



**VEHICLE FACTORS GROUP CHAIRMAN'S
FACTUAL REPORT**

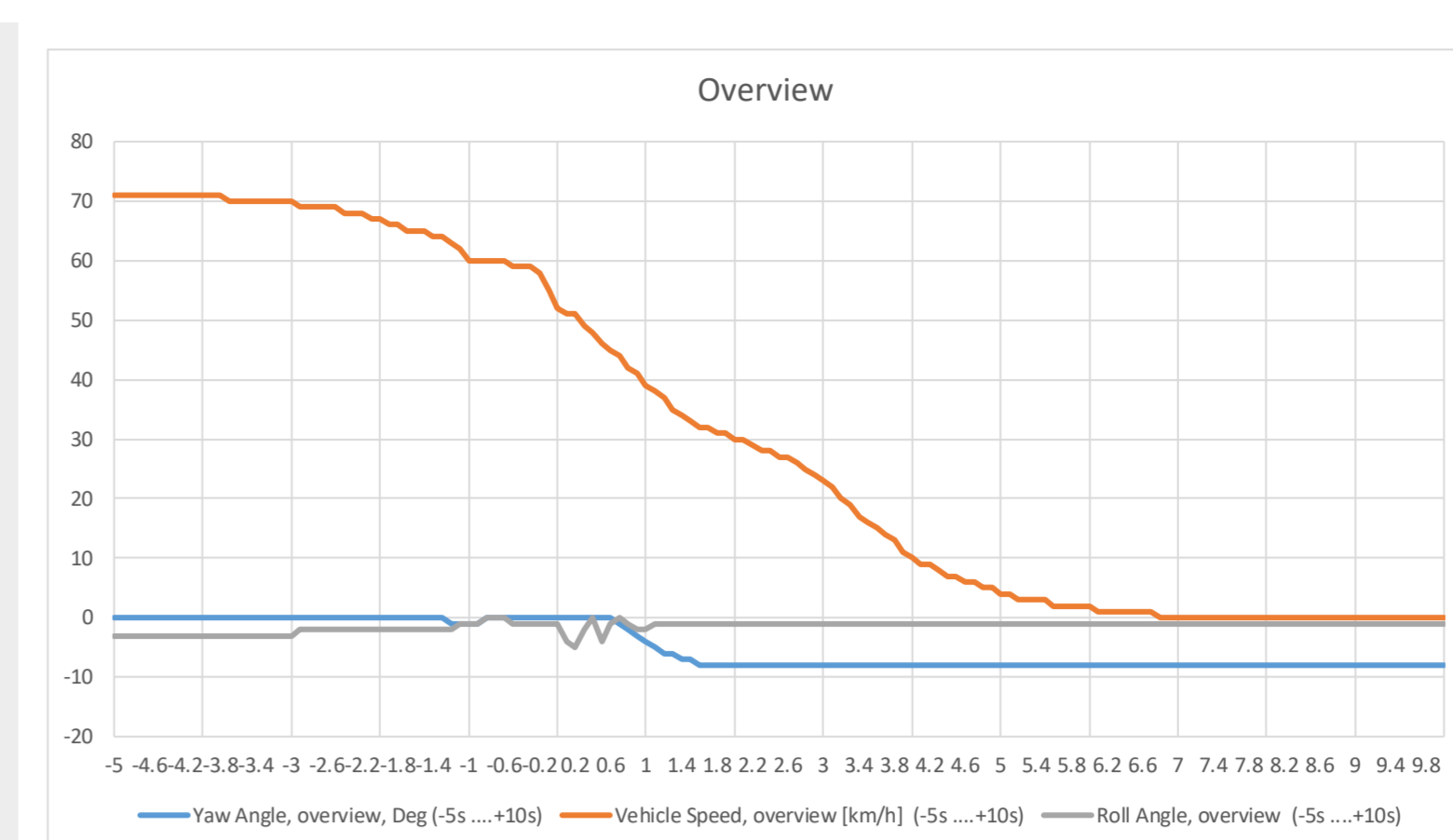
Vehicle Attachment – Volvo EDR Data

Tempe, Arizona

HWY18MH010

(4 pages)

Sampling 10 Hz				Sampling 0.5 Hz			
Yaw Angle, overview, Deg [-5s ...+10s]	Vehicle Speed, overview [km/h] [-5s ...+10s]	Roll Angle, overview [-5s ...+10s]	time [s]	Speed, vehicle indicated [km/h]	Time [s]	Engine throttle, % full (or accelerator pedal),	Time [s]
0	71	-3	-5	44.12678682	71	0	0
0	71	-3	-4.9	44.12678682	71	0	-0.5
0	71	-3	-4.8	44.12678682	71	0	-1
0	71	-3	-4.7	43.50528278	70	0	-1.5
0	71	-3	-4.6	43.50528278	70	0	-2
0	71	-3	-4.5	42.88377874	69	0	-2.5
0	71	-3	-4.4	41.64077067	67	0	-3
0	71	-3	-4.3	40.39776299	65	0	-3.5
0	71	-3	-4.2	37.91376649	61	0	-4
0	71	-3	-4.1	37.29024239	60	0	-4.5
0	71	-3	-4	33.56121815	54	0	-5
0	71	-3	-3.9	0	0	0	-4.5
0	71	-3	-3.8	0	0	0	-4
0	70	-3	-3.7	0	0	0	-3.5
0	70	-3	-3.6	0	0	0	-3
0	70	-3	-3.5	0	0	0	-2.5
0	70	-3	-3.4	0	0	0	-2
0	70	-3	-3.3	0	0	0	-1.5
0	70	-3	-3.2	0	0	0	-1
0	70	-3	-3.1	0	0	0	-0.5
0	70	-3	-3	0	0	0	0
0	69	-2	-2.9	0	0	0	-0.5
0	69	-2	-2.8	0	0	0	0
0	69	-2	-2.7	0	0	0	-0.5
0	69	-2	-2.6	0	0	0	-1
0	68	-2	-2.5	0	0	0	-1.5
0	68	-2	-2.4	0	0	0	-2
0	68	-2	-2.3	0	0	0	-2.5
0	68	-2	-2.2	0	0	0	-3
0	67	-2	-2.1	0	0	0	-3.5
0	67	-2	-2	0	0	0	-4
0	66	-2	-1.9	0	0	0	-4.5
0	66	-2	-1.8	0	0	0	-5
0	65	-2	-1.7	0	0	0	-4.5
0	65	-2	-1.6	0	0	0	-4
0	64	-2	-1.5	0	0	0	-3.5
0	64	-2	-1.4	0	0	0	-3
0	63	-2	-1.3	0	0	0	-2.5
-1	63	-2	-1.2	0	0	0	-2
-1	62	-1	-1.1	0	0	0	-1.5
-1	60	-1	-1	0	0	0	-1
-1	60	-1	-0.9	0	0	0	-0.5
0	60	0	-0.8	0	0	0	0
0	60	0	-0.7	0	0	0	-0.5
0	60	0	-0.6	0	0	0	-1
0	59	-1	-0.5	0	0	0	-1.5
0	59	-1	-0.4	0	0	0	-2
0	59	-1	-0.3	0	0	0	-2.5
0	58	-1	-0.2	0	0	0	-3
0	55	-1	-0.1	0	0	0	-3.5
0	52	-1	0	0	0	0	-4
0	51	-4	0.1	0	0	0	-4.5
0	51	-5	0.2	0	0	0	-5
0	49	-2	0.3	0	0	0	-4.5
0	48	0	0.4	0	0	0	-4
0	46	4	0.5	0	0	0	-3.5
0	45	-1	0.6	0	0	0	-3
-1	44	0	0.7	0	0	0	-2.5
-2	42	-1	0.8	0	0	0	-2
-3	41	-2	0.9	0	0	0	-1.5
-4	39	-2	1	0	0	0	-1
-5	38	-1	1.1	0	0	0	-0.5
-6	37	-1	1.2	0	0	0	0
-6	35	-1	1.3	0	0	0	0.5
-7	34	-1	1.4	0	0	0	1
-7	33	-1	1.5	0	0	0	1.5
-8	32	-1	1.6	0	0	0	2
-8	32	-1	1.7	0	0	0	2.5
-8	31	-1	1.8	0	0	0	3
-8	31	-1	1.9	0	0	0	3.5
-8	30	-1	2	0	0	0	4
-8	30	-1	2.1	0	0	0	4.5
-8	29	-1	2.2	0	0	0	5
-8	28	-1	2.3	0	0	0	5.5
-8	28	-1	2.4	0	0	0	6
-8	27	-1	2.5	0	0	0	6.5
-8	27	-1	2.6	0	0	0	7
-8	26	-1	2.7	0	0	0	7.5
-8	25	-1	2.8	0	0	0	8
-8	24	-1	2.9	0	0	0	8.5
-8	23	-1	3	0	0	0	9
-8	22	-1	3.1	0	0	0	9.5
-8	20	-1	3.2	0	0	0	10
-8	19	-1	3.3	0	0	0	10.5
-8	17	-1	3.4	0	0	0	11
-8	16	-1	3.5	0	0	0	11.5
-8	15	-1	3.6	0	0	0	12
-8	14	-1	3.7	0	0	0	12.5
-8	13	-1	3.8	0	0	0	13
-8	11	-1	3.9	0	0	0	13.5
-8	10	-1	4	0	0	0	14
-8	9	-1	4.1	0	0	0	14.5
-8	9	-1	4.2	0	0	0	15
-8	8	-1	4.3	0	0	0	15.5
-8	7	-1	4.4	0	0	0	16
-8	7	-1	4.5	0	0	0	16.5
-8	6	-1	4.6	0	0	0	17
-8	6	-1	4.7	0	0	0	17.5
-8	5	-1	4.8	0	0	0	18
-8	5	-1	4.9	0	0	0	18.5
-8	4	-1	5	0	0	0	19
-8	4	-1	5.1	0	0	0	19.5
-8	3	-1	5.2	0	0	0	20
-8	3	-1	5.3	0	0	0	20.5
-8	3	-1	5.4	0	0	0	21
-8	3	-1	5.5	0	0	0	21.5
-8	2	-1	5.6	0	0	0	22
-8	2	-1	5.7	0	0	0	22.5
-8	2	-1	5.8	0	0	0	23
-8	2	-1	5.9	0	0	0	23.5
-8	2	-1	6	0	0	0	24
-8	1	-1	6.1	0	0	0	24.5
-8	1	-1	6.2	0	0	0	25
-8	1	-1	6.3	0	0	0	25.5
-8	1	-1	6.4	0	0	0	26
-8	1	-1	6.5	0	0	0	26.5
-8	1	-1	6.6	0	0	0	27
-8	1	-1	6.7	0	0	0	27.5
-8	0	-1	6.8	0	0	0	28
-8	0	-1	6.9	0	0	0	28.5
-8	0	-1	7	0	0	0	29
-8	0	-1	7.1	0	0	0	29.5
-8	0	-1	7.2	0	0	0	30
-8	0	-1	7.3	0	0	0	30.5
-8	0	-1	7.4	0	0	0	31
-8	0	-1	7.5	0	0	0	31.5
-8	0	-1	7.6	0	0	0	32
-8	0	-1	7.7	0	0	0	32.5
-8	0	-1	7.8	0	0	0	33
-8	0	-1	7.9	0	0	0	33.5
-8	0	-1	8	0	0	0	34
-8	0	-1	8.1	0	0	0	34.5
-8	0	-1	8.2	0	0	0	35
-8	0	-1	8.3	0	0	0	35.5
-8	0	-1	8.4	0	0	0	36
-8	0	-1	8.5	0	0	0	36.5
-8	0	-1	8.6	0	0	0	37
-8	0	-1	8.7	0	0	0	37.5
-8	0	-1	8.8	0	0	0	38
-8	0	-1	8.9	0	0	0	38.5
-8	0	-1	9	0	0	0	39
-8	0	-1	9.1	0	0	0	39.5
-8	0	-1	9.2	0	0	0	40
-8	0	-1	9.3	0	0	0	40.5
-8	0	-1	9.4	0	0	0	41
-8	0	-1	9.5	0	0	0	41.5
-8	0	-1	9.6	0	0	0	42
-8	0	-1	9.7	0	0	0	42.5
-8	0	-1	9.8	0	0	0	43
-8	0	-1	9.9	0	0	0	43.5
-8	0	-1	10	0	0	0	44



Vehicle Speed, overview [km/h] [-5s ...+10s]	1	5012	0.47
Vehicle Speed, overview	1	5014	0.47
Vehicle Speed, overview	1	5016	0.47
Vehicle Speed, overview	1	5018	0.47
Vehicle Speed, overview	1	5020	0.47
Vehicle Speed, overview	1	5022	0.47
Vehicle Speed, overview	1	5024	0.47
Vehicle Speed, overview	1	5026	0.47
Vehicle Speed, overview	1	5028	0.47
Vehicle Speed, overview	1	5030	0.47
Vehicle Speed, overview	1	5032	0.47
Vehicle Speed, overview	1	5034	0.47
Vehicle Speed, overview	1	5036	0.47
Vehicle Speed, overview	1	5038	0.46
Vehicle Speed, overview	1	5040	0.46
Vehicle Speed, overview	1	5042	0.46
Vehicle Speed, overview	1	5044	0.46
Vehicle Speed, overview	1	5046	0.46
Vehicle Speed, overview	1	5048	0.46
Vehicle Speed, overview	1	5050	0.46
Vehicle Speed, overview	1	5052	0.46
Vehicle Speed, overview	1	5054	0.45
Vehicle Speed, overview	1	5056	0.45
Vehicle Speed, overview	1	5058	0.45
Vehicle Speed, overview	1	5060	0.45
Vehicle Speed, overview	1	5062	0.45
Vehicle Speed, overview	1	5064	0.44
Vehicle Speed, overview	1	5066	0.44
Vehicle Speed, overview	1	5068	0.44
Vehicle Speed, overview	1	5070	0.43
Vehicle Speed, overview	1	5072	0.43
Vehicle Speed, overview	1	5074	0.42
Vehicle Speed, overview	1	5076	0.42
Vehicle Speed, overview	1	5078	0.41
Vehicle Speed, overview	1	5080	0.41
Vehicle Speed, overview	1	5082	0.41
Vehicle Speed, overview	1	5084	0.40
Vehicle Speed, overview	1	5086	0.40
Vehicle Speed, overview	1	5088	0.39
Vehicle Speed, overview	1	5090	0.38
Vehicle Speed, overview	1	5092	0.37
Vehicle Speed, overview	1	5094	0.36
Vehicle Speed, overview	1	5096	0.35
Vehicle Speed, overview	1	5098	0.34
Vehicle Speed, overview	1	5100	0.33
Vehicle Speed, overview	1	5102	0.32
Vehicle Speed, overview	1	5104	0.31
Vehicle Speed, overview	1	5106	0.30
Vehicle Speed, overview	1	5108	0.29
Vehicle Speed, overview	1	5110	0.28
Vehicle Speed, overview	1	5112	0.27
Vehicle Speed, overview	1	5114	0.26
Vehicle Speed, overview	1	5116	0.25
Vehicle Speed, overview	1	5118	0.24
Vehicle Speed, overview	1	5120	0.23
Vehicle Speed, overview	1	5122	0.22
Vehicle Speed, overview	1	5124	0.21
Vehicle Speed, overview	1	5126	0.20
Vehicle Speed, overview	1	5128	0.19
Vehicle Speed, overview	1	5130	0.18
Vehicle Speed, overview	1	5132	0.17
Vehicle Speed, overview	1	5134	0.16
Vehicle Speed, overview	1	5136	0.15
Vehicle Speed, overview	1	5138	0.14
Vehicle Speed, overview	1	5140	0.13
Vehicle Speed, overview	1	5142	0.12
Vehicle Speed, overview	1	5144	0.11
Vehicle Speed, overview	1	5146	0.10
Vehicle Speed, overview	1	5148	0.09
Vehicle Speed, overview	1	5150	0.08
Vehicle Speed, overview	1	5152	0.07
Vehicle Speed, overview	1	5154	0.06
Vehicle Speed, overview	1	5156	0.05

Sampling 5 Hz

SRS EDR Offset [s]

0.57

Time [s]	ASOM RawVel [s]	SRS Time Zero [s]	Reference	VehSpdLgt [m/s]	VehSpdLgt [km/h]	DrvDecelReq [m/s^2]	VehSelf_Alg [m/s^2]	SteerWHITq [Nm]	VehSelf_AlatRaw [m/s^2]	YawRate [deg/s]	DrvSteerWHHid	BrkPedPd	UberTestVehicleMode	ActvStsDRtrcrRvblble
43.83122	-3.30	-3.33	19.59	70.54	0.000	-0.195	0.0886	-0.161	0.0420	1	0	1	0	
43.76131	-3.70	-3.13	19.56	70.43	0.000	-0.098	-0.0781	-0.195	-0.0839	1	0	1	0	
43.41178	-3.50	-2.93	19.41	69.86	0.000	-0.588	0.1016	-0.289	-0.1399	1	0	1	0	
43.23702	-3.30	-2.73	19.33	69.58	0.000	-0.588	0.1094	-0.246	-0.3357	1	0	1	0	
42.95739	-3.10	-2.53	19.20	69.13	0.000	-0.490	0.1758	-0.382	-1.0911	1	0	1	0	
42.593	-2.90	-2.33	19.00	68.40	0.000	-0.980	0.1445	-0.575	-1.4408	1	0	1	0	
42.01366	-2.70	-2.13	18.78	67.61	0.000	-0.980	-0.0625	-0.722	-1.4408	1	0	1	0	
41.3845	-2.50	-1.93	18.50	66.60	0.000	-1.078	-0.1484	-0.620	-1.4967	1	0	1	0	
40.8602	-2.30	-1.73	18.27	65.76	0.000	-1.373	0.2517	-0.554	-1.6365	1	0	1	0	
40.30095	-2.10	-1.53	18.02	64.86	0.000	-0.980	0.0664	-0.663	-2.3920	1	0	1	0	
39.77666	-1.90	-1.33	17.78	64.01	0.000	-1.078	0.1875	-0.994	-2.7837	1	0	1	0	
28.20277	-1.70	-1.13	17.08	61.48	0.000	-1.274	4.2711	-0.280	-0.2521	3	0	0	0	
37.67947	-1.50	-0.93	16.84	60.64	0.000	-2.256	2.4688	1.495	6.2947	3	0	0	0	
37.5047	-1.30	-0.73	16.77	60.36	0.000	-1.863	1.5039	1.844	5.3855	3	0	0	0	
37.12022	-1.10	-0.53	16.59	59.74	0.000	-0.882	0.2188	1.349	1.9444	3	0	0	0	
36.77069	-0.90	-0.33	16.44	59.18	2.500	-0.687	-0.9336	0.110	-0.3357	3	1	0	0	
33.64738	-0.70	-0.13	15.04	54.14	6.000	-1.863	-1.8242	-0.365	-2.1402	3	1	0	0	
33.26784	-0.50	0.07	14.42	51.49	3.199	-3.824	-0.8970	0.442	-2.8328	3	1	0	0	
30.30436	-0.30	0.27	13.55	48.77	3.199	-3.432	0.6406	-1.249	4.0006	3	1	0	0	
28.74895	-0.10	0.47	12.85	46.27	3.899	-3.139	1.4531	1.725	3.3848	3	1	0	0	
27.42073	0.10	0.67	12.26	44.13	5.398	-3.334	2.7500	-2.082	-8.7846	3	1	0	1	
25.28859	0.30	0.87	11.30	40.70	3.299	-3.629	-1.6875	-2.965	-11.4424	3	1	0	1	
23.62831	0.50	1.07	10.56	38.03	2.898	-4.313	-1.5156	-2.506	-8.7846	3	1	0	1	
23.00000	0.70	1.27	9.76	35.13	2.299	-3.824	-0.8320	-0.076	-5.6373	3	1	0	1	
22.50000	0.90	1.47	9.25	33.30	1.100	-3.236	-0.9609	-0.246	-4.5462	3	1	0	1	
22.00000	1.10	1.67	8.86	31.89	0.800	-2.256	-0.2930	-0.467	-2.8396	3	1	0	1	
21.50000	1.30	1.87	8.56	30.83	0.800	-1.569	0.4961	0.195	-4.4967	3	1	0	1	
21.00000	1.50	2.07	8.32	29.95	0.800	-1.373	0.2539	0.246	-0.9372	3	1	0	1	
20.50000	1.70	2.27	7.97	28.70	0.800	-0.0313	0.076	0.076	-0.7414	3	1	0	1	
20.00000	1.90	2.47	7.67	27.62	0.900	-1.471	-0.7305	0.127	-0.8952	3	1	0	1	
19.50000	2.10	2.67	7.28	26.20	1.399	-1.795	-0.8320	0.161	-0.9932	3	1	0	0	
19.00000	2.30	2.87	6.66	23.98	2.299	-2.451	-0.1133	0.229	-0.9932	3	1	0	0	
18.50000	2.50	3.07	5.94	21.99	2.500	-3.334	-0.6172	0.178	-0.5875	3	1	0	0	
18.00000	2.70	3.27	5.20	18.72	2.500	-3.629	0.2539	0.229	-0.5455	3	1	0	0	
17.50000	2.90	3.47	4.50	16.19	2.500	-3.529	0.2109	0.000	-0.5455	3	1	0	0	
17.00000	3.10	3.67	3.83	13.77	2.299	-3.432	1.0430	0.136	-0.1818	3	1	0	0	
16.50000	3.30	3.87	3.15	11.34	1.800	-3.236	1.1953	0.365	0.2938	3	1	0	0	
16.00000	3.50	4.07	2.70	9.71	1.199	-2.646	1.2148	0.212	0.6435	3	1	0	0	
15.50000	3.70	4.27	2.30	8.29	1.100	-1.961	1.0742	0.280	0.7833	3	1	0	0	
15.00000	3.90	4.47	1.91	6.88	1.000	-1.765	0.7266	0.312	0.6854	3	1	0	0	

Delay between start of SRS algorithm and determination of runoff detection is 0.435 seconds

1.8 ± 0.5 + 0.435 s

1.735 +/- 0.1

