

Box	Folder	Flight #	Date	Purpose	Pilot	Observer	Plane	Time	Location	Altitude (ft)	Student Participants				Additional Location	(some) Remarks	(some) Conclusions
UAV.416.214.2	6	1933_01	04-10-1933	"X-C Roosevelt Field, L.I. to Boston Municipal Airport with photographic airplane"	Lt. Phillips	n/a	F-71	n/a								"This airplane, a Fairchild 71 was chartered at Roosevelt for the purpose of instructing 20 students in the practical work of aerial photography"	"Airplane o.k."
UAV.416.214.2	6	1933_02	04-15-1933	"Introductory Flight"	Lt. Phillips	Weld Arnold	F-71	1430-1600	Cambridge, Mass	2,000						3 flights of 4 students each made to familiarize them with rules of safety, procedure and conduct. Some students had never flown before.	not copied
UAV.416.214.2	6	1933_03	04-16-1933	"Introductory Flights"	Lt. Phillips	Weld Arnold	F-71	1330-	Boston	600						"Same as flights of April 15.- Only 1 flight made on account of very poor weather, and being Easter could only get one group of 4 students together."	"17 students out of 20 flown and so will not make any more preliminary flights."
UAV.416.214.2	6	1933_04	04-19-1933	"Instruction in (a) Obliques, (b) Pin points and (c) strip photography."	Lt. Phillips	Weld Arnold	F-71	1245-1745	Cambridge, Mass	1,000-600 & 4,500	Students				Boston "along new highway construction"	(1-3) not copied "(4) At 5:30 Weld Arnold took nine obliques over Boston at 4,000-2,000' with various speeds and a-2 filter, also some obliques at 2,000' into sun along new highway construction"	"(1) Mr. Holcombe gave best performance in the air."
UAV.416.214.3	6	1933_05	04-20-1933	"Massachusetts Project"	Lt. Phillips	Weld Arnold	F-71	0935-1255	Strips #11 & 12	14,700						"(1) Flew stip #11 N --> S & #12 S-->N //(2) #11 poor. #12 good //(3) No oxygen and felt badly //(4) Think camera cut out on hole"	"(1) Have mount arms moved down a bit."
UAV.416.214.2	6	1933_06	04-20-1933	"Instruction in (a) Obliques, (b) Pinpoints and (c) Strip photography."	Lt. Phillips	W. Arnold	F-71	1400-1700	Cambridge, Mass	1,000 & 4,500	Students				North bank of Charles river	"(1) Took up 7 remaining students in 2 flights //(2) Took same obliques, pinpointes and strips as on April 19 //(3) Mr. Sears gave best performance in the air, so flew a strip down the N bank of the river at pilot's request"	n/a
UAV.416.214.2	6	1933_07	04-21-1933	"Instruction in Mapping Photography"	Lt. Phillips	W. Arnold	F-71	1220-1700	Framingham Quadrangle, Mass.	9,800	Students					not copied	"(1) Hole should be enlarged to allow camera to be lowered 2"-3" more"
UAV.416.214.2	6	1933_08	04-23-1933	"Instruction in Mapping Photography"	Lt. Phillips	Weld Arnold	F-71	0920-1600	Framingham Quadrangle, Mass.	9,800	Students					"(1) Camera hole reworked"	"(2) Camera hole o.k."
UAV.416.214.2	6	1933_09	04-24-1933	"Massachusetts Project"	Lt. Phillips	Weld Arnold	F-71	0900-1510	Western Mass	14,700						(1-3) not copied "(4) Camera hole enlarged"	not copied
UAV.416.214.2	6	1933_10	04-28-1933	"Massachusetts Project"	Lt. Phillips	Weld Arnold	F-71	0845-1635	Central Mass	14,700						not copied	"(1) Always use oxygen at this altitude if best work is desired."
UAV.416.214.2	6	1933_11	04-30-1933	"Massachusetts Project"	Lt. Phillips	Weld Arnold	F-71	0845-1630	Eastern Mass	14,700	David H. Pabst				Strawberry Point	not copied	n/a
UAV.416.214.2	6	1933_12	05-04-1933	"Massachusetts Project"	Lt. Phillips	Weld Arnold	F-71	0830-1630	Eastern Mass	14,700					Nantucket + Barnstable	not copied	n/a
UAV.416.214.2	6	1933_13	05-05-1933	"To secure misc. obliques & instruction in oblique & verticals"	Lt. Phillips	Weld Arnold	F-71	1315-1445	Cambridge, Mass	500-5,000	Miss Smith	Mr. Birney			Boston, Harvard U, Oak Ridge	not copied	not copied
UAV.416.214.2	11	1934_01	04-11-1934	"Flight Test of Airplane, Pilots and Camera"	Todd	Arnold, Phillips, Brooks, Snow	F-2W	0945-1045	"Boston"	1,000 + 5,000	Brooks	Snow				not copied	not copied
UAV.416.214.2	11	1934_02	04-12-1934	"Preliminary flight"	Snow	Arnold, (Phillips)	n/a	1540-1710	"Boston + Cambridge"	1,000 - 3,000						"1. Made 6 flights of 4 students each" and 1 flight of 2 students" (2. not copied)	n/a

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UAV.416.214.2	11	1934_28	04-28-1934	"Student Instruction in 5-len picture taking at 10,000 over Framingham quadrangle"	Ray Todd	Weld Arnold	NR4616	1523-1655	Framingham	9,000	Merriam	Hazeltine	Penrod	Little J.B.		not copied	n/a
UAV.416.214.2	11	1934_29	04-29-1934	"Student Instruction in 5-len picture taking at 10,000 over Framingham quadrangle"	Ray Todd	Weld Arnold	NR4616	0753-0930	Framingham	10,000	Lang	Baker	Smith	Walley		not copied	n/a
UAV.416.214.2	11	1934_30	04-29-1934	"Single-lens verticals of Pollock Rip Slip Channel and Nantucker Harbor entrance for District Engineer. Repeat Cape Cod Canal approach."	Joe Burnet	Weld Arnold	NR4616	n/a	Nantucket, Pollock Rip	10,000						not copied	n/a
UAV.416.214.2	11	1934_31	04-29-1934	"Dr. Raisz' Cape Cod proj. 5 lens at 10,000 (#3->#6)+7 Cape Cod Canal Buzzards Bay approach + canal single lens"	Crocker Snow	Weld Arnold	NR4616	1014-1343	Cape Cod	10,000						not copied	n/a
UAV.416.214.2	11	1934_32	04-30-1934	"5 lens photographs (A, B + C only) on Cape Cod project #1 & #2. Also Sourt sta. + yards, Oak Ridge + odd obliques"	Ray Todd	Weld Arnold	NR4616	0811-1100	"Cape Cod, Boston + Town of Harvard"	10,000 + 5,000						not copied	n/a
UAV.416.214.2	11	1934_33	05-01-1934	"Greater Boston area proj. 5-lens"	Phillips	Weld Arnold	NR4616	1125-1335	"Boston"	10,000					Stadium, Library, Institute (HUIGE)	not copied	n/a
UAV.416.214.2	11	1934_34	05-08-1934	"Single lens verticals of Cambridge and high obliques of sea coast"	Ray Todd	Weld Arnold	NR4616	0937-1137	"Boston + Mass, coast"	6,000 + 15,000-19,200						not copied	n/a
UAV.416.214.2	11	1934_35	05-10-1934	"Verticals at 5000 and low obliques at 600"	Ray Todd	Weld Arnold	NR4616	1347-1620	"Newport R.I."	5,000 + 600						"Verts at 5,000 for mosaic of Paradise-Purgatory section, sheep point, Fort Walcott + Newport. Then, obliques from 600-1000 feet of Rose Island, Gooseberry Is., bailey Beach and house along Bellevue Avenue."	n/a
UAV.416.214.2	14	1935_01	n/a	"Verticals - Eel River // Obliques - Plymouth Cohasset"	Ray Todd	Arnold + Whitman	NC222E	0900-1100	"See Remarks"	1,800						"Verticals = Eel River // Obliques = Cordage Plant - Plymouth // Plymouth Monument // Cohasset."	n/a
UAV.416.214.2	14	1935_02	n/a	"High Altitude Flight"	Ray Todd	Whitman	NC222E	about 1300	"Boston & Cambridge"	15,000 & 10,000 & 5,000						not copied	n/a
UAV.416.214.2	14	1935_03	n/a	"Verticals (Large Scale) of Cambridge)	Ray Todd	Whitman	NC222E	n/a	"Cambridge"	1,800						"Obliques - Medical School (H.U.) Boston // Hangars, Boston Airport // Downtown Boston - Gen'L // M.I.T. & School of Geo" (not all copied)	"Reply Cambridge Project at 3000!"
UAV.416.214.2	14	1935_04	03-14-1935	"To photograph Harbor + Channel"	Ray Todd	Arnold, Whitman	NC222E	n/a	"Boston"	5,000						not copied	not copied
UAV.416.214.2	14	1935_05	03-18-1935	"Student Instruction in Low Alt. Obliques 1st Student Flight"	Ray Todd	Arnold	Bellanca 222E	0844-0924	"Boston"	700-800	Fox	LaBoiteaux	Roach	Wentworth	Winthrop Watertower, Ft. Strong, Immigration Station, Governor Island fort	not copied	n/a

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UAV.416.214.2	14	1935_15	04-15-1935	"Student instruction in single lens pinpoints and strips at 5,000 feet with single lens camera"	Ray Todd	Arnold	Bellanca 222E	1000-1122	"Boston"	5,000	Bartol	Fox	LaBoiteaux		Airport circle, customs house & south station "for pinpoints"	not copied	n/a
UAV.416.214.2	14	1935_16	04-26-1935	"Student instruction in single lens pinpoints and strips at 5,000 with single lens camera"	Ray Todd	Weld Arnold	NR-148-H	0833-0934	"Boston"	5,000	Wentworth	Roach	Berry		Airport circle, customs house & south station "for pinpoints" + "strips over Boston"	not copied	n/a
UAV.416.214.2	14	1935_17	04-26-1935	"Student instruction in single lens pinpoints and strips with single lens camera at 5,000"	Ray Todd	Weld Arnold	NR-148-H	1048-1141	"Boston"	5,000	Hastings	Scheffey	Marsh		Airport circle, customs house & south station "for pinpoints"	not copied	n/a
UAV.416.214.2	14	1935_18	04-26-1935	"To test T-3A Camera (Elec. Shutters)"	Ray Todd	Whitman - Arnold	n/a	1213-1255	"Boston + Vic"	9,850						not copied	not copied
UAV.416.214.2	14	1935_19	04-26-1935	"Student instruction in single lens pinpoints and strips with single lens camera at 5,000"	Ray Todd	Weld Arnold	NR-148-H	1337-1451	"Boston"	5,000	Starr	Forbes	Foster		no pictures but, from "Failures in Air": "Filter became covered with cinders at take off due to illness on 2nd student flight. So no pictures."	not copied	n/a
UAV.416.214.2	14	1935_20	04-27-1935	"Student instruction in single lens pinpoints and strips at 5,000"	Ray Todd	Weld Arnold	NR-148-H	1059-1213	"Boston"	5,000	Rudd	Forster	Martin	Jarrell	Airport circle, customs house & south station "for pinpoints" + "strips over Boston"	not copied	n/a
UAV.416.214.2	14	1935_21	04-27-1935	"Student instruction in single lens pinpoints and strips at 5,000"	Ray Todd	Weld Arnold	NR-148-H	1238-1322	n/a	5,000	Purcell	Starr			Airport circle, customs house & south station "for pinpoints"	not copied	n/a
UAV.416.214.2	14	1935_22	04-27-1935	"Student instruction in 5-lens work"	Ray Todd	Weld Arnold	NR-148-H	1405-1553	"Plymouth"	10,000	Scheffey	Marsh	Forster	Perry		not copied	not copied
UAV.416.214.2	14	1935_23	04-29-1935	"Student instruction in 5-lens work"	Ray Todd	Weld Arnold	NR-148-H	0753-0911	"Plymouth"	10,000	Fox	LaBoiteaux				not copied	not copied
UAV.416.214.2	14	1935_24	04-29-1935	"Student instruction in single lens pinpoints and strips at 5,000"	Ray Todd	Weld Arnold	NR-148-H	1035-1103	"Boston"	5,000	Forbes				Airport circle, customs house & south station "for pinpoints"	not copied	n/a
UAV.416.214.2	14	1935_25	04-29-1935	"Student instruction in 5-lens work"	Ray Todd	Weld Arnold	NR-148-H	1224-1354	"Duxbury"	10,000	Starr	Martin	Forbes			not copied	n/a
UAV.416.214.2	14	1935_26	04-29-1935	"Student instruction in 5-lens work"	Ray Todd	Weld Arnold	NR-148-H	1408-1517	"Duxbury + North"	10,000	Purcell	Roach	Wentworth			not copied	n/a
UAV.416.214.2	14	1935_27	05-09-1935	"Miscellaneous Obliques for Test"	Ray Todd	Whitman	NR-148-H	1000-1111	"North Shore"	8,500 to 5,000					Newbury port, Cape Ann	"Following Photos Taken: Cape Ann from W-Side, Newbury Port from W-Side, Shore line S. to Cape Ann, Portsmouth E-Side, Newbury Port & Harbor E-Side Gen'l coast views E- Side, Newbury Port S-Side & Gen'l Lynn from E. Side"	n/a
UAV.416.214.2	14	1935_28	05-09-1935	"Coast Project - Advance Students"	Ray Todd	Whitman	NR-148-H	1000-1111	"Portsmouth , N.H."	8,500					"Flight not accomplished"	"Flight not accomplished"	n/a



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UAV.416. 214.2	14	1935_29	05-09-1935	"Large Verticals of Cambridge"	Ray Todd	Whitman	NR-148-H	1129-1506	"Cambridge"	3,000						not copied	n/a
UAV.416. 214.2	14	1935_30	05-11-1935	"Coastal Survey // Portsmouth, N.H. - Portland, ME"	Ray Todd	Rogers + Emmons	NR-148-H	0917-1135	"Portsmouth , N.H."	10,000 (9,800)	Rogers	Emmons			Exeter NH, Berwick NH, Rye NH, Webhannet, Isle of Shoals	"Order of Operations: Rogers - strip: Exeter, N.H. to Berwick N.H. So. To No. // Interval 25 sec. Crab = 15 ° E.// Emmons - Strip: Rye N.H. to Webhannet, N-H and Isle of Shoals. Interval 30 sec. Crab 13°E." (rest not copied)	n/a
UAV.416. 214.2	14	1935_31	05-11-1935	"Duxbury Quad (36b)"	Ray Todd	Jarrell	NR-148-H	1345-1430	"Duxbury & Vic."	8,000	Jarrell					not copied	n/a
UAV.416. 214.2	14	1935_32	05-11-1935	"Obliques mission"	Ray Todd	Whitman	NR-148-H	1459-1600	"Boston & Vic."	1,000					Airport (E. Boston), S. Boston, School of Geography, Business School + Eliot, Arlington, M.I.T., Crew Race, Airport.	"Photos taken: Airport (E. Boston), S. Boston, School of Geography, Business School + Eliot, Arlington, M.I.T., Crew Race, Airport"	n/a
UAV.416. 214.2	14	1935_33	05-12-1935	"Portland Strip // Duxbury Quad"	Ray Todd	Atwood	NR-148-H	1144-1435	"Duxbury & Vic."	10,000 (9,900)					Cape Ann, Essex Harbor, Plum Island, Cape Cod, Great Bay, Newbury Port, General Marblehead, Nahant, Duxbury Quad, Plymouth Harbor, Cape Cod Canal, Martha Mills Airport, Provincetown.	"So. Side Cape Ann, No. Side Cape Ann, Essex Harbor, Shoreline & Plum Island, Plum Island, Cape Ann - Cape Cod, Great Bay, Newbury Port, General. Marblehead, Nahant, Cape Ann + N. Shore. Proceeded So. To Duxbury Quad. Strip N. to S. (See flight map) Interval 20 sec. crab 18 (Deg) E. // Obliques: Plymouth Harbor, Cape Cod Canal, Martha Mills Airport, C.C., Provincetown" (not all copied)	n/a
UAV.416. 214.2	14	1935_34	05-13-1935	"Coastal Survey // Kennebunk River to Portland"	Ray Todd	Whitman	NR-148-H	1014-1136	"Portsmouth , N.H."	8,500						not copied	n/a
UAV.416. 214.2	14	1935_35	05-15-1935	"Coastal Survey // Webhannet ME - Portland Cape Elizabeth"	Ray Todd	Atwood, HEW	NR-148-H	0850-1250	"Portland, ME"	10,000					Webhannet, Biddeford, Cape Elizabeth, Point N. Portland to Point approx. Scarborough River, Cape Porpoise and Fletchers Neck	"1st strip - Webhannet - Biddeford // 2nd strip - Cape Elizabeth // 3rd strip - Point N. Portland - Point app. Scarbors River // 4th strip - Cape Porpoise and Fletchers Neck" (not all copied)	n/a
UAV.416. 214.2	14	1935_36	05-15-1935	"Coastal Survey // Portsmouth, N.H. - Portland, ME"	Ray Todd	Atwood, HEW	NR-148-H	1455-1702	"Cape Porpoise"	10,000					Cape Porpoise, Biddeford, Scarborough River, Portsmouth N.H.	"1st strip - Cape Porpoise and Fletcher Neck // 2nd strip - Biddeford to point app. Mouth of Scarbor. river // 3rd strip - Portsmouth N.H. to about So. Line or area // (Note: This is a re-photo to fill in on account of clouds on previous flight.)" (not all copied)	n/a
UAV.416. 214.2	14	1935_37	05-16-1935	"Geography 36-B Student instruction flight Abington (?)"	Ray Todd	Bartol - Rudd - H.E.W.	NR-148-H	0911-1122	n/a	10,000	Bartol, Rudd				North Silver Lake, Scituate Harbor, Rockland to Robbins Lake, Long Lake	not copied	n/a
UAV.416. 214.2	14	1935_38	05-16-1935	"Verticals of Eel River and Cambridge"	Ray Todd	Whitman	NR-148-H	1510-1656	"See Purpose"	6,000					Eel River, Long Lake, Cambridge Business school to Jarvis St., Boston Airport	not copied	n/a

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UAV.416. 214.2	22		04-25-1936	"Student instruction - Vertical Strips"	Sutherland	Whitman	NC145H	0850-0910	"Boston"	2,000	Green	Howe			"No photography"	not copied	n/a
UAV.416. 214.2	22		04-25-1936	"To secure photographs Alton Bay region"	Sutherland	Whitman	NC145H	0920-1145	"Alton Bay, N.H."	14,300					Lake Winnapasaukee to Mt. Washington (among others)	not copied	n/a
UAV.416. 214.2	22		04-26-1936	"Student Instruction in Vertical Strips"	Sutherland	Whitman	NC145H	0900-1215	"Webster, Mass"	10,500	Howard	Green	Spinney			not copied	n/a
UAV.416. 214.2	22		05-01-1936	"T-1A Strips, Student Instruction"	Sutherland	Whitman	NC145H	1250-1330	"Cape Ann"	5,000	Howard	Green				not copied	n/a
UAV.416. 214.2	22		05-02-1936	"To secure Oblique Photographs of Boston from Savin Hill."	Sutherland	Whitman	NC145H	n/a	"Boston"	1,500	Howard	Green	Spinney			not copied	n/a
UAV.416. 214.2	22		05-02-1936	"Student Instruction with T-3A Vertical Strips"	Sutherland	Whitman	NC145H	0915-1320	"Cape Ann"	10,100	Howard	Green	Spinney		Salem quad., Lawrence quad, Gloucester	not copied	n/a