

Lidar Mapping Report for the U.S. Geological Survey - WU 300158
 Task Order: # 140G0222F0098 – MN Central Miss River B22

Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_1560iIS_30ppsm	

Mission Name	S2223061_20220515_F1	Mission Notes
Mission Date	5/15/2022	N704MD acquired 12 passes on the 30ppsm prior to TFR activating. We were unable to climb for the 8ppsm due to cue at 7K.
Aircraft	N704MD	
Pilot	Tony Kainz	
Co-Pilot		
Operator	James Schoone	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	9:03:00 AM	
Arrival (Local Time)	12:34:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
Test fire	SW	14:18:33	14:18:45	168.8	
30038	N	14:26:39	14:38:15	140.9	
30039	S	14:40:59	14:52:04	144.6	
30040	N	14:55:14	15:06:23	143.6	
30041	S	15:08:57	15:20:12	145.4	
30042	N	15:22:58	15:34:39	142.9	
30043	S	15:37:38	15:49:00	140.9	Light Turb
30044	N	15:51:54	16:03:04	143.3	Moderate Turb
30045	S	16:06:13	16:17:20	141.2	Moderate Turb
30046	N	16:20:47	16:31:42	140.7	Moderate Turb
30047	S	16:34:25	16:45:13	142.0	Moderate Turb
30048	N	16:47:59	16:58:55	140.5	Moderate Turb
30049	S	17:01:36	17:12:34	140.8	Moderate Turb
Cross Tie	SW	17:17:03	17:19:14	148.5	Moderate Turb

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Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_1560iis_30ppsm	

Mission Name	S2223061_20220516_F1	Mission Notes
Mission Date	5/16/2022	This flight completes this block.
Aircraft	N704MD	
Pilot	Tony Kainz	
Co-Pilot		
Operator	James Schoone	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	10:04:00 AM	
Arrival (Local Time)	1:51:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
Test Fire	SW	15:11:26	15:11:38	143.7	
30050	S	15:21:39	15:32:18	138.1	
30051	N	15:35:13	15:45:40	139.3	
30052	S	15:48:34	15:58:27	142.2	
30053	N	16:01:43	16:11:25	141.8	
30054	S	16:14:26	16:23:54	141.9	
30055	N	16:27:05	16:36:47	138.5	
30056	S	16:39:51	16:48:33	143.6	
30057	N	16:51:20	16:59:53	138.1	
30058	S	17:04:02	17:10:25	144.5	
30059	N	17:12:57	17:19:51	138.1	
30060	S	17:22:35	17:29:12	144.4	
30061	N	17:31:30	17:38:07	139.4	
30062	S	17:40:34	17:47:04	141.8	
30063	N	17:49:31	17:56:07	134.9	
30064	S	17:58:30	18:04:35	140.3	
30065	N	18:06:49	18:10:57	136.9	
30066	S	18:13:36	18:15:44	144.4	
30067	N	18:18:20	18:19:42	130.0	
30068	SW	18:23:05	18:34:18	149.0	
30068	E	18:36:20	18:40:44	161.0	

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Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_1560iIS_30ppsm	

Mission Name	S2223546_20220510_F1	Mission Notes
Mission Date	5/10/2022	Flew lines inside the MSP bravo airspace working the 30ppsm plan from west to east.
Aircraft	N840JA	
Pilot	Creston Saul	
Co-Pilot		
Operator	Kevin Olsonawski	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	9:25:00 AM	
Arrival (Local Time)	2:47:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
30001	S	14:48:13	14:49:48	150.2	Pretty strong wind out of North.
30002	N	14:52:43	14:58:47	126.3	~125-130knots sp on northbound most of day
30003	S	15:00:58	15:06:40	140.7	~145-150knots sp on southbound most of day
30004	N	15:09:09	15:15:37	123.6	
30005	S	15:17:47	15:23:13	147.7	
30006	N	15:25:33	15:32:44	125.3	
30007	S	15:34:40	15:34:44	186.6	Came in offcenter
30007	S	15:38:49	15:45:07	147.4	
30008	N	15:47:38	15:55:11	123.0	
30009	S	15:57:36	16:04:15	149.6	
30010	N	16:06:36	16:14:50	124.9	
30011	S	16:17:40	16:24:50	147.7	
30012	N	16:27:44	16:37:58	119.4	
30013	S	16:40:28	16:48:42	148.3	
30014	N	16:51:25	17:01:30	124.3	
30015	S	17:06:30	17:14:58	147.9	
30016	N	17:17:29	17:27:38	123.4	
30017	S	17:29:47	17:38:13	148.9	
30018	N	17:41:18	17:51:19	125.3	
30019	S	17:53:22	18:01:50	148.3	
30020	N	18:04:28	18:14:34	127.3	
30021	S	18:16:41	18:25:41	144.5	
30022	N	18:28:05	18:37:55	131.0	
30023	S	18:40:17	18:49:11	144.5	
30024	N	18:51:43	19:03:12	130.7	picking up minor-moderate turb
30025	S	19:05:46	19:16:05	145.2	
30025	SW	19:18:24	19:23:04	142.5	Crossline 191824

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Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_1560iIS_30ppsm	

Mission Name	S2223546_20220513_F1	Mission Notes
Mission Date	5/13/2022	Turbulent the whole flight.
Aircraft	N840JA	
Pilot	Kale Young	
Co-Pilot		
Operator	Justen Maxey	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	10:15:00 AM	
Arrival (Local Time)	3:00:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
30026	N	15:36:15	15:47:03	139.0	
30026	S	15:52:59	16:04:28	130.8	
30027	N	16:13:11	16:26:05	138.7	
30028	S	16:31:59	16:45:48	129.4	
30029	N	16:53:53	17:07:22	132.9	
30030	S	17:13:21	17:26:51	132.5	
30031	N	17:33:29	17:46:38	136.0	
30032	S	17:53:03	18:06:38	131.7	
30033	N	18:13:39	18:26:01	135.6	
30034	S	18:31:28	18:43:21	135.5	
30035	N	18:49:26	19:01:01	139.1	
30036	S	19:06:25	19:18:11	136.7	
30037	N	19:24:08	19:35:54	136.8	
xline	SW	19:38:53	19:41:53	116.9	

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 Task Order: # 140G0222F0098 – MN Central Miss River B22

Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_780iS_30ppsm	

Mission Name	SN7277_20220504_F1	Mission Notes
Mission Date	5/4/2022	Crew of N22TE acquired 25 lines of 39833 MN3DEP 30ppms AOI south of Saint Cloud, MN during a single lift on Wednesday, May 5th utilizing Riegl VQ 780iS/SN7277. ELT for aircraft (N22TE) arrived at Signature FBO.
Aircraft	N22TE	
Pilot	Peter Ludolph	
Co-Pilot		
Operator	Gary Tao	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	9:11:00 AM	
Arrival (Local Time)	3:14:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
30114	SW	14:30:23	14:37:22	116.9	Clear, WestBound
TestRecording	SW	14:38:29	14:38:46	124.4	Test
TestRecording	SW	14:39:37	14:39:54	123.6	Test
TestRecording	SW	14:40:17	14:40:23	130.6	Test
30115	E	14:44:53	14:51:42	116.9	Clear, EastBound
30116	SW	14:55:19	15:02:22	119.4	Clear, WestBound
30117	E	15:06:09	15:13:29	114.8	Clear, EastBound
30118	SW	15:17:08	15:24:22	118.5	Clear, WestBound
30119	E	15:27:42	15:35:13	113.9	Clear, EastBound
30121	SW	15:38:22	15:45:53	118.2	Clear, WestBound, Inadvertently Skipped line 30120
30120	E	15:49:43	15:57:33	113.5	Clear, EastBound
30122	SW	16:01:12	16:08:57	118.9	Clear, WestBound
30123	E	16:12:09	16:20:09	115.1	Clear, EastBound
30124	SW	16:23:30	16:31:47	119.2	Clear, WestBound, Light Turbulence
30125	E	16:35:04	16:43:44	113.7	Clear, EastBound, Light Turbulence
30126	SW	16:46:55	16:55:37	121.0	Clear, WestBound, ModerateTurbulence
30127	E	16:58:59	17:08:13	114.3	Clear, EastBound, ModerateTurbulence
30128	SW	17:11:35	17:20:54	117.9	Clear, WestBound, ModerateTurbulence
30129	E	17:24:48	17:34:14	116.5	Clear, EastBound, ModerateTurbulence
30130	SW	17:37:39	17:47:05	116.5	Clear, WestBound, ModerateTurbulence
30131	E	17:50:28	18:00:02	115.0	Clear, EastBound, ModerateTurbulence
30132	SW	18:03:33	18:13:25	116.2	Clear, WestBound, ModerateTurbulence
30133	E	18:16:51	18:26:45	116.0	Clear, EastBound, Light Turbulence
30134	SW	18:30:08	18:39:59	116.8	Clear, WestBound, Light Turbulence
30135	E	18:44:12	18:55:20	114.9	Clear, EastBound, Light Turbulence
30136	SW	18:59:04	19:10:00	116.9	Clear, WestBound, ModerateTurbulence
30137	E	19:12:52	19:24:34	112.2	Clear, EastBound, Light Turbulence
30138	SW	19:28:02	19:40:08	116.6	Clear, WestBound, ModerateTurbulence XTIE @ 195051 SouthBound
XTIE	S	19:50:51	19:55:45	118.8	XTIE @ 195051 SouthBound

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Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_780iS_30ppsm	

Mission Name	SN7277_20220505_F1	Mission Notes
Mission Date	5/5/2022	Crew of N22TE acquired 18 lines (30ppsm) of PO39833 MN 3DEP Central Mississippi during single lift on Thursday, May 5th, 2022 utilizing Riegl 780iS/SN7277.
Aircraft	N22TE	
Pilot	Peter Ludolph	
Co-Pilot		
Operator	Gary Tao	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	9:25:00 AM	
Arrival (Local Time)	3:19:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
30139	SW	14:44:38	14:56:44	116.5	Clear, WestBound, ***RPP inadvertently named as 20220504 rather than 20220505**
30140	E	15:00:33	15:14:04	104.0	Clear, EastBound, ***RPP inadvertently named as 20220504 rather than 20220505**
30141	SW	15:16:34	15:28:40	116.4	Clear, WestBound, ***RPP inadvertently named as 20220504 rather than 20220505**
30142	E	15:33:15	15:46:56	107.6	Clear, EastBound, ***RPP inadvertently named as 20220504 rather than 20220505**
30143	SW	15:50:04	16:02:55	114.7	Clear, WestBound, ***RPP inadvertently named as 20220504 rather than 20220505**
30144	E	16:06:10	16:19:54	109.7	Clear, EastBound, Moderate Turbulence , ***RPP inadvertently named as 20220504 rather than 20220505**
30145	SW	16:22:38	16:35:43	115.1	Clear, WestBound, Moderate Turbulence, ***RPP inadvertently named as 20220504 rather than 20220505**
30146	E	16:39:11	16:52:49	108.1	Clear, EastBound, Moderate Turbulence , ***RPP inadvertently named as 20220504 rather than 20220505**
30147	SW	16:56:10	17:09:00	114.9	Clear, WestBound, Moderate Turbulence, ***RPP inadvertently named as 20220504 rather than 20220505**
30148	E	17:12:44	17:27:05	107.0	Clear, EastBound, Heavy Turbulence , ***RPP inadvertently named as 20220504 rather than 20220505**
30149	SW	17:30:06	17:43:37	113.8	Clear, WestBound, Moderate Turbulence, ***RPP inadvertently named as 20220504 rather than 20220505**
30150	E	17:46:48	18:01:15	106.4	Clear, EastBound, Moderate Turbulence , ***RPP inadvertently named as 20220504 rather than 20220505**
30151	SW	18:04:07	18:17:47	114.7	Clear, WestBound, Moderate Turbulence, ***RPP inadvertently named as 20220504 rather than 20220505**. Possible smoke @ 6.5 NM FEE
30152	E	18:21:21	18:36:14	105.4	Clear, EastBound, Moderate Turbulence , ***RPP inadvertently named as 20220504 rather than 20220505**
30153	SW	18:39:22	18:53:15	115.3	Clear, WestBound, Moderate Turbulence, ***RPP inadvertently named as 20220504 rather than 20220505**
30154	E	18:56:44	19:11:37	107.5	Clear, EastBound, Moderate Turbulence , ***RPP inadvertently named as 20220504 rather than 20220505**. Possible smoke from field burn.
30155	SW	19:14:33	19:28:16	116.8	Clear, WestBound, Moderate Turbulence, ***RPP inadvertently named as 20220504 rather than 20220505**
30156	E	19:31:12	19:46:08	107.4	Clear, EastBound, Moderate Turbulence , ***RPP inadvertently named as 20220504 rather than 20220505**
XTIE	S	19:50:33	19:55:12	110.6	XTIE @ 195033

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Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_780iS_30ppsm	

Mission Name	SN7277_20220506_F1	Mission Notes
Mission Date	5/6/2022	Crew of N22TE acquired 16 lines (30ppsm) of P039833 MN 3DEP AOI near St. Cloud, MN during a single lift on May 6th, 2022 utilizing Riegl VQ-780iS SN/7277.
Aircraft	N22TE	
Pilot	Peter Ludolph	
Co-Pilot		
Operator	Gary Tao	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	9:03:00 AM	
Arrival (Local Time)	3:02:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
30157	SW	14:23:15	14:37:28	115.2	Clear, WestBound
30158	E	14:40:42	14:56:39	102.5	Clear, EastBound
30159	SW	14:59:49	15:14:16	115.4	Clear, WestBound
30160	E	15:18:02	15:34:42	100.0	Clear, EastBound
30161	SW	15:37:28	15:51:50	118.1	Clear, WestBound
30162	E	15:55:13	16:12:43	97.1	Clear, EastBound, Slight Turbulence
30163	SW	16:15:49	16:30:29	117.9	Clear, WestBClear,WestBound, Slight Turbulenceound
30164	E	16:33:48	16:51:19	98.8	Clear, EastBound, Moderate Turbulence
30165	SW	16:54:27	17:09:34	114.4	Clear,WestBound, Moderate Turbulence
30166	E	17:13:16	17:30:28	100.5	Clear, EastBound, Heavy Turbulence
30167	SW	17:33:10	17:48:19	114.3	Clear,WestBound, Heavy Turbulence
30168	E	17:52:02	18:09:12	100.7	Clear, EastBound, Heavy Turbulence
30169	SW	18:12:26	18:27:44	113.2	Clear,WestBound, Heavy Turbulence
30170	E	18:31:41	18:48:40	101.9	Clear, EastBound, Heavy Turbulence
30171	SW	18:51:57	19:07:16	113.1	Clear,WestBound, Heavy Turbulence
30172	E	19:10:47	19:27:43	102.2	Clear, EastBound, Heavy Turbulence
XTIE	S	19:33:24	19:37:39	111.9	SouthBound CrossTie@193324

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Flightplan	39833_MN3DEP_1560iIS_30ppsm	

Mission Name	S2223061_20220516_F1	Mission Notes
Mission Date	5/16/2022	This flight completes this block.
Aircraft	N704MD	
Pilot	Tony Kainz	
Co-Pilot		
Operator	James Schoone	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	10:04:00 AM	
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Test Fire	SW	15:11:26	15:11:38	143.7	
30050	S	15:21:39	15:32:18	138.1	
30051	N	15:35:13	15:45:40	139.3	
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30054	S	16:14:26	16:23:54	141.9	
30055	N	16:27:05	16:36:47	138.5	
30056	S	16:39:51	16:48:33	143.6	
30057	N	16:51:20	16:59:53	138.1	
30058	S	17:04:02	17:10:25	144.5	
30059	N	17:12:57	17:19:51	138.1	
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30062	S	17:40:34	17:47:04	141.8	
30063	N	17:49:31	17:56:07	134.9	
30064	S	17:58:30	18:04:35	140.3	
30065	N	18:06:49	18:10:57	136.9	
30066	S	18:13:36	18:15:44	144.4	
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Flightplan	39833_MN3DEP_1560iIS_30ppsm	

Mission Name	S2223546_20220510_F1	Mission Notes
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Pilot	Creston Saul	
Co-Pilot		
Operator	Kevin Olsonawski	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
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Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
30001	S	14:48:13	14:49:48	150.2	Pretty strong wind out of North.
30002	N	14:52:43	14:58:47	126.3	~125-130knots sp on northbound most of day
30003	S	15:00:58	15:06:40	140.7	~145-150knots sp on southbound most of day
30004	N	15:09:09	15:15:37	123.6	
30005	S	15:17:47	15:23:13	147.7	
30006	N	15:25:33	15:32:44	125.3	
30007	S	15:34:40	15:34:44	186.6	Came in offcenter
30007	S	15:38:49	15:45:07	147.4	
30008	N	15:47:38	15:55:11	123.0	
30009	S	15:57:36	16:04:15	149.6	
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30011	S	16:17:40	16:24:50	147.7	
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30013	S	16:40:28	16:48:42	148.3	
30014	N	16:51:25	17:01:30	124.3	
30015	S	17:06:30	17:14:58	147.9	
30016	N	17:17:29	17:27:38	123.4	
30017	S	17:29:47	17:38:13	148.9	
30018	N	17:41:18	17:51:19	125.3	
30019	S	17:53:22	18:01:50	148.3	
30020	N	18:04:28	18:14:34	127.3	
30021	S	18:16:41	18:25:41	144.5	
30022	N	18:28:05	18:37:55	131.0	
30023	S	18:40:17	18:49:11	144.5	
30024	N	18:51:43	19:03:12	130.7	picking up minor-moderate turb
30025	S	19:05:46	19:16:05	145.2	
30025	SW	19:18:24	19:23:04	142.5	Crossline 191824

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Flightplan	39833_MN3DEP_1560iIS_30ppsm	

Mission Name	S2223061_20220515_F1	Mission Notes
Mission Date	5/15/2022	N704MD acquired 12 passes on the 30ppsm prior to TFR activating. We were unable to climb for the 8ppsm due to cue at 7K.
Aircraft	N704MD	
Pilot	Tony Kainz	
Co-Pilot		
Operator	James Schoone	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	9:03:00 AM	
Arrival (Local Time)	12:34:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
Test fire	SW	14:18:33	14:18:45	168.8	
30038	N	14:26:39	14:38:15	140.9	
30039	S	14:40:59	14:52:04	144.6	
30040	N	14:55:14	15:06:23	143.6	
30041	S	15:08:57	15:20:12	145.4	
30042	N	15:22:58	15:34:39	142.9	
30043	S	15:37:38	15:49:00	140.9	Light Turb
30044	N	15:51:54	16:03:04	143.3	Moderate Turb
30045	S	16:06:13	16:17:20	141.2	Moderate Turb
30046	N	16:20:47	16:31:42	140.7	Moderate Turb
30047	S	16:34:25	16:45:13	142.0	Moderate Turb
30048	N	16:47:59	16:58:55	140.5	Moderate Turb
30049	S	17:01:36	17:12:34	140.8	Moderate Turb
Cross Tie	SW	17:17:03	17:19:14	148.5	Moderate Turb

Lidar Mapping Report for the U.S. Geological Survey - WU 300158
 Task Order: # 140G0222F0098 – MN Central Miss River B22

Project	947122-R039833.00	MN_CentralMissRiver_B22 (Woolpert)
Flightplan	39833_MN3DEP_1560iIS_30ppsm	

Mission Name	S2223546_20220513_F1	Mission Notes
Mission Date	5/13/2022	Turbulent the whole flight.
Aircraft	N840JA	
Pilot	Kale Young	
Co-Pilot		
Operator	Justen Maxey	
Co-Operator		
Vendor	NV5 Geospatial	
Base Airport	KSTP	
Departure (Local Time)	10:15:00 AM	
Arrival (Local Time)	3:00:00 PM	

Line	Heading	Start Time (UTC)	Stop Time (UTC)	Speed (kt)	Notes
30026	N	15:36:15	15:47:03	139.0	
30026	S	15:52:59	16:04:28	130.8	
30027	N	16:13:11	16:26:05	138.7	
30028	S	16:31:59	16:45:48	129.4	
30029	N	16:53:53	17:07:22	132.9	
30030	S	17:13:21	17:26:51	132.5	
30031	N	17:33:29	17:46:38	136.0	
30032	S	17:53:03	18:06:38	131.7	
30033	N	18:13:39	18:26:01	135.6	
30034	S	18:31:28	18:43:21	135.5	
30035	N	18:49:26	19:01:01	139.1	
30036	S	19:06:25	19:18:11	136.7	
30037	N	19:24:08	19:35:54	136.8	
xline	SW	19:38:53	19:41:53	116.9	