GL07305-8

6

RRGE-2 Q= 350 gpm

2-25 f 26-77 ΔP= 44 (corrected for 1.5 zero)

Time	Δ time	WHP PSIG	ΔWHP psi	Temp	ΔP	
11:50	—	151	—	200°F	—	
12:00	0	151	—	200 F	—	
12:02		106		233	44	
12:04		100		236	44	
12:06		97		239	44	
12:08		94		240	44	
12:10		93		242	44	
12:12		92		243	43½	adj
12:15		91		244	44	
12:18	shut in 20 gpm flow & adj rate					
12:20		93		249	44	
12:25		91		251	44	
12:35		91		256	44	
12:40		90		258	44	
12:45		90		260	44	
12:50		88		264	44	
12:55		88		264	44	
13:00		88		264	44	
13:05		86		266	44	
13:15		86		266	44	
13:25		85		268	44	
13:40		83		269	44	
13:50		82		270	44	

Flow Aborted due to too large a pressure drop across the orifice plate.

RRGE-2 Flow = 350 gpm

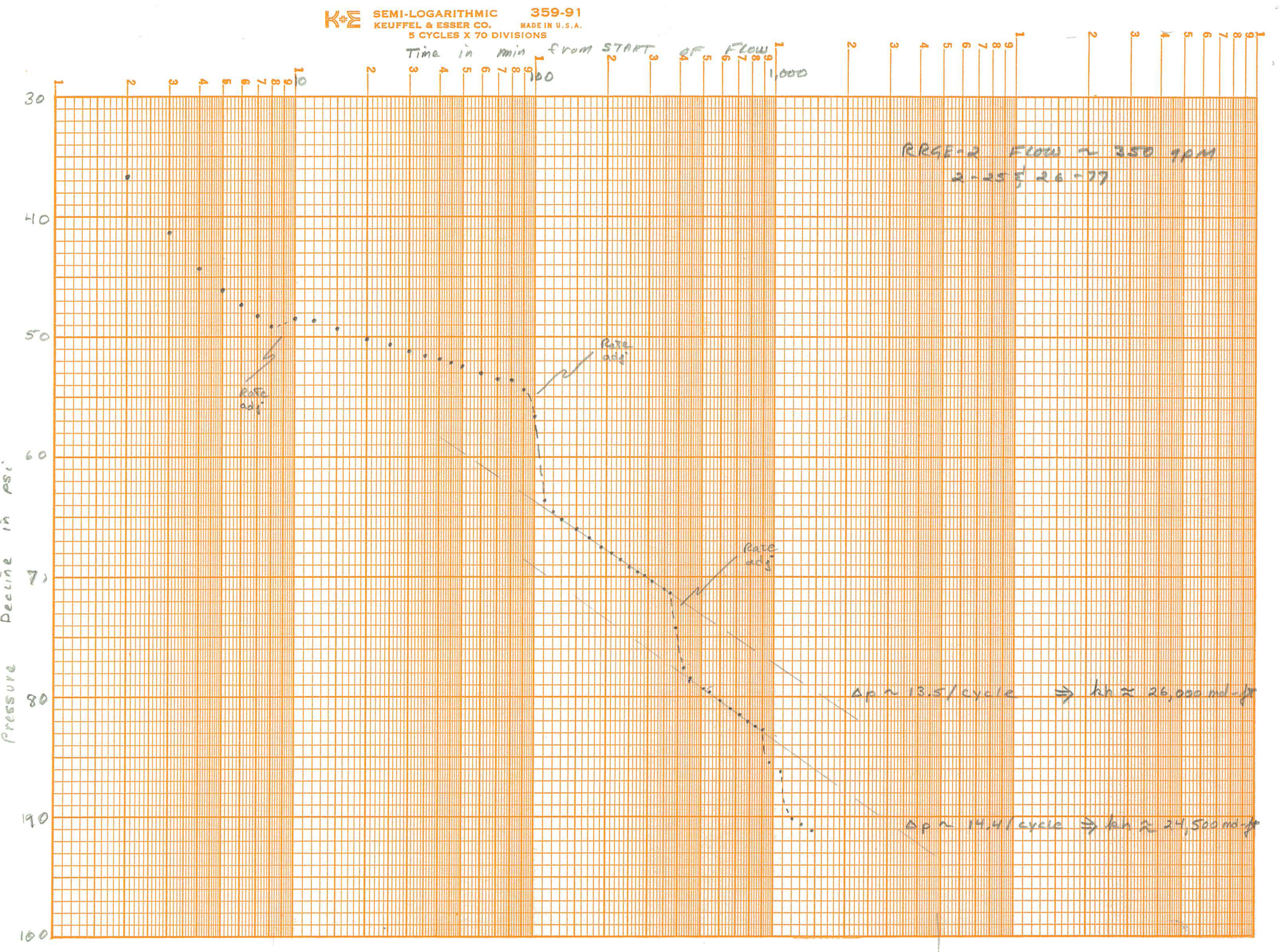
Test NO GOOD
BAD RATE CONTROL
BJ

2-25/26-77

	Time (min)	WHP (PSIA)	Δ time (min)	Δ WHP psi	comments
2-25	18:00	162.079	0	0	Flow Begin
	18:01	135.148	1	26.931	
	18:02	125.204	2	36.875	
	18:03	120.811	3	41.268	
	18:04	117.752	4	44.327	
	18:05	116.061	5	46.018	
	18:06	114.853	6	47.226	
	18:07	113.857	7	48.222	
	18:08	112.892	8	49.187	
	18:10	113.640	10	48.439	
	18:12	113.405	12	48.674	
	18:15	112.824	15	49.255	
	18:20	112.003	20	50.076	
	18:25	111.403	25	50.676	
	18:30	110.964	30	51.115	
	18:35	110.560	35	51.517	
	18:40	110.223	40	51.856	
	18:45	109.903	45	52.176	
	18:50	109.613	50	52.466	
	18:55	109.284	55	52.795	
	19:00	109.075	60	53.004	
	19:05	108.799	65	53.280	
	19:10	108.517	70	53.562	
	19:15	108.273	75	53.806	
	19:20	108.44*	80	53.635	
	19:30	106.614	90	54.465	
	19:40	105.358	100	56.721	
	19:50	98.328	110	63.751	
	20:00	97.478	120	64.601	
	20:10	96.913	130	65.166	
	20:20	96.433	140	65.646	
	20:30	96.013	150	66.066	
	20:50	95.247	170	66.832	
	21:10	94.545	190	67.532	
	21:30	94.013	210	68.066	
	21:50	93.440	230	68.639	
	22:10	92.951	250	69.128	
	22:30	92.443	270	69.636	

	Time (min)	WHP (PSIA)	Δtime (min)	ΔWHP psi	comments
	22:50	92.105	290	69.914	
	23:10	91.688	310	70.391	
	23:30	91.380	330	70.699	
	23:50	91.048	350	71.031	
2-26	00:10	90.717	370	71.362	
	00:30	87.844	390	74.235	adj rate up ~ 19 gpm
	01:00	84.356	420	77.723	
	01:30	83.621	450	78.458	
	02:00	83.147	480	78.932	
	02:30	82.733	510	79.346	
	03:00	82.375	540	79.704	
	03:30	82.048	570	80.031	
	04:00	81.689	600	80.390	
	04:30	81.422	630	80.657	
	05:00	81.079	660	81.000	
	05:30	80.879	690	81.200	
	06:00	80.592	720	81.487	
	07:00	80.067	780	82.012	
	08:00	79.652	840	82.427	
	09:00	79.264	900	82.815	adj Rate upward
	10:00	76.689	960	85.490	
	11:00	76.197	1020	85.982	
	12:00	75.874	1080	86.205	
	14:00	72.025	1200	90.054	ΔP = 2.52 WH Temp. ~ 273°F Press. gauge (upstream orisice) ~ 60 psig
	16:00	71.373	1320	90.706	
	18:00	70.914	1440	91.165	

Shut in wellhead & established purge


SEMI-LOGARITHMIC 359-91
KEUFFEL & ESSER CO. MADE IN U.S.A.
5 CYCLES X 70 DIVISIONS
Time in min from START of Flow
RRGE-2 Flow ~ 350 gpm
2-25 & 26-77
Rate adj.
Rate adj.
Rate adj.
Δp ~ 13.5/cycle ⇒ kh ≈ 26,000 md-ft
Δp ~ 14.4/cycle ⇒ kh ≈ 24,500 md-ft
Pressure Decline in psi

3.378" orifice

$Q = 218.6\sqrt{\Delta p}$ RRGE-2 Q = 350 gpm = 2.56 psig across orifice

2-25 & 26 -77 Initially Δp = 4.0 { corrected for 1.5 zero

	Time	Δ Time	WHP psig	Δ WHP psi	Temp	Δ P
2-25	17:55	—	150	—	223	—
	18:00	0	Begin Flow			
	18:03	3	110	40	230	4
	18:05	5	104	46	250	
	18:08	8	102	48	254	
	18:10	10	102	48	254	
	18:13	13	101	49	256	
	18:18	18	101	49	257	
	18:22	22	100	50	258	
	18:26	26	99	51	259	
	18:30	30	99	51	260	
	18:36	36	99	51	260	
	18:40	40	98	52	262	
	18:50	50	98	53	263	
	19:00	60	97	54	265	
	19:10	70	97	54	266	
	19:22					Rate adj
	19:30	90	95	56	266	
	19:40	100	95	56	267	
	19:50	110	86	64	267	
	20:00	120	85	65	269	could be
	20:10	130	85	65	269	Prob w/ Δ P gage
	20:20	140	85	65	269	
	20:30	150	84	66	269	
	20:40	160	83	67	269	
	21:00	180	83	67	269	
	21:20	200	82	68	269	
	22:00	240	81	69	269	
	22:30	270	81	69	269	
	23:00	300	80	70	269	
	23:30	330	80	70	269	
	24:00	360	80	70	269	
2/26/77	[illegible]					
Flowadj → 0.25 psig	00:20					
	00:30					4.75 - 2.25 = 2.5
	00:40		76	76	269	Orifice = 76 psig upstream
	01 00	420	73		269	
	01 20		72.5		269	
	02 30	510	72		269	
	24:00		[illegible]			

RREE-2 Q = 350 gpm

2-25 to 2-27 Initially $\Delta p = 40$ { corrected for 1.5 zero

~~04:00~~	600	71	269	
06:00	720	69	270	
06:30		69	270	
07:30	810	68	270	
08:30		69	270	
09:00	840	68	270	
09:30		68	270	
10:00	900	66	270	new gage
11:00		65	270	
12:00	1020	64	270	
13:00		60	272	
14:00	1140	62	271	
15:00	1200	60	273	
16:00	1260	60	273	
17:00		60	273	
18:00	1380	59.5	273	

2-26