GL07390

WELL RRGE-2 ARTESIAN CAPABILITY

The probable maximum sustained free-flowing artesian capability of well RRGE-2 is 22 lps.

Predicted wellhead pressures at a range of flow rates and times is shown on Figure 3-E-1. The predictions are based on several assumptions:

1. The intended use will be 85% for a period of 3-5 years.
2. The hot wellhead shut-in pressure is 970 kPa.
3. The minimum wellhead pressure required to sustain flow is 70 kPa.
4. The available drawdown for free flow is 900 kPa.
5. No interference drawdowns are imposed on the well.

With these assumptions, the available drawdown would be exhausted after three years of 85% sustained use at 22 lps. Flowing wellhead temperature is approximately 135^{o}C.

CALCULATIONS . RRGE-2 ARTESIAN FLOW.

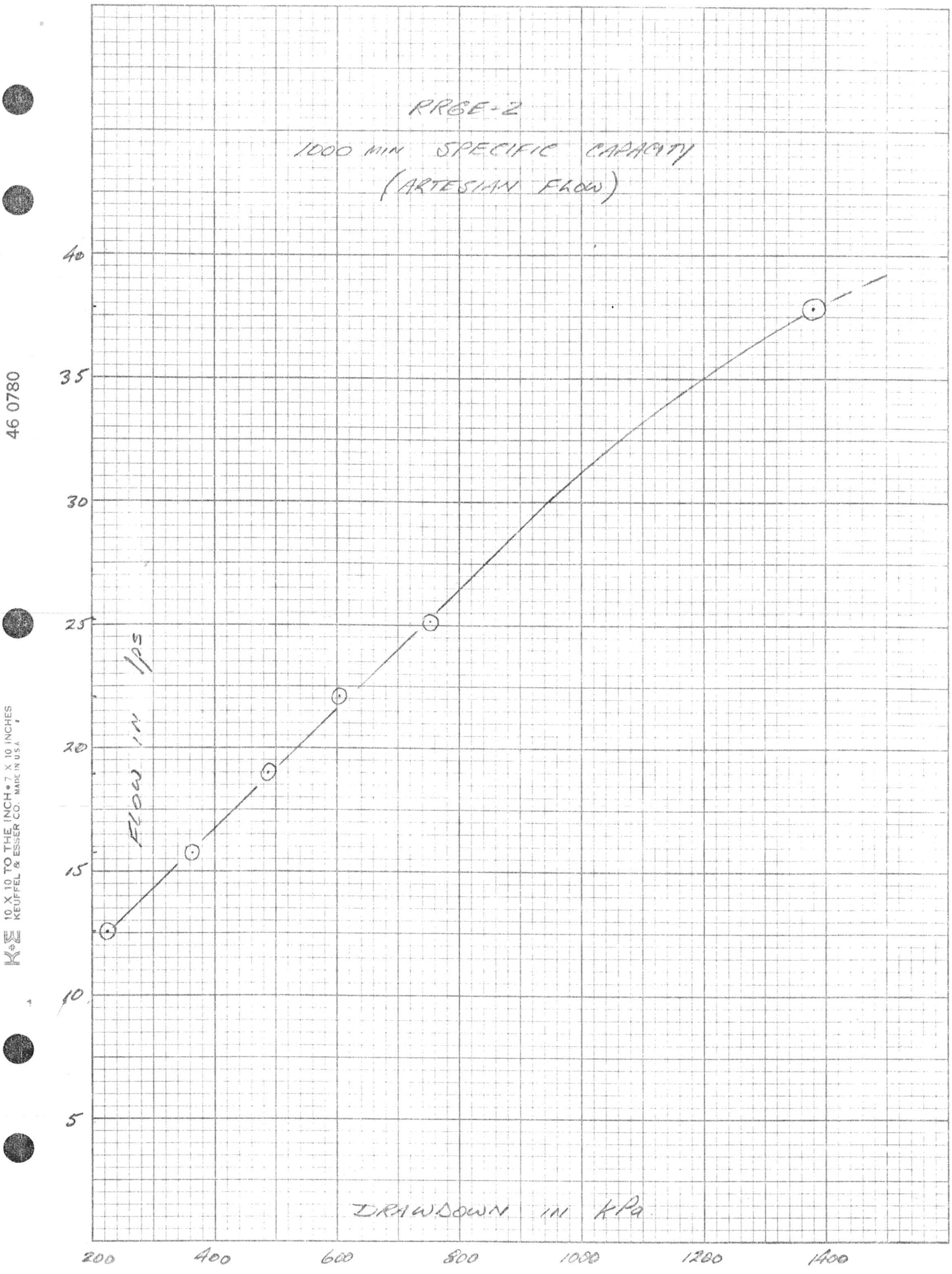
FLOW RATE	1000 min. DRAWDOWN	PROJECTED DRAWDOWN	TOTAL DRAWDOWN. 1 mo	(85%)	1 yr.	(85%)	3 yr.	(85%)	5 yr	(85%)
Q (lps)	s (kPa)	$s + S_{10} \log t$	164	156	272	265	32	313	342	335
12.6	224 +	110 ×	180	172	299	292	352	344	376	369
			404	396	523	516	576	568	600	593
15.75	362 +	95	156	148	258	252	304	297	325	318
			518	510	620	614	666	659	687	680
18.3	489 +	91	149	142	248	241	291	285	311	305
			638	631	737	730	780	774	800	794
22.05	600 +									

Hot shut-in wellhead pressure ≈ 140 psi ≈ 965 kPa.

Minimum pressure for free-flow ≈ 10 psi ≈ 69 kPa

available drawdown ≈ 900 kPa.

Initial drawdown at 1000 min taken from Specific Capacity plot.



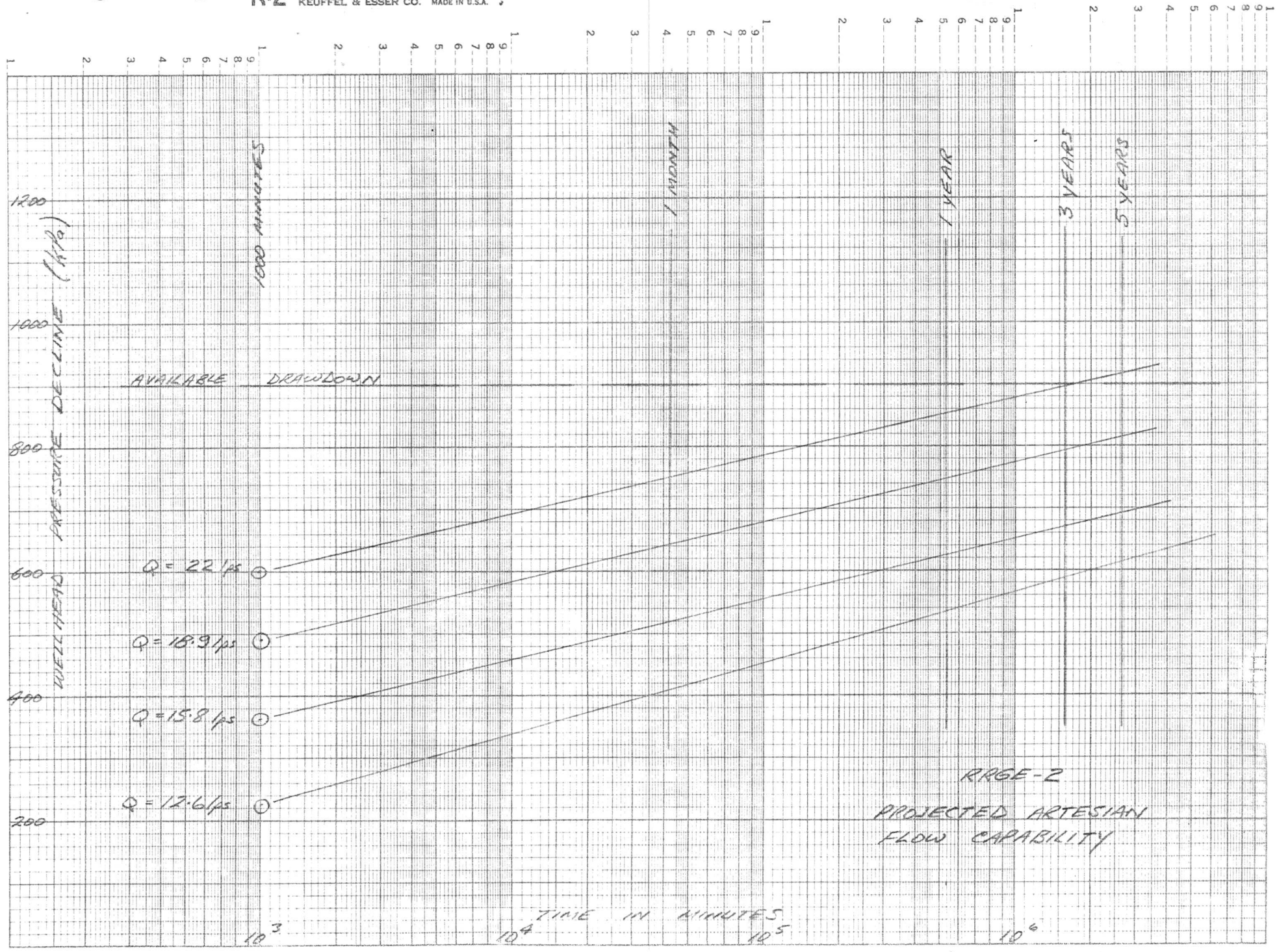

K+E SEMI-LOGARITHMIC 5 CYCLES X 70 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.
46 6210
WELLHEAD PRESSURE DECLINE (kPa)
1200
1000
800
600
400
200
AVAILABLE DRAWDOWN
SECONDARY BOUNDARY
1 MONTH
1 YEAR
3 YEARS
5 YEARS
Q = 22 l/s
Q = 18.9 l/s
Q = 15.8 l/s
Q = 12.6 l/s
TIME IN MINUTES
10^3
10^4
10^5
10^6
RAGE-2
PROJECTED ARTESIAN
FLOW CAPABILITY

FIGURE RE-1