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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

December 16, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of American Petroleum
Corporation for a unit agreement,
El Paso County, New Mexico

Case No. 4476

Present: Elvin L. Day, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4476. This is a unit agreement.

MR. HATCH: Case 4476. Application of Hanagan Petroleum Corporation for a unit agreement, Eddy County, New Mexico.

MR. RICHARDSON: I'm Richardson from Roswell, representing Hanagan Petroleum Corporation, Case Number 4476, Application for approval of a Catclaw Draw unit agreement, Eddy County.

We'd like to swear the witness.

(Witness sworn)

MR. UTZ: Are there other appearances? You may proceed.

HUGH HANAGAN

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. RICHARDSON:

Q Would you state your name, please?

A Hugh Hanagan.

Q You have testified before the Commission as an expert before?

A Several times.

MR. RICHARDSON: Would you like a restatement of qualifications?

MR. [REDACTED]: (Case 443) This is a very important

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Mr. [REDACTED]: This is a very important

MR. UTZ: No. We know Mr. Hanagan's qualifications well. He's qualified.

MR. RICHARDSON: Well, fine.

Q (By Mr. Richardson) Mr. Hanagan, would you please state the approximate location of the unit area, the total number of acres within the unit area and the division of ownership among State, Federal and fee lands?

A The unit is located in the central Eddy County New Mexico, the Southeast corner of the unit is approximately four miles West of the City of Carlsbad, New Mexico.

It would consist of 6,720 acres 65.4762 percent federal land, 1,840 acres 27,3810 state land, 480 acres, 7.1428 percent fee lands, as shown on Exhibit A that we'll present.

Q Mr. Hanagan, may I have your geological report? Is that a complete one?

A Yes.

MR. RICHARDSON: We would like to --

A Wait. Here's one that you can give to them. That's mine there.

MR. RICHARDSON: This is a geological report which we would like to introduce into evidence.

(Thereupon, Applicant's Exhibit

A was marked for identification.)

Mr. [Name] - Now we know that [Name] is a [Name]

is a [Name]

Mr. [Name] - Well, [Name]

(Mr. [Name] - Mr. [Name], [Name] is a [Name]

the approximate location of the unit area, the [Name]

number of acres within the unit area and the [Name]

consists of [Name] and [Name]

The unit is located in the [Name] [Name] [Name]

section, the southeast corner of the unit is approximately

four miles west of the City of [Name] [Name]

It would consist of 6,720 acres 66.666 percent

Federal land, 1,960 acres 17.333 percent, 480 acres

1.143 percent, the land, as shown on Exhibit A is a

well [Name]

Mr. [Name] - Have you got [Name] [Name] [Name]

occupies [Name]

Yes.

Mr. [Name] - We would like to [Name]

Well, [Name] one that you can give to [Name] [Name]

nine there.

Mr. [Name] - This is a [Name] [Name] [Name]

we would like to introduce into evidence.

(Exhibit, [Name] [Name] [Name])

A was [Name] for [Name] [Name]

Q (By Mr. Richardson) Mr. Hanagan, you have a geological report which was just handed to the Commission. Would you give the Commission a brief review of the report, your conclusions and recommendations?

A This report consists of an Exhibit A which is a lease ownership plat of the unit area containing all of the owners within the unit area.

We have Exhibit B, which consists of a detailed description of all leases within the unit area, the number of acres within each lease, the amount of overriding royalties and working interest owners of record.

We also have three geological maps, the first one is a structure map, a subsurface structure map, contoured on top of the upper Mississippian formation.

Number two is an Isopach map contoured on top of the Cisco Canyon Reef.

MR. HATCH: Would this be -- we're still going A, B, D, D? Would this first plat be Exhibit C?

THE WITNESS: Yes, sir.

MR. HATCH: Go ahead.

A And so the Isopach map of the Cisco Canyon Reef would be Exhibit D. Exhibit E is a North-south cross section through the proposed well, or the number one well, in the

1941. Mr. [Name], you have a [Name]

report which was first handed to the [Name]

and then the [Name] a [Name] review of the [Name]

some [Name] and [Name]

This report consists of an [Name] and [Name]

operation list of the unit and [Name] of the

where within the unit [Name]

to have [Name] of which [Name] of a [Name]

recognition of all [Name] within the unit [Name]

in [Name] of [Name] within each [Name], the [Name]

on [Name] [Name] and [Name] [Name] [Name]

[Name]

to [Name] [Name] [Name] [Name] [Name]

as a [Name] [Name], a [Name] [Name] [Name]

at [Name] of the [Name] [Name] [Name]

[Name] [Name] [Name] [Name] [Name]

[Name] [Name] [Name]

[Name] [Name] [Name] [Name] [Name]

[Name] [Name] [Name] [Name] [Name]

[Name] [Name] [Name]

[Name] [Name] [Name]

[Name] [Name] [Name] [Name] [Name]

[Name] [Name] [Name] [Name] [Name]

[Name] [Name] [Name] [Name] [Name]



unit area.

Q Mr. Hanagan, this report was prepared by you, was it not?

A Yes, it was.

Q Prepared by you directly?

A Yes.

Q Has a definite location for the initial test well been chosen?

A Yes, it has.

Q Would you tell where, please?

A It is spotted on all the exhibits except Exhibit B. It would be located 1980 feet north and west of Section 26, Township 21 South, Range 25 East, Eddy County, New Mexico.

Q Mr. Hanagan, has the unit area been designated by the United States Geological Survey as an area logically suitable for unitization?

A Yes. We have received an approval from Washington D.C. as to the unit. Their letter, dated November 25th, 1970.

Q Do you know, Mr. Hanagan, if the agreement has been submitted to the Commissioner of Public Lands of the State of New Mexico for his approval?

A Yes. We received his tentative approval December 2nd, 1970.

Q In your opinion, does the unit area cover all or substantially all of the structure involved?

A As indicated in Exhibits C and D, which is the structure map on top of the upper Mississippian, and also the Isopach map of the Cisco Canyon Reef. These two maps, according to our interpretation, the unit area does cover essentially all of the structure.

Q In the event a discovery of unitized substances, will the unit agreement promote orderly conservation or orderly development, conservation, prevention of waste?

A Yes.

Q In the event a discovery of unitized substances, will the State of New Mexico in the respective state institutions owning the land within the unit area receive their fair share of production?

A Yes.

Q Has the unit agreement been submitted to other working interest owners, owning land within the area?

A Yes, it has, to all.

Q Have you had any objections to proposed units from any owners of any interest within the area?

A We have had no objections, whatsoever.

Q Do you anticipate any?

A No, we do not.

Q Do you have an idea or an estimate as to the percentage of commitments that you will receive?

7

[illegible]

1. The above information was obtained from a review of the records of the FBI, and is being furnished to you for your information.

Page 1 of 1

the rate of the antihypertensive use of substances

114. Knowledge is critical to preventing a false alert.

to bring me ages 7-10 story to 7-10 school time.

...and the ...

10

...in a positive fashion to prevent a drive and in the event of a drive to prevent a drive.

These authors also did not agree with the statistical

from the fact of his past oil business prostitution.

(continued on 2nd page)

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of the number of bottling seed containers "in" and out

From left to right: David Byrne, Brian Auger, and

15 of 251 71, 200

There are no other grounds for objection to your application.

There are still a lot of people who are in a hurry

...nevertheless, an attitude on the part of

From station 1245 out to

Page 10 of 10

[illegible]

Sectioned (low ray test assumptions) in

A Between ninety and a hundred percent.

MR. RICHARDSON: Do you have any questions or would you like for Mr. Hanagan to discuss the geology any additionally?

MR. UTZ: Oh, I don't think it's really necessary. He's drawn these Isopach maps here. I would like to know what these Isopach maps are based on.

THE WITNESS: Both of these maps are subsurface Isopach maps based on the thickness of the ABO reef in the surrounding wells.

MR. UTZ: And the test well will go to the Mississippi?

THE WITNESS: Yes, sir. It will test all horizons through the Pennsylvanian.

MR. UTZ: Are there other questions?

MR. HATCH: Is there a copy of the unit agreement here in the files?

MR. RICHARDSON: I think we filed one with the Commission --

MR. HATCH: I think there is.

MR. RICHARDSON: -- and Commissioner both.

MR. UTZ: If there is, it's not -- yes, it is.

MR. RICHARDSON: You will be furnished, of course, an executed copy after executions.

between itself and a budgeted amount.

MR. WATSON: Do you have any questions?

Would you like for Mr. Leachman to discuss the report any

additional?

MR. WATSON: Of course, I don't think this really matters.

I'm sorry, those people have been, I would like to know

what they have been doing.

MR. WATSON: I am of course, and I would like to know

what they have been doing on the telephone on the line in the

telephone office.

MR. WATSON: And the fact will tell you the

difference.

MR. WATSON: Yes, sir. It will tell you the difference

between the two.

MR. WATSON: Are there other questions?

MR. WATSON: Is there a copy of this in the appendix?

There is the file.

MR. WATSON: I think we will stop with this.

Continued.

MR. WATSON: I think that is.

MR. WATSON: -- and I would like to know.

MR. WATSON: It seems to me, it's not -- yes, it is.

MR. WATSON: You will be furnished, of course.

An executive order after execution.

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MR. UTZ: Are there any other questions? Witness may be excused. Statements in the case? Case will be taken under advisement.

STATE OF NEW YORK
IN SENATE
JANUARY 12, 1910.
REPORT
OF THE
COMMISSIONERS OF THE LAND OFFICE
IN RESPONSE TO A RESOLUTION
PASSED BY THE SENATE
MAY 1, 1899.



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I, Linda Malone, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Court Reporter

New Mexico Oil Conservation Commission

1. *Chlorophyll a* and *Chlorophyll b* contents were determined by spectrophotometry using the method of Lichtenthaler and Whistler (1987).

52

(Cont.) FROM THE YEAR 1960-1970

U. S. Labor Union, Local Reporter is not in the U. S. of

With a 10 percent volume of interest was to state of the school

and attached University of Illinois at Chicago

1. The following information is for your information only. It is not to be used for any other purpose.

[illegible]

1. What is the purpose of the study?

[illegible]
$$x_{i+1} = \begin{cases} x_i + \Delta x_i & \text{if } \Delta x_i \geq 0 \\ x_i - \Delta x_i & \text{if } \Delta x_i < 0 \end{cases}$$

1. *Phragmites australis* (Cav.) Trin. ex Steud.

Figure 1. The effect of the concentration of the H_2O_2 solution on the amount of the released H_2O_2 from the H_2O_2 -loaded hydrogel. The amount of the released H_2O_2 was measured by the amount of the released H_2O_2 from the H_2O_2 -loaded hydrogel. The amount of the released H_2O_2 was measured by the amount of the released H_2O_2 from the H_2O_2 -loaded hydrogel.

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Lichtenthal and Whistler (1973).

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

1. *Chlorophyll a* and *Chlorophyll b* were determined by the method of Arar and Collins (1971) using a Shimadzu 1010 UV-Visible Spectrophotometer.