

EL PASO NATURAL GAS COMPANY

P. O. Box 997  
Farmington, N.M.

June 5, 1956

Mr. E. C. Arnold  
Oil Conservation Commission  
Aztec, New Mexico

Re: Packer Leakage Test on the EPNG Well, Heaton No. 8,  
NE 30-31-11, San Juan County, New Mexico.

Dear Mr. Arnold:

This well was dually completed in the Pictured Cliff and Mesa Verde zones. A production packer is set at 2568'. This well was tested today with the following results obtained:

SIPC - 650 psig (Shut-in 9 days)  
SIPT - 1005 psig.

The casing was opened through a 3/4" choke at 9:50 A.M. and was left open for three hours.

<u>Time</u>	<u>Casing Choke Pressure, Psig</u>	<u>Temp. °F</u>	<u>Choke Vol. MCF/D</u>	<u>Tubing Pres. Psig</u>
9:50	Opened casing			1,005
10:05	489	62	7,109	1,006
10:20	417	64	6,030	1,007
10:35	372	65	5,356	1,007
10:50	343	67	4,933	1,007
12:50	251	75	3,585	--

At 10:55 A.M., the tubing was opened through a 3/4" choke and was left open for three hours.

<u>Time</u>	<u>Tubing Choke Pressure, Psig</u>	<u>Temp. °F</u>	<u>Choke Vol. MCF/D</u>	<u>Casing Pres. Psig</u>
10:55	Opened tubing			
12:50	Shut-in casing			
1:05	324	81	4,493	419
1:20	317	81	4,395	465
1:35	311	81	4,315	485
1:50	306	81	4,244	506
1:55	305	81	4,231	

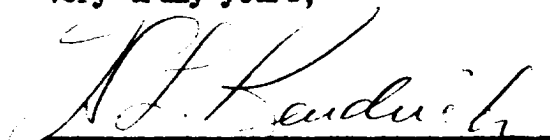
The tubing was shut-in at 1:55 P.M.



This test indicates that there is no leakage past the production packer.

This test was witnessed by Mr. Fred Cook of the New Mexico Oil Conservation Commission.

Very truly yours,

  
H. L. Kendrick  
Gas Engineer

HLK/jla

cc: E. E. Alsup  
D. H. Tucker  
R. W. Harris  
W. T. Hollis  
C. C. Walker  
W. M. Rodgers  
Wayne Cheek  
Drilling Department  
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C. C. Kennedy  
E. J. Coel, Jr.  
A. J. Dudenhoeffer  
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Oil Conservation Commission, Santa Fe, N.M.



No. 6013

10/10/2011 11:24

2000

Trial	Control	MCI	AD
1	95	85	75
2	95	85	75
3	95	80	70
4	95	78	68
5	95	75	65

1. *Phragmites* (common)

Condition	Control (%)	MCI (%)	AD (%)
1	85	65	35
2	90	70	40
3	95	75	45
4	80	60	30

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

File:

# OPEN FLOW TEST DATA

Date: June 5, 1956

Operator: El Paso Natural Gas Company Lease: Heaton No. 8

Location: 990'N, 1650'E, Sec. 30-31-11 County: San Juan State: N.M.

Formation: Pictured Cliff Pool: Wildcat

Casing: 7 " Set @ 4625 ' Tubing: 2 " Set @ 4767 '

Pay Zone: 2412 ' To: 2448 ' Total Depth: 4915 - c/o - 4880 '

Choke Size: .750 " Choke Constant = C = 14.1605

Stimulation Method: Sand Water Frac. Flow Through: Casing X Tubing

Shut-In Pressure Casing: 650 psig / 12 = 662 psia (Shut-in  days)

Shut-In Pressure Tubing:  psig / 12 =  psia

Flowing Pressure: P : 251 psig / 12 = 263 psia

Working Pressure: P<sub>w</sub> : Calculated psig / 12 = 264 psia

Temperature: T : 75 °F / 460 = 535 ° Absolute

F<sub>pv</sub> (from tables) : 1.024 Gravity .660 n .85

$$\text{Choke Volume} = Q = C \times P_t \times F_t \times F_g \times F_{pv}$$

$$Q = \frac{14.1605 \times 263 \times .9859 \times .9535}{1.024} = 3585 \text{ MCF/D}$$

$$\text{Open Flow} = Aof = Q$$

$$Aof = 3585$$

$$Aof =$$

$$\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n$$

$$\left[ \frac{438,244}{368,308} \right]^n$$

$$= 3585(1.1899)^{.85} = 3585 \times 1.1592$$

$$4156 \text{ MCF/D}$$

Tested By: H. L. Kendrick

Witnessed By: Mr. Fred Cook (NMOCC)



*Lewis D. Gallaway*

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