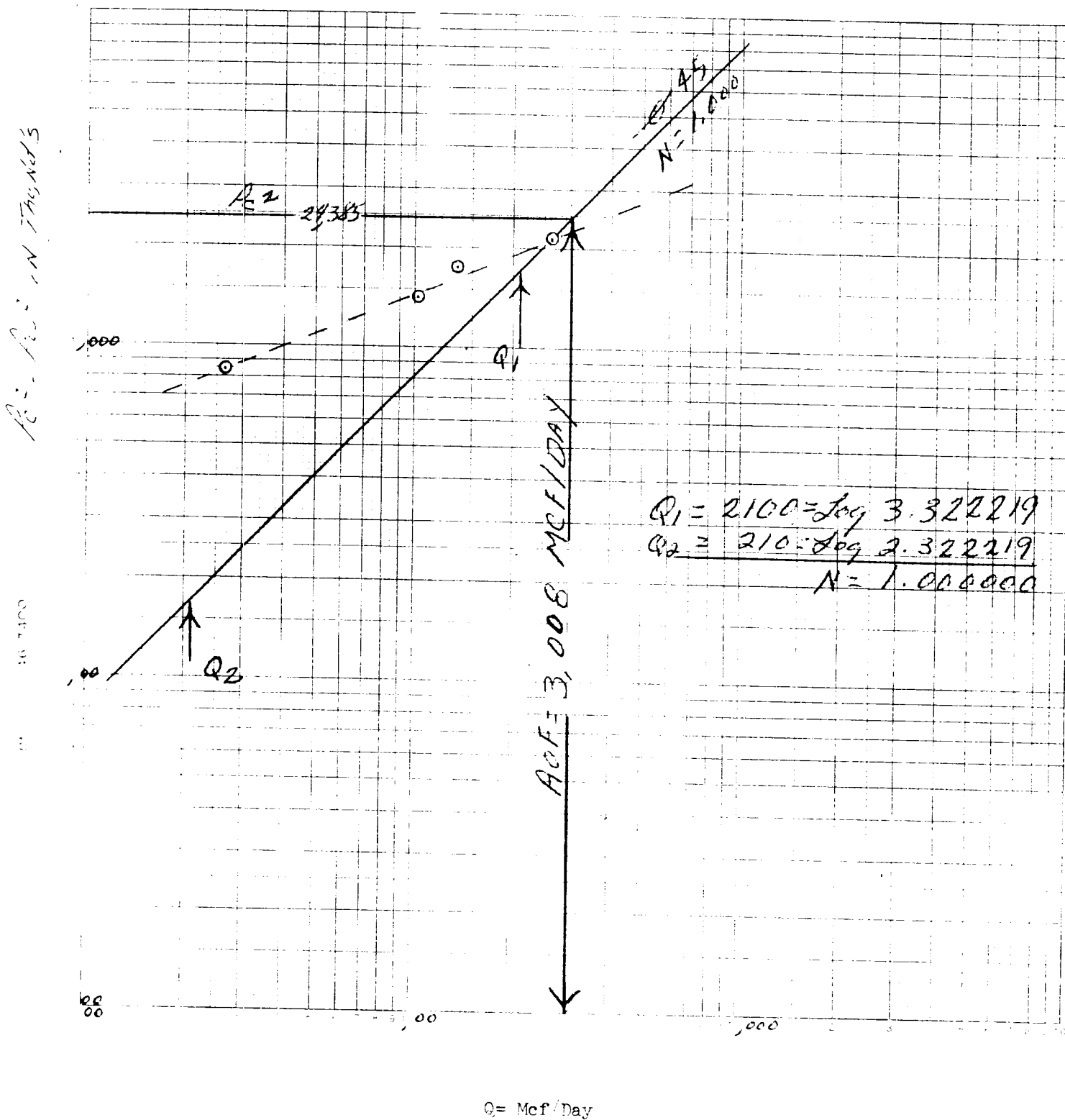


Form C-122
Revised 9-1-65

Checked By: Joe A. Coleman

State I, 922 No. 2

Lea County, N.M.



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Form (M-1) 2-71
Adopted 6-1-65

(SUBSURFACE) PRESSURE (P_f & P_s)
(SURFACE) (P_e & P_w)

WORK SHEET FOR STEPWISE CALCULATION

COMPANY Logan LEASE St. S R22 WELL NO. 2 DATE 1-25-70

LOCATION: Unit 9 Section 28 Township 31 Range 34

L 17116 H 17116 T/H 100 G MIX 785 % CO₂ % N₂ % H₂S

d 2.441 F₁ 1010 ⁷⁶³ Q_m 265 M₂ 44 (L/H) (F₁ Q_m)² 0.00008 P_{cr} 666 T_{cr} 418

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	8558		17116						
2	GH		0	4718		13436						
3	37.5GH		0	25926		503862						
4	P _e or P _n		3978.2	5151.3	5124.9	6268.1	6213.6	13 = 6215.9				
5	P _f		5.97	7.73	7.70	9.41	9.34					
6	T		534	604	604	673	673					
7	T _r		1.28	1.44	1.44	1.61	1.61					
8	Z		1800	958	956	1091	1036					
9	P/Z P/Z	4÷8	4972.8	5377.1	5360.8	5745.3	5727.1					
10	P/TZ	9÷6	9.312	890.3	8.876	8.537	8.509					
11	(P/TZ) ² /1000	(10) 2/1000	1086718	079255	1078774	1072877	1072415					
12	L/H(F _r Q _m) ²		1000008	1000008	1000008	1000008	1000008					
13		I ₁ + I ₂	1081726	1079263	1078782	1072885	1072423					
14	I _n	I ₀ + I ₃	1073375	112316	112658	117127	117500					
15	M = P _n · P _{n-1}			1173	1197	1143	1095					
16	N = I _n + I _{n-1}			215191	220033	215745	230157					
17	M × I	I ₅ × I ₆			252349		251941					
18	Σ (M × I)	Σ I ₇			251533							

WORK SHEET FOR STEPWISE CALCULATION

(SUBSURFACE) PRESSURE (P_f & P_w)
(SURFACE) (P_c & P_w)

Form 6-122-E
April 6-1-65

COMPANY Logan

LEASE 8 & 122

WELL NO. 2

DATE

1-29-79

LOCATION: Unit

Section

Township

Range

L 1716

H 1716

L/H 1000

G 1000

% CO₂ 7.5

% H₂S

2.44 P₁ 1010763 Q₁₀

1.024 M_{2CH}

(L/H) (P₁/Q₁₀)² 100000

P_c 1660 T_{cf}

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TABLE IX & X

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H			8558		17116						
2	GH			6718		13436						
3	37.5GH			51726		503852						
4	P _c or P _n		3208.2	4281.9	4256.9	5302.9	5264.3	Ps =	5258.1			
5	P ₁		482	6.43	6.39	7.96	7.90					
6	T		534	6.4	6.04	673	673					
7	T _r		1.28	1.44	1.44	1.61	1.61					
8	Z		206	1873	1870	1999	1997					
9	P/TZ	4-8	4544.2	4504.8	4552.9	5308.2	5280.2					
10	P/TZ	9-6	8.510	8.121	8.1009	7.887	7.846					
11	(P/TZ) ² /1000	(10) 2/1000	102415	1065543	1065624	162211	1061554					
12	L/H(F ₁ Q _m) ²		1000121	1000121	1000121	1000121	1000121					
13		I1 + I2	1072536	1066064	1065745	162332	1061675					
14		I0 + I3	117.347	122919	123.516	126.538	127.208					
15	M = P _n - P _{n-1}			1073	1049	1046	1007					
16	N = I _n + I _{n-1}			240.236	240.533	249.74	250.424					
17	M x N	I5 x I6			252238		252290					
18	Σ (M x N)	Σ I7			251614							

3RD

WORK SHEET FOR POINTWISE CALCULATION

(SUBSURFACE) PRESSURE (P_f & P_s)
(SURFACE) (P_o & P_w)Form G-1002-B
Adopted 9-1-66COMPANY Pogo LEASE St L922 WELL NO. 2 DATE 1-29-79LOCATION: Unit 17116 Section 17 Township 17N Range 17EL 17116 H 17116 I/H 1.000 G/H 1.785 % CO₂ 0 % H₂S 0
d 2441 F₁ 010763 Q_m 1348 M₂ 17 (I/H) (F₁ Q_m)² 1000210 P_o 666 T_o 418

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		0	8558		17116						
2	GH		0	6118		13436						
3	37.5GH		0	251926		503852						
4	P _o or P _n		26512	3588.1	3574.3	4514.9	4491.8	PS=	4488.7			
5	P ₁		3.55	5.59	5.37	6.78	6.74					
6	T		534	604	604	673	673					
7	T ₁		1.28	1.44	1.44	1.61	1.61					
8	Z		1651	1808	1807	1932	1930					
9	P/Z P/Z	4÷8	4041.8	4440.7	4425.1	4844.3	4825.9					
10	P/TZ	9÷6	7.569	7.352	7.333	7.198	7.177					
11	(P/TZ) ² /1000 (10 ³) ² /1000		1057287	1054054	1053772	1051813	1051505					
12	L/H(F ₁ Q _m) ²		1000210	1000210	1000210	1000210	1000210					
13		11+12	1057497	1054264	1053982	1052023	1051715					
14	I _n	10÷13	131637	135088	135840	138364	138223					
15	M=P _n -P _{n-1}			957	943	940	918					
16	N=I _n +I _{n-1}			267125	267177	274204	274613					
17	M×N	15×16			252250		251969					
18	Σ(M×N)	Σ17			251594							

One copy to be filed in District Office (Work copy acceptable)

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Form C-122-E
Adopted 9-1-65

(SUBSURFACE) PRESSURE (P_c & P_w)
(SURFACE)

WORK SHEET FOR STEPWISE CALCULATION

COMPANY 1050 LEASE St. L 122 WELL NO 2 DATE 1-25-79

LOCATION: Unit Section Township Range

17116 H 17116 I/H 0.02 G 191X.285 % CO₂ % N₂ % H₂S

A F₁ Q₁₀₀ M₂₀₀ (I/H) (F₁ Q₁₀₀)² P_{CT} 666 T_{CT} 418

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		12440	8558								
2	GH		12432	8558								
3	37-SGH		50300	251226								
4	P _c or P _n		6215.9	5144.6	512.6	4033.5	3581.0	3013.4	P _w = 3986.8			
5	P ₁		4	7.72	1.27	6.06	5.18	5.08				
6	P		623	604	604	534	534	534				
7	T ₁		61	144	144	1.58	1.28	1.28				
8	Z		12440	1963	1961	1.808	1.801	1.801				
9	P/Z P/Z	4÷8	5223.7	5342.3	5331	4441.9	4520.0	4573.1				
10	P/TZ	9÷6	8.005	8.845	8.827	9.348	9.307	9.313				
11	(P/TZ) ² /1000 (10 ² /1000)											
12	L/H(F ₁ Q _m) ²											
13	I ₁ + I ₂											
14	I _n	I ₀ ÷I ₃	117.582	113.060	113.288	106.572	107.444	107.378				
15	M = P _n - P _{n-1}			1071	1052	1050	1143	1140				
16	N = I _n + I _{n-1}			230642	230670	230260	220732	220660				
17	M × N	I ₅ × I ₆			205.25			351602				
18	Σ (M × N)	Σ I ₇			201.77							

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Form C-123-F
Adopted 9-1-65

WORK SHEET FOR STEPWISE CALCULATION

COMPANY Logan LEASE 286 2 222 WELL NO. 2 DATE 1-29-79

LOCATION: Unit 17116 Section 6 Township G Range 14

L 17116 H 17116 L/H 1.00 G 14 X 285 % CO₂ 0 % N₂ 0 % H₂S 0

A 5 F₁ 0.00 M₂ 0.00 (1/H) (F₁ Q_m)² 0 P_{cc} 666 T_{cc} 418

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		17116	8558		0						
2	CH		13736	6215		0						
3	37.5GH		503852	21126		0						
4	P _c or P _n		5258.1	4250.8	4244.1	3232.3	3154.3	3201.5	P _{WE}	3208.0		
5	P _i		7.20	6.38	1.77	4.85	4.180	4.80				
6	T		622	604	604	521	521	534				
7	T _r		1.61	1.44	1.44	1.28	1.28	1.28				
8	Z		1937	1.69	1.869	1.708	1.705	1.705				
9	P/Z P/Z	4÷8	5381.9	4891.6	4884.3	4565.3	4536.5	4541.1				
10	P/TZ	9÷6	7.957	8.099	8.187	8.549	8.495	8.504				
11	(P/TZ) ² /1000 (10 ² /1000)											
12	L/H(F ₁ Q _m) ²											
13	I ₁ + I ₂											
14	I _n	10÷13	125.049	123.477	123.663	116.969	117.711	112.592				
15	M=P _n -P _{n-1}			1007	1014	1012	1096	1093				
16	N=I _n + I _{n-1}			248.526	248.712	240.632	241.322	241.25				
17	M x N	15x16			252114			251615				
18	Σ (M x N)	Σ17			251738							

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(SUBSURFACE) PRESSURE (P_f & P_s)
(SURFACE) (P_c & P_w)

Form 1-122-F
Adopted 9-1-65

WORK SHEET FOR STEPWISE CALCULATION

COMPANY Logan LEASE St. L. 122 WELL NO. 2 DATE 1-29-79

LOCATION: Unit Section Township Range

L 17116 H 17116 I/H 1.00 C 0.014785 % CO₂ % H₂S
 F₁ 2.401 F₂ 0.010763 Q₁ 2.614 M₂ 0.014 (1/H) (F₁ Q₁)^{1/2} 1000731 P_{cc} 666 T_{cc} 418

TABLE IX & X

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H			8505		17116						
2	GH			6705		13434						
3	37.5GH			251926		503852						
4	P _c or P _n		1763.2	7441.4	2455.2	3150.0	5122.6	B = 3176.8				
5	P _i		2.65	3.67	3.69	4.73	4.76					
6	T		534	604	604	603	673					
7	T _i		1.28	1.44	1.44	1.61	1.61					
8	Z		651	1740	741	836	836					
9	P/Z, P/Z	4÷8	2754.3	3299.2	333.3	3767.7	3767.7					
10	P/TZ	9÷6	5.233	5.462	5.486	5.558	5.639					
11	(P/TZ) 2/1000 (100 2/1000)		0.27381	0.29835	0.30091	0.31342	0.31796					
12	L/H (F ₁ Q _m) ²		0.00791	0.0079	0.00791	0.00791	0.00791					
13		11+12	0.28172	0.30626	0.30682	0.3233	0.32587					
14	I _n	10÷13	185.735	178.309	177.628	174.225	173.028					
15	M = P _n - P _{n-1}			1678	692	695	717					
16	N = I _n + I _{n-1}			369.087	363.366	351.453	350.666					
17	M x N	15 x 16			251.927		251.523					
18	Σ (M x N)	Σ 17			252.925							

3 RP

Form C-122-E
Adopted 9-1-65

(SUBSURFACE) PRESSURE (P_c & P_w)
(SURFACE)

WORK SHEET FOR STEPWISE CALCULATION

COMPANY Page LEASE SL 922 WELL NO. 2 DATE 1-29-79

LOCATION: Unit 17116 Section 1 Township G.M. 14 Range 785

17116 H 17116 I/H 1.50 G.M. 14 785 % CO₂ 0 % H₂S 0

d 1 F₁ 0.00 M₂ 0.00 (I/H) (F₁O_m)² 0 P_c 666 T₀ 418

TABLE IX & X

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		17116	8558								
2	GH		13428	6715								
3	37.5GH		50382	251926								
4	P _c or P _n		4488.7	3586.3	3520.5	2661.8	2633.0	2633.0	P _w = 2638.0			
5	P _r		6.74	5.38	5.37	4.00	3.55	3.55				
6	T		673	604	604	534	534	534				
7	T _i		1.61	1.44	1.44	1.28	1.28	1.28				
8	Z		930	1802	1807	1653	1651	1651				
9	P/Z P/Z	4÷8	4826.6	4432.3	4425.2	4078.3	4044.6	4050.1				
10	P/TZ	9÷6	7.172	7.347	7.333	7.634	7.524	7.545				
11	(P/TZ) ² /1000	(10) 2/1000										
12	L/H(F ₁ O _m) ²											
13	I ₁ + I ₂											
14	I _n	I ₀ ÷13	136.437	136.119	136.364	131.000	132.078	131.847				
15	M=P _n -P _{n-1}			903	914	913	941	938				
16	N=I _n +I _{n-1}			275.886	275.801	262.365	268.372	268.211				
17	M x N	I ₅ x I ₆			252.150			251.533				
18	Σ (M x N)	Σ I ₇			251.712							

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WORK SHEET FOR STEPWISE CALCULATION

(SUBSURFACE) PRESSURE (P_f & P_g)
(SURFACE) (P_c & P_w)

Form C-20-2
Adopted 6-1-65

COMPANY Logo LEASE alt. 80 722 WELL NO. 2 DATE 1-29-77

LOCATION: Unit 17116 Section 100 Township GM1X 78S Range 418

17116 17116 100 GM1X 78S % CO₂ 666 % N₂ 418 % H₂S 418

LINE	ITEM	SOURCE	1	2	3	4	5	6	7	8	9	10
1	H		17116	8558								
2	GH		17116	6718								
3	37.5GH		503852	251926								
4	P _c or P _n		31268	2466.4	2474.6	17713	17258	1789.9	P _w =	1788.0		
5	P _f		4.77	3.20	3.72	266	3.20	2.69				
6	P _g		673	604	604	534	534	534				
7	P _g		1661	144	144	128	128	128				
8	Z		837	741	741	631	629	629				
9	P/Z P/Z	4-8	3255.5	3328.5	3335.6	2407.1	28544	28056				
10	P/TZ	9-5	5,639	5,511	5,529	5257	5,346	5,329				
11	(P/TZ) ² /1000 (10 ² /1000)											
12	L/H (F _r Q _m) ²											
13		11+12										
14	I _n	10-13	177317	181463	180861	190233	187045	187659				
15	M=P _n -P _{n-1}			710	702	903	679	685				
16	N=I _n +I _{n-1}			358780	358178	374894	361506	366340				
17	M x N	15x16			251926			252224				
18	Σ (M x N)	Σ 17			251926							