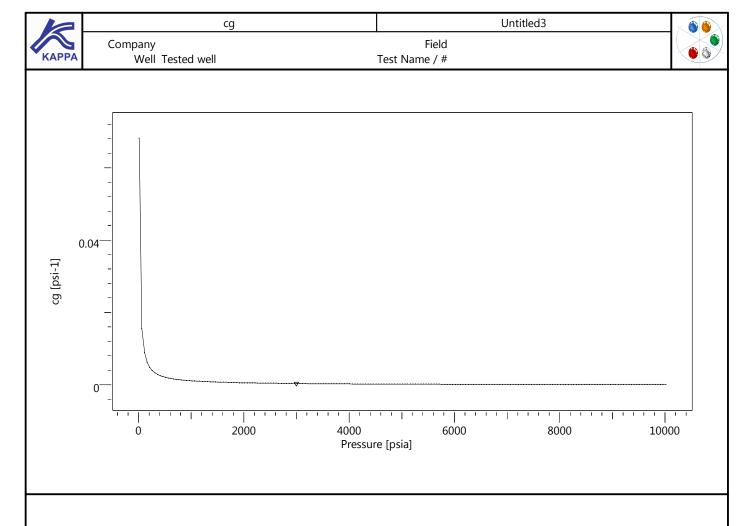


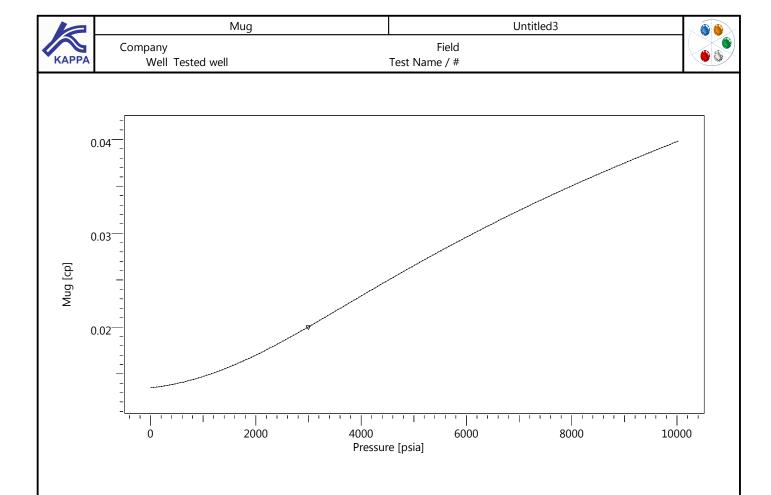
Bg Internal

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cg Dranchuk

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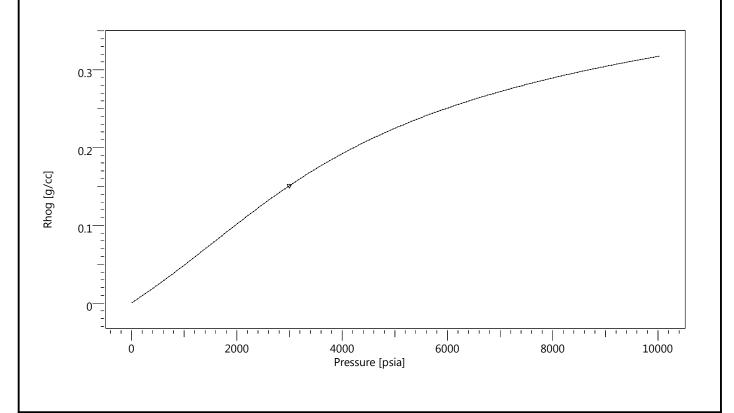


Mug Lee et al.

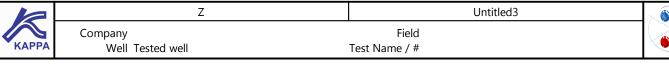
Ecrin v4.02.04 Untitled3 03/06/2020 Page 3/13

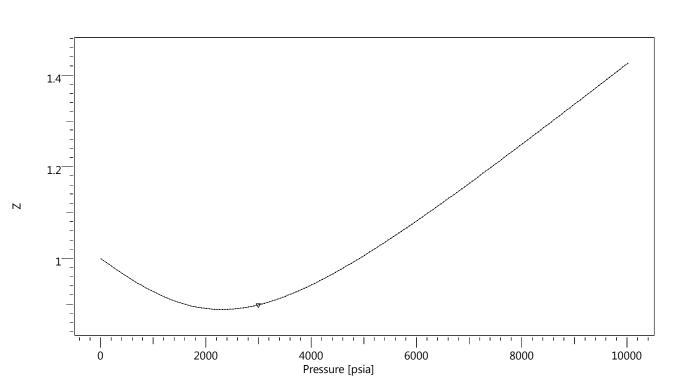






Rhog Internal





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## History Listings Untitled3

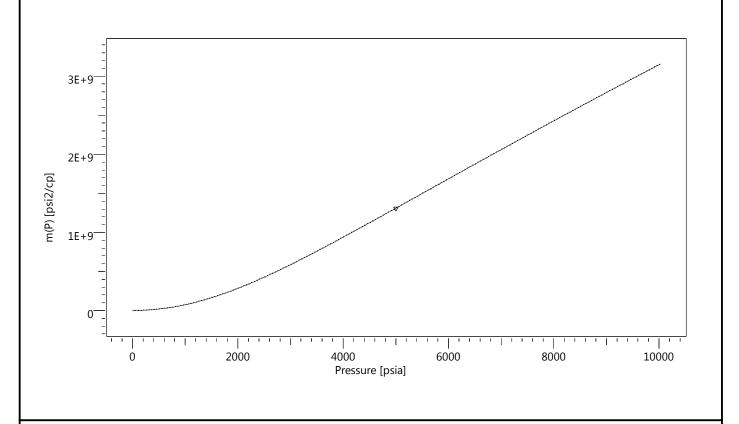
Company Well Tested well Field Test Name / #



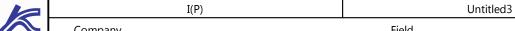
Date	ToD	FP#	Gas rate	Duration
			Mscf/D	hr
03/06/2020	00:00:00	1	1E+7	120
03/11/2020	00:00:00	2	0	240





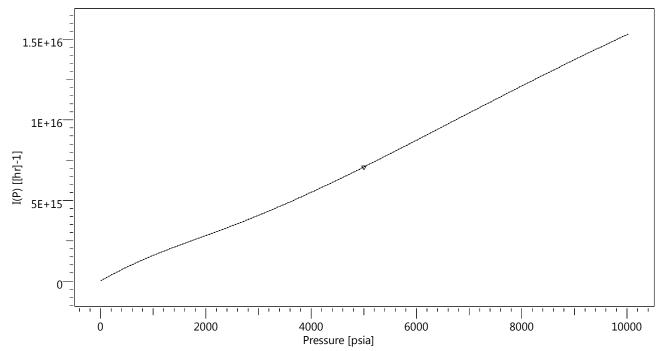


WGR 0 bbl/MMcf cf 3E-6 psi-1 Swr 0 Minimum 14.6959 psia Maximum 10014.7 psia





Company Field
Well Tested well Test Name / #



WGR 0 bbl/MMcf

cf 3E-6 psi-1

Swr 0

Minimum 14.6959 psia Maximum 10014.7 psia

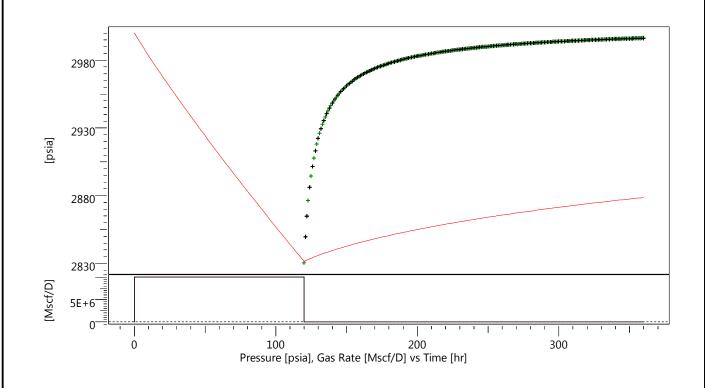


History plot Analysis 1

Company
Well Tested well

Field Test Name / #





Pressure

Rate

Gas rate

Deconvolution q(t)

++ Deconvolution p(t)

Pressure Deconvolution

Rate change 1E+7 Mscf/D 1E+7 Mscf/D

P@dt=0 3000 psia

Pi 3000 psia

Smoothing 0.1

Selected Model

Model Option Standard Model

Well Vertical

Reservoir Homogeneous

Boundary Infinite

Main Model Parameters

TMatch 4.87E-4 [hr]-1

PMatch 8.24E-10 [psi2/cp]-1

C 2.38E+5 bbl/psi

Total Skin -10

k.h, total 7880 md.ft

k, average 35 md

Pi 3000 psia

Model Parameters

Well & Wellbore parameters (Tested well)

C 2.38E+5 bbl/psi

Skin -10

Reservoir & Boundary parameters

Pi 3000 psia

k.h 7880 md.ft

k 35 md

Derived & Secondary Parameters

Rinv 2950 ft

Test. Vol. 1.22775 bcf

Delta P (Total Skin) -34106.2 psi

Delta P Ratio (Total Skin) -281.004 Fraction



## Log-Log deconvolution plot

Analysis 1

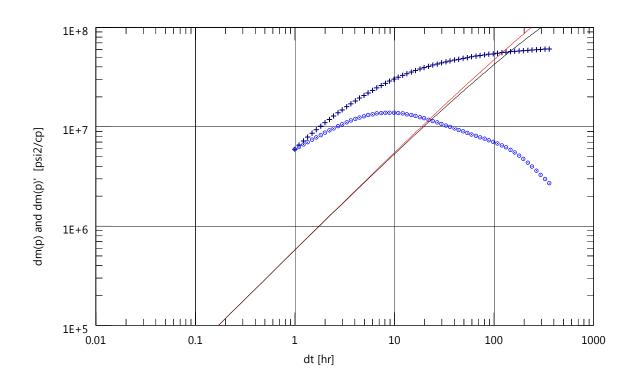
Company

Well Tested well

Test Name / #

Field





Pressure Deconvolution

Rate change 1E+7 Mscf/D Rate change 1E+7 Mscf/D

P@dt=0 3000 psia

Pi 3000 psia

FI 3000 psia

Smoothing 0.1

Selected Model

Model Option Standard Model

Well Vertical

Reservoir Homogeneous

Boundary Infinite

Main Model Parameters

TMatch 4.87E-4 [hr]-1

PMatch 8.24E-10 [psi2/cp]-1

C 2.38E+5 bbl/psi

Total Skin -10

k.h, total 7880 md.ft

k, average 35 md

Pi 3000 psia

Model Parameters

Well & Wellbore parameters (Tested well)

C 2.38E+5 bbl/psi

Skin -10

Reservoir & Boundary parameters

Pi 3000 psia

k.h 7880 md.ft

k 35 md

**Derived & Secondary Parameters** 

Rinv 2950 ft

Test. Vol. 1.22775 bcf

Delta P (Total Skin) -34106.2 psi

Delta P Ratio (Total Skin) -281.004 Fraction



## Main Results Analysis 1

Field

Company Well Tested well Test Name / #



Test date / time Formation interval Perforated interval Gauge type / # Gauge depth

> TEST TYPE Standard

Porosity Phi (%) 20 Well Radius rw 0.25 ft Pay Zone h 225 ft

Water Salt (ppm) 10000 Form. compr. 3E-6 psi-1 Reservoir T 212 °F Reservoir P 3000 psia

FLUID TYPE Gas

Gas Gravity 0.7 Pseudo-Critical P 663.573 psia Pseudo-Critical T 377.26 °R

Sour gas composition

Hydrogen sulphide 0 Carbon dioxide 0 Nitrogen 0

> 212 °F Temperature 3000 psia Pressure

> > **Properties** @ Reservoir T&P

> > > Gas

Z 0.898072 Mug 0.0200074 cp 0.0056825 cf/scf cg 3.01924E-4 psi-1 Rhog 0.150875 g/cc

Total Compr. ct 3.04924E-4 psi-1 Connate Water (%) 0

Selected Model

Model Option Standard Model Well Vertical Reservoir Homogeneous Boundary Infinite

Main Model Parameters

TMatch 4.87E-4 [hr]-1 PMatch 8.24E-10 [psi2/cp]-1 C 2.38E+5 bbl/psi Total Skin -10

7880 md.ft k.h, total k, average 35 md Pi 3000 psia

**Model Parameters** 

Well & Wellbore parameters (Tested well)

C 2.38E+5 bbl/psi

Skin -10

Reservoir & Boundary parameters

Pi 3000 psia k.h 7880 md.ft 35 md

Derived & Secondary Parameters

Rinv 2950 ft Test. Vol. 1.22775 bcf Delta P (Total Skin) -34106.2 psi Delta P Ratio (Total Skin) -281.004 Fraction



## Pressure Listings Analysis 1

Company Well Tested well

Field Test Name / #



Data	Time	Data	Time	Data	Time	Data	Time	Data	Time
psia	hr	psia	hr	psia	hr	psia	hr	psia	hr
2830.33	120	2974.58	172	2986.92	224	2992.12	276	2995.07	328
2849.74	121	2974.99	173	2987.06	225	2992.19	277	2995.12	329
2864.49	122	2975.39	174	2987.2	226	2992.26	278	2995.16	330
2876.31	123	2975.77	175	2987.33	227	2992.33	279	2995.2	33:
2886.08	124	2976.15	176	2987.46	228	2992.4	280	2995.25	332
2894.31	125	2976.51	177	2987.59	229	2992.47	281	2995.29	333
2901.38	126	2976.86	178	2987.72	230	2992.54	282	2995.33	334
2907.59	127	2977.21	179	2987.85	231	2992.61	283	2995.38	33.
2913.02	128	2977.55	180	2987.83	231	2992.67	284	2995.42	33
2913.02	129	2977.87	181	2988.09	232	2992.74		2995.46	33
							285		
2922.09	130	2978.19	182	2988.21	234	2992.8	286	2995.5	33
2925.92	131	2978.5	183	2988.33	235	2992.87	287	2995.54	33
2929.36	132	2978.81	184	2988.45	236	2992.93	288	2995.58	34
2932.49	133	2979.1	185	2988.57	237	2993	289	2995.62	34
2935.32	134	2979.39	186	2988.68	238	2993.06	290	2995.66	34
2937.92	135	2979.67	187	2988.79	239	2993.12	291	2995.7	34
2940.31	136	2979.95	188	2988.9	240	2993.18	292	2995.74	34
2942.5	137	2980.22	189	2989.01	241	2993.24	293	2995.78	34
2944.53	138	2980.48	190	2989.12	242	2993.31	294	2995.82	34
2946.42	139	2980.74	191	2989.23	243	2993.37	295	2995.86	34
2948.17	140	2980.99	192	2989.34	244	2993.43	296	2995.9	34
2949.81	141	2981.23	193	2989.44	245	2993.48	297	2995.94	34
2951.34	142	2981.48	194	2989.54	246	2993.54	298	2995.97	35
2952.78	143	2981.71	195	2989.64	247	2993.6	299	2996.01	35
2954.13	144	2981.94	196	2989.74	248	2993.66	300	2996.05	35
2955.41	145	2982.17	197	2989.84	249	2993.71	301	2996.09	35
2956.61	146	2982.39	198	2989.94	250	2993.77	302	2996.12	35
2957.75	147	2982.61	199	2990.04	251	2993.83	303	2996.16	35
2958.83	148	2982.82	200	2990.13	252	2993.88	304	2996.2	35
2959.86	149	2983.03	201	2990.23	253	2993.94	305	2996.23	35
2960.83	150	2983.23	201	2990.23	253 254	2993.94	303	2996.23	35
					254 255				
2961.76	151	2983.43	203	2990.41		2994.04	307	2996.3	35
2962.65	152	2983.63	204	2990.5	256	2994.1	308	2996.34	36
2963.49	153	2983.82	205	2990.59	257	2994.15	309		
2964.3	154	2984.01	206	2990.68	258	2994.2	310		
2965.08	155	2984.2	207	2990.77	259	2994.25	311		
2965.82	156	2984.38	208	2990.86	260	2994.31	312		
2966.53	157	2984.56	209	2990.94	261	2994.36	313		
2967.22	158	2984.74	210	2991.03	262	2994.41	314		
2967.87	159	2984.91	211	2991.11	263	2994.46	315		
2968.51	160	2985.08	212	2991.19	264	2994.51	316		
2969.11	161	2985.25	213	2991.27	265	2994.56	317		
2969.7	162	2985.42	214	2991.36	266	2994.6	318		
2970.27	163	2985.58	215	2991.44	267	2994.65	319		
2970.81	164	2985.74	216	2991.51	268	2994.7	320		
2971.34	165	2985.89	217	2991.59	269	2994.75	321		
2971.85	166	2986.05	218	2991.67	270	2994.8	322		
2972.34	167	2986.2	219	2991.75	271	2994.84	323		
2972.82	168	2986.35	220	2991.82	271	2994.89	324		
2973.28	169	2986.49	221	2991.9	272	2994.93	325		
2973.28	170		222				326		
		2986.64		2991.97	274	2994.98			
2974.16	171	2986.78	223	2992.05	275	2995.03	327		



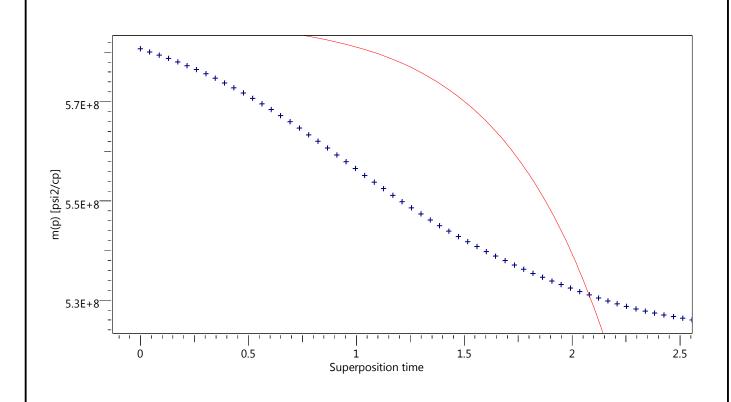
Semi-Log plot Analysis 1

Company Well Tested well

Test Name / #

Field





Pressure Deconvolution

 $\begin{array}{cc} \text{Rate} & \text{1E+7 Mscf/D} \\ \text{Rate change} & \text{1E+7 Mscf/D} \end{array}$ 

P@dt=0 3000 psia

Pi 3000 psia

Smoothing 0.1

Selected Model

Model Option Standard Model

Well Vertical

Reservoir Homogeneous

Boundary Infinite

Main Model Parameters

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Pi 3000 psia

Model Parameters

Well & Wellbore parameters (Tested well)

C 2.38E+5 bbl/psi

Skin -10

Reservoir & Boundary parameters

Pi 3000 psia k.h 7880 md.ft

k 35 md

**Derived & Secondary Parameters** 

Rinv 2950 ft

Test. Vol. 1.22775 bcf

Delta P (Total Skin) -34106.2 psi

Delta P Ratio (Total Skin) -281.004 Fraction



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