3786		273	3010	503			
AVG :	2952	334	1995	621	.113	.676	.210	.789	631		45	501	83	.795	.132	.867

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ Percent of the total number of OAK Report ratings for the mission.  
 3/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.



OAK REPORT INTERPRETABILITY RATINGS -- 1/ COMMUNIST COUNTRIES -- ALL WEATHER -- HEAVY & MEDIUM BOMBER AIRFIELDS

Mission Number	Number Ratings	All Targets Except Bomber						Bomber Only							
		Number			Percent			Number			Percent				
		GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD & FAIR	
01	4499	523	2847	1129	.116	.633	.251	.749	2	20	6	.071	.714	.214	.786
02	2595	546	1604	445	.210	.618	.171	.829	3	10	6	.158	.526	.316	.684
03	6877	305	4320	2252	.044	.628	.327	.673	1	23	13	.027	.622	.351	.649
04	4853	460	2871	1522	.095	.592	.314	.686	4	17	6	.148	.630	.222	.778
05	4986	859	2760	1367	.172	.554	.274	.726	2	7	6	.133	.467	.400	.600
06	3795	496	2218	1081	.131	.584	.285	.715	0	5	5	.000	.500	.500	.500
Total:	27605	3189	16620	7796					12	82	42	.088	.602	.308	.691
avg :	4600	531	2770	1299	.115	.602	.282	.717	2	13	7				
043	4517	207	2174	2136	.046	.481	.473	.527	2	17	14	.061	.515	.424	.576
044	4045	602	2471	972	.149	.611	.240	.760	1	10	9	.050	.500	.450	.550
045	3368	424	2045	899	.126	.607	.267	.733	0	1	2	.000	.333	.667	.333
046	7043	297	4101	2642	.042	.583	.375	.625	4	31	10	.089	.689	.222	.778
047	6248	267	3624	2357	.043	.580	.377	.623	2	16	11	.069	.552	.379	.621
048	5186	537	2929	1720	.104	.565	.332	.668	1	12	10	.043	.522	.435	.565
049	5491	235	2401	2855	.043	.437	.520	.480	1	9	15	.040	.360	.600	.400
Total:	31381	2362	17574	11445					9	79	57	.062	.544	.393	.606
avg :	5230	393	2929	1907	.075	.560	.364	.638	1	13	9				
Total:	30407	2334	17347	10726					10	87	56				
avg :	5067	389	2891	1787	.076	.570	.352	.647	1	14	9	.065	.568	.366	.633

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ Percent of the total number of OAK Report ratings for the mission.  
 3/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.



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**OAK REPORT INTERPRETABILITY RATINGS -- 1/ COMMUNIST COUNTRIES -- CLEAR ONLY -- HEAVY & MEDIUM BOMBER AIRFIELDS**

**All Targets Except Bombers**

Mission Number	Number Ratings	Number			Percent			
		GOOD	FAIR	POOR	GOOD & FAIR	POOR	GOOD & FAIR	
1101	3406	512	2520	374	.150	.740	.110	.890
1102	2096	532	1424	140	.254	.679	.067	.933
1103	4431	296	3640	495	.067	.821	.112	.883
1104	3097	426	2307	364	.138	.745	.118	.882
1105	3815	939	2442	534	.220	.640	.140	.860
1106	2958	494	1972	492	.167	.667	.166	.834
Total:	19803	3099	14305	2399	.156	.722	.21	.879
Avg :	3300	516	2384	399	.156	.722	.21	.879
1043	2562	183	1702	677	.071	.664	.264	.736
1044	3139	594	2229	316	.189	.710	.101	.899
1045	2730	418	1839	473	.153	.674	.173	.827
1046	5192	289	3660	1243	.056	.705	.239	.761
1047	3864	258	2837	769	.037	.734	.199	.801
1048	3929	530	2660	739	.135	.677	.188	.812
1049	2801	230	2013	558	.082	.719	.199	.801
Total:	21655	2319	15238	4098	.107	.704	.189	.811
Avg :	3609	386	2539	683	.107	.704	.189	.811
Total:	21416	2272	14927	4217	.106	.697	.197	.803
Avg :	3569	378	2487	702	.106	.697	.197	.803

1/ Includes Communist Europe, Communist China, Communist Korea, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ Percent of the total number of OAK Report ratings for the mission.  
 3/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.

**Bombers Only**

Mission Number	Number Ratings	%Total 2/	Number			Percent			
			GOOD	FAIR	POOR	GOOD & FAIR	POOR	GOOD & FAIR	
1101	23	.005	2	18	3	.087	.783	.130	.870
1102	15	.006	3	9	3	.200	.600	.200	.800
1103	17	.002	1	13	3	.059	.765	.176	.824
1104	14	.005	4	9	1	.286	.643	.071	.929
1105	9	.002	2	6	1	.222	.667	.111	.889
1106	5	.001	0	4	1	.000	.800	.200	.800
Total:	83	.003	12	59	12	.145	.711	.145	.855
Avg :	13		2	9	2				
1043	5	.001	1	4	0	.200	.800	.000	1.000
1044	16	.004	1	10	5	.063	.625	.313	.688
1045	1	.000	0	1	0	.000	1.000	.000	1.000
1046	30	.004	4	21	5	.133	.700	.167	.833
1047	17	.003	2	11	4	.118	.647	.235	.765
1048	15	.005	1	11	3	.067	.733	.200	.800
1049	11	.002	1	8	2	.091	.727	.182	.818
Total:	90	.003	9	62	19	.100	.689	.211	.789
Avg :	15		1	10	3				
Total:	84	.003	9	58	17	.107	.690	.202	.798
Avg :	14		1	9	2				

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OAK REPORT INTERPRETABILITY RATINGS - 1/ COMMUNIST COUNTRIES - ALL WEATHER - FIGHTER AIR FIELDS

Mission Number	All Targets Except Fighters										Fighters Only									
	Number Ratings	Number:					Percent	GOOD & FAIR	POOR	GOOD & FAIR	POOR	% Total 2/	Number					GOOD & FAIR		
		GOOD	FAIR	POOR	GOOD	FAIR							POOR	GOOD	FAIR	POOR	GOOD		FAIR	POOR
101	4435	519	2816	1100	.117	.634	.248	.751	.020	6	51	35	.065	.554	.380	.620				
102	2542	541	1575	428	.212	.618	.831	.026	5	41	23	.072	.594	.333	.667					
103	6726	302	4252	2172	.045	.632	.677	.027	4	91	93	.021	.484	.495	.505					
104	4746	459	2856	1451	.096	.597	.694	.027	5	52	77	.037	.586	.575	.425					
105	4868	858	2709	1301	.176	.556	.732	.027	3	58	72	.023	.436	.541	.459					
106	3724	491	2177	1056	.131	.584	.716	.021	5	46	30	.062	.568	.370	.630					
Total:	27041	3170	16363	7508	.117	.605	.722	.025	28	339	330	.040	.486	.473	.526					
AVG :	4506	528	2727	1251	.046	.485	.531	.031	4	56	55	.021	.364	.614	.386					
043	4410	206	2140	2064	.150	.513	.763	.029	10	62	47	.084	.521	.395	.605					
044	3946	593	2419	934	.128	.611	.739	.027	3	41	47	.033	.451	.516	.484					
045	3280	421	2005	854	.042	.584	.627	.024	5	92	72	.030	.544	.426	.574					
046	6919	296	4043	2580	.043	.585	.628	.021	2	43	88	.015	.323	.662	.338					
047	6144	267	3597	2280	.106	.572	.678	.029	1	47	104	.007	.309	.684	.316					
048	5057	537	2894	1626	.043	.443	.487	.029	1	33	128	.026	.384	.568	.411					
049	5354	235	2377	2742	.076	.564	.641	.026	22	318	485	.026	.384	.568	.411					
Total:	30700	2349	17335	11016	.077	.574	.653	.027	24	336	444	.030	.478	.552	.448					
AVG :	5116	391	2889	1836	.077	.574	.653	.027	4	56	74	.030	.478	.552	.448					

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ Percent of the total number of OAK Report ratings for the mission.  
 3/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.

OAK REPORT INTERPRETABILITY RATINGS -- 1/ COMMUNIST COUNTRIES -- CLEAR ONLY -- FIGHTER AIRFIELDS

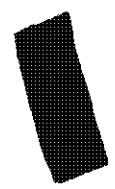
Mission Number	Number Ratings	All Targets Except Fighters						Fighters Only									
		Number			Percent			Number			Percent						
		GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD	FAIR	POOR	GOOD & FAIR			
101	3362	509	2495	358	.151	.742	.106	.894	67	.015	5	43	19	.075	.642	.284	.716
102	2048	530	1393	125	.259	.680	.061	.939	63	.024	5	40	18	.079	.635	.286	.714
103	4342	293	3579	470	.067	.824	.108	.892	106	.015	4	74	28	.038	.698	.264	.736
104	3044	425	2278	341	.140	.748	.112	.883	67	.014	5	38	24	.075	.567	.358	.642
105	3729	838	2396	495	.225	.643	.133	.867	95	.019	3	52	40	.032	.547	.421	.579
106	2899	489	1935	475	.169	.667	.164	.836	64	.017	5	41	18	.078	.641	.281	.719
Total:	19424	3084	14076	2264					462	.017	27	288	147	.058	.623	.318	.682
Avg :	3237	514	2346	377	.159	.725	.117	.883	77		4	48	24				
043	2489	181	1669	639	.073	.671	.257	.743	78	.017	3	37	38	.038	.474	.487	.513
044	3075	585	2184	306	.190	.710	.100	.900	80	.020	10	55	15	.125	.688	.188	.813
045	2666	415	1805	446	.156	.677	.167	.833	65	.019	3	35	27	.046	.538	.415	.585
046	5104	288	3599	1217	.056	.705	.238	.762	118	.017	5	82	31	.042	.695	.263	.737
047	3808	258	2817	733	.068	.740	.192	.808	73	.012	2	31	40	.027	.425	.548	.452
048	3844	530	2629	695	.138	.684	.178	.822	100	.019	1	42	57	.010	.420	.570	.430
049	2772	230	2000	542	.083	.722	.196	.804	40	.007	1	21	18	.025	.525	.450	.550
Total:	21269	2306	15034	3929					476	.015	22	266	188	.046	.559	.395	.605
Avg :	3544	384	2505	654	.108	.707	.185	.815	79		3	44	31				
Total:	20986	2257	14703	4026					514	.017	24	282	208	.047	.549	.405	.595
Avg :	3497	376	2450	671	.108	.701	.192	.808	85		4	47	34				

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ Percent of the total number of OAK Report ratings for the mission.  
 3/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.

OAK REPORT INTERPRETABILITY RATINGS -- 1/ COMMUNIST COUNTRIES -- ALL WEATHER -- ALL TARGETS -- ATMOSPHERICS

Mission Number	Number Ratings	Percent										Percent	
		CLEAR	SEMI-DARK-NESS-FREE	HEAVY CLDS-FREE	SCATTERED CLDS-FREE	CLD SHADOW-FREE	HAZE-FREE	SNCW-FREE	GOOD	GOOD & FAIR			
1101	4527	.770	.989	.956	.886	.962	.908	.992	.116	.749			
1102	2611	.821	.991	.985	.945	.977	.883	.462	.209	.827			
1103	6914	.659	.994	.951	.845	.927	.800	.982	.041	.672			
1104	4880	.644	.996	.944	.792	.911	.880	.999	.095	.687			
1105	5001	.790	.971	.977	.939	.980	.864	.702	.172	.725			
1106	3805	.788	.982	.989	.963	.990	.845	.363	.130	.715			
Total:	27733	.731	.988	.964	.885	.953	.857	.803	.115	.717			
Avg :	4623												
1043	4550	.577	.992	.922	.732	.904	.807	.990	.046	.527			
1044	4065	.788	.968	.974	.938	.972	.865	.962	.148	.759			
1045	3371	.837	.992	.987	.959	.981	.896	.369	.126	.733			
1046	7089	.764	.966	.966	.971	.923	.860	.648	.042	.626			
1047	6277	.627	.993	.941	.784	.892	.852	.994	.043	.623			
1048	5209	.770	.995	.953	.892	.938	.896	.995	.103	.668			
1049	5516	.528	.859	.976	.940	.975	.615	.697	.043	.480			
Total:	31527	.707	.960	.965	.899	.951	.826	.793	.075	.635			
Avg :	5254												
Total:	30561	.720	.984	.957	.857	.939	.861	.840	.077	.647			
Avg :	5093												

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.



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OAK REPORT INTERPRETABILITY RATINGS -- 1/ COMMUNIST COUNTRIES -- ALL WEATHER -- ALL TARGETS -- FIRST 25 OPERATIONAL REVIEWS

Mission Number	Number Ratings	Number			Percent			Percent	
		GOOD	FAIR	POOR	GOOD	FAIR	POOR	CLEAR	HAZE-FREE
1101	868	56	548	264	.065	.631	.304	.742	.933
1102	519	84	377	58	.162	.726	.112	.886	.909
1103	580	24	341	165	.041	.674	.284	.693	.867
1104	672	65	384	223	.097	.571	.332	.615	.930
1105	418	100	258	60	.239	.617	.144	.900	.947
1106	1093	168	610	315	.154	.558	.288	.774	.845
Total:	4550	497	2568	1085	.120	.619	.261	.757	.899
Avg :	691	82	428	180	.052	.505	.443	.495	.851
1043	959	50	484	425	.066	.643	.291	.657	.797
1044	364	24	234	106	.101	.686	.213	.888	.890
1045	564	57	387	120	.152	.591	.257	.748	.901
1046	868	132	513	223	.084	.247	.668	.572	.858
1047	558	47	138	373	.047	.593	.047	.731	.946
1048	405	19	240	146	.043	.374	.583	.394	.506
1049	770	33	288	449	.088	.510	.402	.654	.801
Total:	3529	312	1800	1417	.088	.537	.375	.667	.875
Avg :	588	52	300	236	.088	.537	.375	.667	.875
3/Total:	3718	329	1996	1393	.088	.537	.375	.667	.875
Avg :	619	54	332	232	.088	.537	.375	.667	.875

1/ Includes Communist Europe, Communist China, Soviet Union, North Korea, but excludes North Vietnam.  
 2/ Keyed on 1105. Represents first two days of 1105 during which 699 operational frames were taken. Is not necessarily equivalent to first two days of 1105 mission.  
 3/ With 1043 substituted for 1049 which was severely affected by adverse atmospheric.

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OAK REPORT INTERPRETABILITY RATINGS -- COMMUNIST COUNTRIES -- CLEAR ONLY -- 34 TARGETS

13 MISSIONS (1043 THROUGH 1106, i.e., SAME DATA AS PREVIOUS SORTS)

COMIREX NO.	TARGET	Number Missions	Number Ratings	Number Clear Only	Percent Clear	Percent			
						GOOD	FAIR	POOR	
	Tyuratam Launch Group G	11	16	14	.88	.571	.429	.000	1.000
	Tyuratam Launch Complex J	11	18	16	.89	.625	.250	.125	.875
	Kapustin Yar Launch Complex C	10	13	6	.50	.000	.667	.333	.667
	Kapustin Yar SAM MTR	10	12	7	.58	.000	1.000	.000	1.000
	Sary Shagan Launch Complex A	12	21	12	.57	.000	.750	.250	.750
	Sary Shagan Launch Complex B	12	20	13	.65	.077	.769	.154	.846
	Shuang Cheng Tzu Launch Complex B	10	14	13	.93	.231	.769	.000	1.000
	Shuang Cheng Tzu SAM Training Area L	10	17	15	.88	.067	.667	.267	.733
	Pei Ching GM Development Center	9	13	10	.77	.000	.600	.400	.600
	Severodvinsk Shipyard 402	8	10	6	.60	.167	.833	.000	1.000
	Vladivostok Submarine Base Ulsia Bay	9	12	8	.67	.125	.625	.250	.750
	Petrovka Naval Base & Shipyard	10	13	12	.92	.167	.750	.083	.917
	Moskva ABM Launch Complex EOS	8	9	5	.55	.000	1.000	.000	1.000
	Leningrad SAM Complex B 055	4	4	3	.75	.000	1.000	.000	1.000
	Tallinn SAM Complex B 285	1	1	0	.00	.000	.000	.000	.000
	Cherepovets SAM Complex A 115	8	8	3	.35	.000	.667	.333	.667
	Uzin Chepelevka AF	5	7	5	.71	.000	1.000	.000	1.000
	Baranovich AF	3	5	1	.20	.000	1.000	.000	1.000
	Kipelovo AF	6	11	2	.18	.000	.500	.500	.500
	Ramenskoye Flight Test Center	7	10	5	.50	.400	.400	.200	.800
	Shen Yang Airframe Plant 112	6	7	3	.43	.333	.333	.333	.666
	Lop Nor Nuclear Test Site Area 2	11	16	11	.69	.091	.818	.091	.909
	Novaya Zemlya Nuclear Wpns Proving Ground	3	3	3	1.00	.000	.000	.000	.000
	Semipalatinsk Nuclear Wpns Degelen UG Test Area 2	9	10	6	.60	.000	.833	.167	.833

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CONTROL SYSTEM ONLY

COMIREX NO.	TARGET	Number		Number Clear Only	Percent Clear	Percent			
		Missions	Number Ratings			GOOD	FAIR	POOR	GOOD&FA
	Chih Chin Hsia Plutonium Prod. Facility	7	8	7	.88	.143	.571	.286	.714
	Komsomolek Shipyard Amur 199	5	6	4	.67	.250	.750	.000	1.000
	Naro Fominsk ABM/Space Tracking Facility	6	7	6	.86	.167	.833	.000	1.000
	Gorkiy Sormovo Radar Assembly & Test Area	12	10	7	.70	.143	.857	.000	1.000
	Sary Shagan R&D Radar Facility 1	12	21	16	.76	.125	.750	.125	.875
	Sary Shagan R&D Radar Facility 2	12	20	17	.85	.118	.647	.235	.765
	Korosten Army Barracks Uzh AL 1	1	1	1	1.00	.000	1.000	.000	1.000
	Staro Konstantinov Army Barracks W	3	4	4	1.00	.000	.750	.250	.750
	Ulan Ude Army Barracks AL 1	4	5	3	.60	.000	1.000	.000	1.000
	Ping Hsiang Complex	5	6	2	.33	.000	.000	1.000	.000
Total of 34 Targets			347	243	.68	.160	.687	.152	.848

