



P-W

WHITLOCK OIL CO. PENROD #1 5-10
NE/NE Sec 21-T10S-R29E, Graham Co.

County Graham

Area _____

Lease No. _____

Well Name Whitlock Oil Company Penrod # 1 Federal

Location SW NE Sec 20 Twp 10S Range 29E Footage 2320' FNL + 1790' FEL

Elev _____ Gr _____ KB _____ Date _____ Spud _____ Completed 1930? Total _____ Abandon _____ Depth 521

Contractor: _____ Approx. Cost \$ _____

Casing Size 8 1/2 Depth 385 Cement _____ Drilled by Rotary _____ Cable Tool _____

Production Horizon _____ Initial Production D & A

REMARKS Note: U.S.G.S Artesia carries in Section 20
sec. DM-201 and Invelim Peak 7.5' Quad

Elec. _____ Sample Log _____
Logs _____ Sample Descrip. X
Applic _____ Plugging _____ Completion _____ Sample Set _____
to Plug _____ Record _____ Report _____ Cores _____

Water well - accepted by _____

Bond Co. & No. _____

Bond Am't. \$ _____ Cancelled _____ Date _____ Organization Report _____

Filing Receipt _____ Dated _____ Well Book _____ Plat Book _____
Loc. Plat _____ Dedication _____

5-10

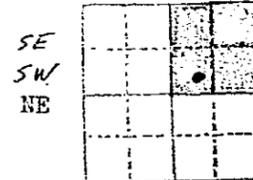
02-009-05016

PERMIT NUMBER none Date Issured _____

5-10

*Stratigraphic
Log*

Sec. 20-10S-29E.



Arizona
Graham County
Whitlock Field

Well No. 1* (Penrod) Whitlock Oil Company.

0	12	Cemented gravel
12	42	Quicksand
42	48	Brown clay
48	93	Brown sand
93	103	Sand with sandstone shells
103	115	Brown sand
115	130	Brown clay
130	136	Hard conglomerate
136	155	Fine brown sand
155	173	Brown clay and boulders
173	193	Cemented gravel and boulders
193	198	Sandstone
198	206	Gravel
206	253	Sandy shale and shells
253	282	Sandy shale and shells
282	285	Blue shale
285	296	Blue and brown shale
296	325	Blue and brown shale with shells
325	343	Soft shale
353	373	Blue shale
373	382	Hard lime shells
382	513	Hard red rock; conglomerate (Well sheet gives T.D. 521')

P&A. for WW.

8 $\frac{1}{4}$ " casing landed at 385'

*Our No. 1; Mr. Holm's No. 2.

No Permit

Well No. 1 * (Penrod) Whitlock Oil Company.

Sec. 20-10S-29E, Whitlock Field
Graham County, Arizona

SW NE 20-10S-29E

0	-	12	Cemented gravel
12	-	42	Quicksand
42	-	48	Brown clay
48	-	93	Brown sand
93	-	103	Sand with sandstone shells
103	-	115	Brown sand
115	-	130	Brown clay
130	-	136	Hard conglomerate
136	-	155	Fine brown sand
155	-	173	Brown clay and boulders
173	-	193	Cemented gravel and boulders
193	-	198	Sandstone
198	-	206	Gravel
206	-	253	Sandy shale and shells
253	-	282	Sandy shale and shells
282	-	285	Blue shale
285	-	296	Blue and brown shale
296	-	325	Blue and brown shale with shells
325	-	343	Soft shale
353	-	373	Blue shale
373	-	382	Hard lime shells
382	-	513	Hard red rock; conglomerate

(Well sheet gives T.D. 521')

P&A. for WW

8 $\frac{1}{4}$ " casing landed at 385'

*Our No. 1; Mr. Holm's No. 2

No Penrod

LOG OF BUREAU WELL No. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

WATER COUNTY, ILLINOIS

<u>DEPTH FEET</u>	<u>DESCRIPTION</u>	<u>THICKNESS</u>
0 to 12	Cemented gravel	12 ft.
12 "	Black sand	30 "
42 "	Brown clay	8 "
48 "	Brown sand	45 "
93 "	Sand with sand stone shells	50 "
103 "	Brown sand	12 "
115 "	Brown clay	15 "
130 "	Hard conglomerate	8 "
136 "	Fine brown sand	155 "
151 "	Brown clay and boulders	15 "
173 "	Cemented gravel and boulders	20 "
193 "	Sand stone	5 "
198 "	Gravel	5 "
203 "	Sandy shale and shells	47 "
253 "	Sandy shale and shells	50 "
303 "	Blue shale	5 "
308 "	Blue and brown shale	11 "
320 "	Blue and brown shale with shells	12 "
330 "	Soft shale	15 "
343 "	Blue shale	20 "
373 "	Hard blue shale	5 "
382 "	Hard red rock (conglomerate)	155 "

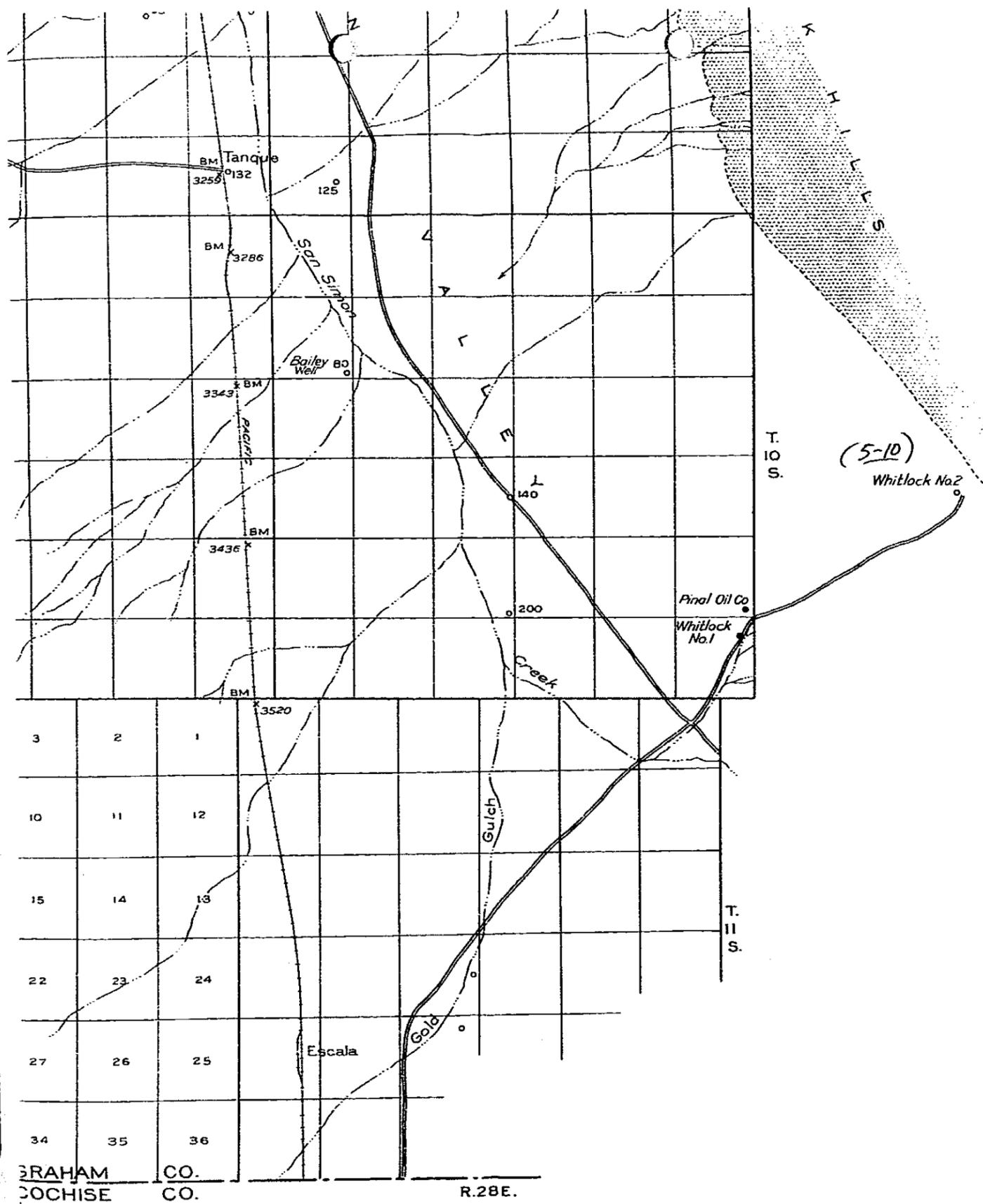
6 1/2" casing landed at 365 ft

J. Barnett, Driller

April 19th, 1923

Location			County	Land status	Operator, lease, and well number	Comple- tion date	Eleva- tion (feet)	Total depth (feet)	Geologic formation		Status	
Section	T.	R.							Surface	Bottom		
Northeast quadrant—Continued												
SW $\frac{1}{4}$ SE $\frac{1}{4}$ 19,	41 N	31 E	Apache	Indian	El Paso Natural Gas Co., Navajo Tribal 4-X	1956	5081	690	Jm	Jm	A	
SW $\frac{1}{4}$ SE $\frac{1}{4}$ 34*	42 N	18 E	Navajo	do	The Texas Co., Navajo 1	1953	6662	4523	Jm Tcs	De	A	
Southeast quadrant												
SE $\frac{1}{4}$ SE $\frac{1}{4}$ 17	1 S	8 E	Pinal	State	Robison-Mason, Nickols 1	1952	1535	2836	Qal	gr	A	
SW $\frac{1}{4}$ 32	2 S	10 E	do	do	East Lantorn Oil Co., State 1	1949		1020	Qal	v	A	
NE $\frac{1}{4}$ NW $\frac{1}{4}$ 36	4 S	3 E	do	do	Robison-Mason, Harbor 1	1950	1195	3642	Qal	gr?	A	
S $\frac{1}{2}$ SW $\frac{1}{4}$ 25	4 S	9 E	do	Par'd	Schoenheit, Moorhouse 1	1945	1462	415	Qal	Qal	A	
NW $\frac{1}{4}$ NW $\frac{1}{4}$ 19	4 S	23 E	Graham	State	R. S. Knowles 1	1919		810	Qal	QTg	W	
SW $\frac{1}{4}$ SW $\frac{1}{4}$ 31	5 S	10 E	Pinal	Public	Western Oil Fields Inc., Hines 1	1955	1625	5142	Qal	v	A	
8*	5 S	14 E	do	Par'd	Hackberry	1905		700			A	
NE $\frac{1}{4}$ SE $\frac{1}{4}$ 17	5 S	24 E	Graham	do	A. C. Alexander 1	1906		1400	Qal		A	
SW $\frac{1}{4}$ NE $\frac{1}{4}$ 30	5 S	24 E	do	do	Gila Oil Synd. 1	1931		2645	Qal		A	
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 30	5 S	24 E	do	do	Ashurst Oil Co. 1	1928		1247	Qal		A	
SE $\frac{1}{4}$ SE $\frac{1}{4}$ 25	6 S	7 E	Pinal	do	Casa Grande Oil Development Assoc., Laveen 1	1945	1474	4742	Qal	gr	A	
NW $\frac{1}{4}$ NE $\frac{1}{4}$ 13	6 S	24 E	Graham	do	Underwriters Synd. of N. Y., Mack 1	1928		3767	Qal		A	
NE $\frac{1}{4}$ NW $\frac{1}{4}$ 22	7 S	8 E	Pinal	do	Hatchett and others, McFarland 1	1945	1500	1260	Qal	Qal	A	
SW $\frac{1}{4}$ 8	7 S	26 E	Graham	do	Safford City 1	1907		1830	Qal		W	
17	7 S	26 E	do	do	Southern Pacific Railroad	1907		1820	Qal		W	
SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ 12	8 S	7 E	Pinal	do	Dr. Creed Cherry	1948	1685	2700	Qal		W	
SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ 25	8 S	16 E	do	do	Santa Maria Exploration Co. 1	1948	2909	2145	Qal		A	
33	8 S	17 E	do	do	San Pedro Oil Co., Smith 1	1930		1485	Qal		A	
SW $\frac{1}{4}$ NW $\frac{1}{4}$ 6	8 S	26 E	Graham	do		1932		1700	Qal		W	
SE $\frac{1}{4}$ NW $\frac{1}{4}$ 6	8 S	26 E	do	Par'd	Idle Oil Co., Healy 1	1913	2920	1800	Qal		A	
14	9 S	21 E	do	do	Waggoner, Eureka Ranch 3	1948		1501	Qal		W	
SW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ 15	10 S	10 E	Pinal	State	Ariz. Public Service Co.	1952		1950	Qal	QT	W	
SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ 15	10 S	10 E	do	do		1953		2240	Qal		W	
SE $\frac{1}{4}$ SE $\frac{1}{4}$ 25	10 S	28 E	Graham	Public	Bear Springs Oil and Gas Co., Allen 2 (Pinal 1)	1929	3350	1555	QTg		A	
SE $\frac{1}{4}$ SE $\frac{1}{4}$ 32	10 S	28 E	do	do	J. C. Clark 1	1926		1000	QTg		W	
NW $\frac{1}{4}$ NE $\frac{1}{4}$ 35	10 S	28 E	do	Public	U. S. Oil Co. 1	1917		900	QTg		A	
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 36	10 S	28 E	do	State	Whitlock Oil Co., State 1	1927		1925	QTg		A	
SW $\frac{1}{4}$ NE $\frac{1}{4}$ 20	10 S	29 E	do	Public	Whitlock Oil Co., Penrod 1	1930	3475	521	QTg		A	
20	10 S	30 E	do	State	U. S. Oil Refining Co. 1	1920		700	Qal		A	
NE $\frac{1}{4}$ SE $\frac{1}{4}$ 27	11 S	10 E	Pima	Public	M. T. Berry Mineral Development Project, Berry 1	1953	1920	3212	Qal	v	A	
NE $\frac{1}{4}$ NW $\frac{1}{4}$ 6	11 S	23 E	Graham	Par'd	Hooker and others 1	1930	4400	1985	Qal		A	
SW $\frac{1}{4}$ NE $\frac{1}{4}$ 28	11 S	28 E	do	Public	Bear Springs Oil and Gas Co., Reed 1	1928	3220	670	QTg		A	
28	11 S	28 E	do	Par'd	Howie 1	1912		1100	Qal		W	
SE $\frac{1}{4}$ 1	11 S	29 E	do	do	Secly	1927		650	QTg		W	
NE $\frac{1}{4}$ 14	11 S	29 E	do	Public	S. L. Martin, Martin 1		3400	676	QTg		W	
NW $\frac{1}{4}$ 26	11 S	29 E	do	Par'd	Howard			800	QTg		W	
SE $\frac{1}{4}$ SE $\frac{1}{4}$ 27	11 S	29 E	do	Public	S. L. Martin, Martin 2	1928		800	QTg		W	
SW $\frac{1}{4}$ NW $\frac{1}{4}$ 27	11 S	29 E	do	Par'd	S. L. Martin, Martin 3	1927		750	QTg		W	
NW $\frac{1}{4}$ SW $\frac{1}{4}$ 27	11 S	29 E	do	Public	S. L. Martin, Martin 4	1928		815	QTg		A	
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 35	11 S	29 E	do	Par'd	S. L. Martin, Martin 1	1927		680	QTg		W	
NE $\frac{1}{4}$ SW $\frac{1}{4}$ 6	12 S	11 E	Pima	State	Eloy Development Assoc., State 1	1949	1975	4950	Qal		A	
NE $\frac{1}{4}$ SE $\frac{1}{4}$ 29	13 S	22 E	Cochise	do	Duncan, Clayton 1	1945	4953	1000	Qal	QT	A	
NW $\frac{1}{4}$ NW $\frac{1}{4}$ 29	13 S	22 E	do	do	Duncan, Clayton 2	1945	4852	1180	Qal		A	
NE $\frac{1}{4}$ SE $\frac{1}{4}$ 33	13 S	22 E	do	do	Duncan and others, State 1	1955	4953	1428	Qal		A	
NE $\frac{1}{4}$ SE $\frac{1}{4}$ 33	13 S	22 E	do	do	Duncan and others, State 2	1957	4953	5307	Qal		A	
SW $\frac{1}{4}$ SE $\frac{1}{4}$ 23	13 S	24 E	do	Par'd	A. S. Waddell and others, McComb 1	1949		4172	6865	Qal	v	A
SE $\frac{1}{4}$ NW $\frac{1}{4}$ 16	13 S	28 E	do	State	Bowie Oil Syndicate 1	1925	3700	4110	Qal		A	
SE $\frac{1}{4}$ NE $\frac{1}{4}$ 27	13 S	30 E	do	Par'd	S. W. Funk and others, San Simon 1	1939		3600	6668	Qal	v?	A
SW $\frac{1}{4}$ SE $\frac{1}{4}$ 31	13 S	31 E	do	do	M. K. D. Fitzwater, Thayer 1	1947		3600	4137	Qal	v	W
31	13 S	31 E	do	do	State of Ariz., Winslow 1			3600	1190	Qal		W
SE $\frac{1}{4}$ SW $\frac{1}{4}$ 30	14 S	24 E	do	do	Francis Brothers Oil Co., Proctor 1	1950	4185	4605	Qal	v	A	
SW $\frac{1}{4}$ NE $\frac{1}{4}$ 4	14 S	25 E	do	do	Waddell and Duncan, Lawson 1	1949	4225	2702	Qal	QT	A	
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 6	14 S	25 E	do	do	Geronimo Oil Co., Bruning 1	1931		4100	770	Qal	QT	A
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 6	14 S	25 E	do	do	Geronimo Oil Co.-Clark, Holliday 1	1930		4100	428	Qal		A
6	14 S	25 E	do	do	Southern Pacific Railroad	1928		4075	650	Qal	QT	W
SE $\frac{1}{4}$ SE $\frac{1}{4}$ 9	14 S	25 E	do	State	Wilcox Oil and Gas Syndicate 1	1925	4175	2360	Qal		A	
SE $\frac{1}{4}$ NW $\frac{1}{4}$ 34	14 S	30 E	do	do	Ryan and others, Ryan 1	1931		4100	990	Qal		A
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 36	14 S	30 E	do	do	Ariz. Oil and Gas Development Co., State 1	1954	3866	7568	Qal	pC?	A	
SW $\frac{1}{4}$ SE $\frac{1}{4}$ 16	14 S	31 E	do	do	State of Ariz. 1	1923		3675	2000	Qal		W
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 26	14 S	31 E	do	Par'd	Carr 1	1927		865	Qal		A	
SE $\frac{1}{4}$ 19	15 S	26 E	do	do	Benedum-Trees Co., Arzberger 1	1931	4250	3298	Qal		A	
NW $\frac{1}{4}$ SE $\frac{1}{4}$ 34	16 S	20 E	do	do	Pomerene 1	1951		1000	Qal	QT	W	
NW $\frac{1}{4}$ NE $\frac{1}{4}$ 36	16 S	24 E	do	State	S. W. McCall, State 1	1928	4250	1510	Qal		A	
NW $\frac{1}{4}$ NE $\frac{1}{4}$ 9	16 S	31 E	do	do	Porral Drilling Co., Ellis 1	1953		4350	5353	Qal	v	A
NE $\frac{1}{4}$ NE $\frac{1}{4}$ 10	16 S	31 E	do	do	L. A. Thomson, State 1	1958		4310	5234	QTg		A
NW $\frac{1}{4}$ NE $\frac{1}{4}$ 17	17 S	19 E	do	Par'd	Century Petroleum Co., Colglazier 1	1931		4250	1550	Qal		A
NE $\frac{1}{4}$ SW $\frac{1}{4}$ 33	18 S	18 E	Pima	State	Cienega Basin Oil and Gas Co., State 1	1952		4800	560	X?	K	A
NW $\frac{1}{4}$ NW $\frac{1}{4}$ 34	18 S	18 E	do	do	Ted Jones Drilling Co., Juanita 1	1956		4860	2656	X?	K	A
SE $\frac{1}{4}$ SW $\frac{1}{4}$ 22	19 S	17 E	do	Par'd	Ariz. Oil Exploration Co., Boyce 1	1942		4450	2921	Qal	v	A

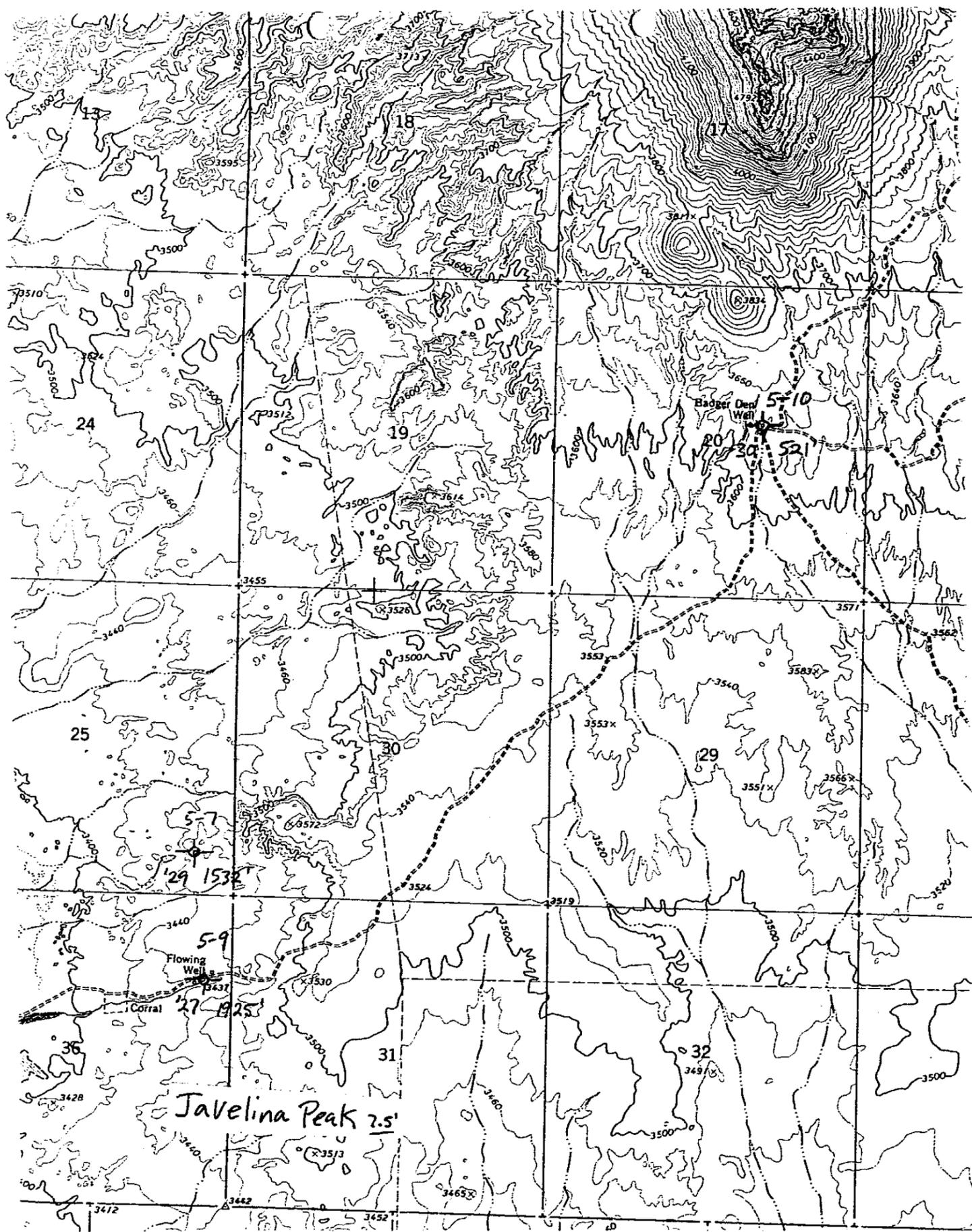
OM-201, 1959



Geology by Maxwell M. Knechtel.

GRAHAM CO. COCHISE CO. R. 28 E.

Plate 46, WSP 796-F, 1938



July 16, 1996

Dear Mr. Rauzi;

Yes, the note in the Heritage Fund Highlights newsletter is in reference to the project I'm doing for the Safford BLM. Or I should say, it's in reference to the Whitlock Oil Co. - State 1 well. I was over there July 2-3 and recorded the Bear Springs Oil & Gas - Pinal 1 site, which is very much the way it was left, and the Whitlock - State 1 location, which is completely altered as a result of the new facilities. I took photos and will send you prints when they come back. We also saw the Whitlock - Penrod 1 site, converted to a windmill-powered water well for stock, and the U.S. Oil Co. 1 site, which was either uncased or had the casing pulled as no actual well location could be seen there. At Whitlock - State 1 there is a 7' dia. bullwheel with two spooling drums on the same shaft, and a low A-frame of channel iron on which two shafts were mounted. I recorded both sites on Arizona State Museum forms. Interesting trip; warm out there.

Sincerely, *John Wilson*

file 5-10



Fife Symington
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

July 10, 1996

Mr. John P. Wilson
1109 Skyway
Las Cruces, New Mexico 88001-4016

Dear Mr. Wilson:

I thought of your work when I came across the enclosed note in the *Heritage Fund Highlights* about the Hot Wells Dunes Recreation Area. Is the 1928 oil drilling operation mentioned in this note the focus of your study?

In any event, I hope you had a good, fruitful trip to the field earlier this month, and that your research is coming along well.

Sincerely,

Steven L. Rauzi
Oil and Gas Program Administrator

Enclosure

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file 5-10

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9-27-27
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Fife Symington
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

June 3, 1996

Mr. John P. Wilson
1109 Skyway
Las Cruces, New Mexico 88001-4016

file 5-10

Dear John:

Thank you for sending the several newspaper quotes on early drilling activity in San Simon Valley. I'm not familiar with the "oil affinity instrument" mentioned in the articles. A seismograph instrument measures and records the travel time of sound waves through the earth, sourced either by dynamite or vibroseis at the surface. The descriptions in the accounts do not make it entirely clear if the "Trumbull Seismograph" was a true seismograph instrument in this sense, or something else, like maybe a witching stick?!

You may find information on old drilling equipment by contacting a museum in a drilling town. The Oil Museum in Midland, Texas, has several of the old rigs rigged up, and it may be a good source. Maybe the museum in oil towns like Roswell or Farmington.

Finally, a copy of the section on the overthrust play in Arizona from *Oil and Gas in Arizona* by Nations, Brennan, and Ybarra is attached. This article gives a good overview of that play in Arizona.

Sincerely,

Steve

Steven L. Rauzi
Oil and Gas Program Administrator

Enclosure

1109 Skyway
Las Cruces, New Mexico
88001-4016
May 29, 1996

Mr. Steven L. Rauzi,
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701

file 5-10

Dear Mr. Rauzi:

Back in March of this year you were most helpful with information about several oil wells drilled in southern Graham County, north of Bowie, back in the late 1920's. These were the Whitlock Oil Co. State 1, Whitlock Oil Co. Penrod 1, and Bear Springs Oil & Gas Co. Allen 2 (Pinal 1) wells. Since then I've managed to acquire a copy of the USGS Oil & Gas Investigations Map OM-201 (a xerox from the USGS library) and have gone thru the Safford newspaper from the 1927-1932 period, transcribing from this all of their reporting on drilling activity. A kind librarian at the Arizona State Library in Phoenix went thru their hard copies of the San Simon Valley Oil News from this same period and photocopied the more substantial articles about the doings of the various oil companies. You of course had sent me copies of the articles, from other newspapers, that are in your files. Yet to come are copies of the annual reports filed by several of these companies, from the Arizona Corporation Commission.

It looks like the only two wells I will be expected to deal with directly for the Safford BLM office are the Whitlock State 1 and Bear Springs Pinal 1 locations. I have yet to go thru all of the newspaper materials and sort out which paragraphs deal with which wells; this will be about the next step. At this time however I am enclosing for you a copy of my notes plus 2 printouts from the Safford newspaper. There are a number of wells represented, and I suspect that sometimes the paper's mileage estimates from Bowie (or wherever) for well locations may not be accurate. For what they're worth, here you are.

I have been curious about two aspects. One is this reliance on oil affinity instruments (i.e. May 13, 1927; also July 15, 1927), which in one article (Nov. 25, 1927, p. 8) is referred to as the Trumbull Seismograph. There seems to have been more than one type of device. Do you have an idea as to what these things were and how they worked?

As you'll see, there were some accidents. A boiler blew up at one rig near Pima, and a cyclone blew down the derrick at the Pinal 1 well at one time. I am told that there is debris around both of the well locations I will be visiting. What I would like to see is photographs or drawings, perhaps catalog illustrations, for equipment that would have been used in drilling oil wells at this period. We even have some names; No. 28 Star drilling machine, and a Keystone rig; also an Okell combination rotary. Can you advise me where to look to find illustrations that might show such equipment well enough that I could at least tentatively identify old oil drilling hardware if parts are still lying around? Thanks.

Sincerely,

John P. Wilson
John P. Wilson

June 1, 1996

Dear Mr. Rauzi;

I seem to recall that during the late 1970's - early 1980's there was a burst of oil exploration activity in what was being called the "overthrust belt", which at least included far southwestern New Mexico and I presume into Arizona. Did this activity extend through the old Bowie-Willcox-San Simon oil field areas, from the late 1920's? Can you advise me whether there is an article somewhere that would give me an overview of the drilling activity, and the findings (if any) in this "overthrust belt" period? I recall newspaper articles but didn't save any clippings relating to this. Thank you very much.

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Markets

Table with columns for 'LOCAL PRODUCE' and 'PHOENIX'. Lists items like Heavy Hens, Small Hens, Broilers, etc. with prices.

Table with columns for 'EGGS' and 'SAFFORD'. Lists items like White, extra, White, medium, etc. with prices.

COTTON SPOTS AND FUTURES

NEW YORK—The cotton market early selling on relatively easy cables was quiet but generally steady today...

CATTLE MARKET

KANSAS CITY—CATTLE—7,000; calves 1,000; beef steers and yearlings opening slow, steady to weak...

LOS ANGELES

LOS ANGELES—Cattle small supply cleaned up readily at strong prices...

Geologist Reports On Oil Indications As Found In Graham Co.

The following report of Claude Palmer, the geologist, who checked the Trumbull instrument in the proven oil fields from Florida to Graham county...

In compliance with your request, I am pleased to submit to you a report of my findings and impression of the M. C. Trumbull oil affinity instrument or machine. Also my opinion of the Arizona structure owned by Messrs. Lee, Trumbull, Proctor and others...

Of course, as you accompanied Messrs. Lee, Trumbull and myself throughout the trip from Florida to the Spindle Top fields of Beaumont, Texas, and then from there to El Paso, Texas, and later to Graham county, Arizona, and observed my own eyes and ears...

This situation made an ideal locality to test the instrument on and off light oil of limited amount, the dry streak including salt core, and on and off heavy oil of large volume.

While I had previously been biased in mind to a certain extent against Mr. Trumbull's machine or instrument, and had considered it the same as many other "doodle-bug" contraptions that I had checked against geology heretofore and found lacking...

or instrument while Mr. Trumbull took thirty tests at locations designated by me, and in every instance it registered correctly according to geology, and the production of the field.

To be sure that its readings were not influenced by minerals, lime, coal, salt, etc., I had him take a test 20 feet from a well which had been drilled into the salt core at 1500 feet depth, without production.

I kept my own counsel and said nothing, but thought considerably upon the subject during our twenty-four hour run across Texas into the city of El Paso, where the surrounding country has been thrown up by an igneous core dike which had caused the strata of the different formations from the territory to and including the Pre-Cambrian to emerge, creating a major monocline at the contact.

I had Mr. Trumbull set his instrument and take test readings in numerous places where the upturned edges of all strata, including lignite, coal, Cretaceous shales, Jurassic and Triassic Limestones and gypsum strata as well as Permian-Carboniferous sandstone, lime and cement stone and shales, Cambrian and Pre-Cambrian strata, carrying sulphureous waters, alkaline waters, were apparent. It did not register.

I was satisfied by this time, after comparing notes, that I was inspecting an instrument or machine that according to test demonstrations, had an affinity to petrolierous matter and something that may be of exceptional value to geologists and the Oil Fraternity, if intelligently used in connection with structural geology, to the extent of determining at least paraffine and asphaltic base oils in unproven territories.

As you know, I made considerable study of the formations as they existed, both east and west of the Continental Divide as we traveled by motor from El Paso, Texas, to the Gila valley in Graham county, Arizona, in order to intelligently compare the structural features of your anticline near Safford, which is in the heart of the Gila valley district.

which made the structural features of the lower formation hard to determine.

Upon reaching the Gila valley in Graham county, Arizona, I was pleased to note the features of an uplift, arising through an extensive syncline lying between two mountain ranges crossing a valley of about twenty miles wide.

My conclusions, after a thorough examination of the structure, which lies from 12 to 16 miles northwest of the town of Safford, which you are expecting to be interested in, is that you have a closed structure worthy of a test for oil or gas, providing the well is drilled to a depth of at least 3500 feet. In order to test both sands if necessary, the outline of this structure is very discernible and it appears to be one of several along a major Anticline. I was very well pleased with the action of Mr. Trumbull's instrument or machine upon this structure. We commenced testing with the machine on land on the same as we did on the edge of Florida structure. After checking around the edge of the structure, we checked two cross-sections across the apex of the structure (see blue print).

It registered upon two producing sands in the apex of the structure, while it registered on but one sand around the edge of the structure. The instrument registered perfectly according to structural geology. The pleasant surprise was the exceptionally large readings that the machine registered upon the apex of the structure at the locations mapped out by me for the first test wells to be drilled. In fact, it averaged from 700 to 1300 readings around and across both locations. These were the highest readings that were recorded on the trip; in fact they were more than double the average readings from the new Spindle Top field where we took tests, beside wells making from 2,000 to 3,500 barrels per day, settled production.

Therefore, my conclusions are that the machine or instrument does register to petrolierous matter, that it does not register or is not influenced by other minerals or formation content, that it does register increased or decreased production in the sands from place to place, according to porosity of sands; that it registers accurately, according to structural geology, even though it is influenced to higher readings on account of either hydrostatic or gas pressure.

The machine will not tell the depth to any sand, will not tell the character of the oil, will not determine the gathering ground of the area surrounding the field, will not determine the hydrostatic pressure or syphon conditions to be encountered. However, all this can be determined by competent geologists, while the machine or instrument does record conditions that no geologist can determine. Therefore, I believe, if this instrument is used in conjunction with geological knowledge, that the combination will create a revelation in the history of the oil industry.

Respectfully submitted, (Signed) CLAUDE P. PALMER, Geologist.

GRAHAM COUNTY GUARDIAN AND GILA VALLEY FARMER (Safford, Ariz.) Page 8

file 5-9

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visiting with Mr. and Mrs. Grandell Pace, who are here from Cedar City, Utah. Mr. Pace is a brother of W. W. Pace. Those present were Mr. and Mrs. W. C. Pace, Mr. and Mrs. J. Verne Pace, Mr. and Mrs. D. C. Pace, and Mr. and Mrs. A. E. Jameson. The guest men are getting ready for the spring shearing which will begin as soon as the weather clears up. Mr. Morrow has completed the interior work of the four apartment house he has made out of the Claridge home on Main street. It is a very decided improvement and the apartments have been rented for some time.

GLENBAR NOTES

(Lucite Hervert)
George Echols, who was recently married to Miss Beasie Thompson, gave a wedding dance Thursday evening. A large crowd was present and everyone had a most enjoyable time.
Mrs. Rilla Curtis and daughter, Mrs. Lucy Westera, arrived here from Artesia, California, Saturday evening, where they spent the winter. They intend to make their home here.
Anthon Christensen and wife were visitors from Eden Sunday afternoon.
President H. L. Payne of the Layton ward and William McBride of the Pima ward were visitors and speakers at the church services here Sunday evening.

Ami Curtis, formerly of Glenbar, is lying in a hospital in Artesia, Cal., suffering an injured back. According to reports of the accident he was loading hay, and the wagon being wet and slippery he fell and struck his back on a timber. He is improving and expects to return home in September.
The Mutual Improvement Association of the Matthews ward held a very interesting meeting Sunday evening and a number of visitors from the different wards in the state were in attendance and gave some very interesting talks. They were Chas. Clawson, W. T. Mendenhall, Miss Thelma Layton and Mr. Solomon of the Layton ward, Mr. and Mrs. Moroni Skinner of the Kimball ward, Mr. and Mrs. H. H. Oute of Pima, Mrs. Inez H. Lee, J. H. Mangum of the Thatcher ward.

Earl Long of Cottonwood Wash was a visitor at the home of Mr. and Mrs. H. L. Smith Monday afternoon.
Mrs. Ervin Herbert is visiting at the home of her mother, Mrs. Echols.
E. Herbert of Gothenburg made a business trip to Glenbar Tuesday.
Miss Clella Bryce attended the dance at Bryce Tuesday evening.
Clifford Hughes, a former resident of Thatcher has moved into the Dave Rogers' place at Glenbar.

ONE FARMER PROVES DAIRYING TO BE A PROFITABLE BUSINESS

That dairying is one of the best paying industries in the Gila valley is the belief expressed by C. L. Alfred Tuesday when he called at the Guardian office to renew his subscription to the paper. Mr. Alfred bases this belief on actual experience of many years in the business.
Ten years ago he purchased a 53-acre farm in the Artesian district and put a few dairy cows on it, going in debt for the farm and the cows both. Today, at the end of the ten years, he is not owing anyone, so far as he knows, the cows having paid out the debt on themselves and on the farm.
In addition to his herd of fine cows, Mr. Alfred raises chickens and hogs enough to supply his family and have some for the market.
The hay raised on the farm and fed to the dairy herd, Mr. Alfred figures, brings him \$25.00 a ton. The products from the herd bring him an income that is steady and does not fluctuate with the market as do cotton, hay, etc., and he therefore knows just what he will have to meet the expenses of his family and his farm each month.
Wm. A. Caraway left for his old home in Nevada.

Wm. J. Vaughan, who is interested in the drilling of the oil well at Pima, returned to Safford the first of the week from a business trip to Phoenix. While in the capital city Mr. Vaughan told in an interview with newspaper reporters how he became interested in the oil proposition in Graham county, saying:
"The Gila basin," he said, "has been favorably noted by geologists as the possible seat of an oil basin for many years. In particular, Edward B. Hill of San Francisco, who more than any other man turned my attention to West Texas, called it to my attention six years ago. But it was not until the development of scientific oil detectors that I remembered his advice and came to look the country over for myself.
"There are two types of detectors. One reacts to the presence of oil and indicates volume. The other indicates only the depth at which oil may be struck. The first type may be described as an affinity instrument. It carries a reservoir of compound chemicals similar to those contained in petroleum. These chemicals are sympathetic to the vibrations sent out by electrons of the petroleum atoms and respond when the reservoir is suspended over a subterranean reservoir of oil. Amplifiers similar to those used in magnifying radio vibrations step up the sympathetic vibrations in the container until they can be mechanically indicated on a dial.
"Well, this affinity instrument was very strongly recommended to me by responsible, level-headed men who had tested it. I undertook a test of my own in the West Texas field. My inclination, I am free to confess, was in the direction of extreme skepticism. If there is anything an experienced oil man is ashamed to be associated with, it is a "doodle bug" of any sort.
"But I got readings in proved country that I knew intimately, and in dry country—known to be dry because I had tested it by sinking dry wells—that provoked me to further investigations. In all I spent 18 months tracking down the experience of everybody who had tried the affinity detector and in the end I brought one to Arizona and went over the Gila basin. That was a little more than a year ago.
"Five miles west of us another New York syndicate headed by W. W. Todd, another responsible operator with ample backing, is also drilling on the strength of detector readings. I think you may say that the present quantity flow of eastern capital into Arizona drilling dates from the invention of the modern scientific detector.
"It takes money to drill a wildcat well, varying of course with the probable depth. Perhaps \$100,000 would be an average figure for what the Arizona wildcatter may expect to encounter in the way of difficulties.
"Our own well, wholly financed by New York City and Buffalo capital, was spudded in last August, but active drilling was not really begun before November 1. We are now down about 1,500 feet, and at 2,000 feet expect to set our 10-inch casing on a limestone bed which we expect to encounter at about that depth. We began with a 24-inch hole.
"At 1,100 feet we tapped a deposit of rock salt 145 feet thick, laid down in early geologic times when the sea covered Arizona. At present we are bringing up drill cuttings that under either tests, show the existence of oil, but we do not expect to get into production sands much above the level of the sea. That was our experience in West Texas and would take us down in this country, about 3,200 feet.
"I am inclined to regard the Gila basin as a possible oilshoot or extension of the West Texas field, stretching across New Mexico. The state is surrounded by other oil-bearing states—New Mexico, where there are proved fields now in production, Texas, Utah, Colorado and California. The formations traversed by our drill much resemble those found in Colorado."

STATE SIFTINGS

TUSCON—Additional improvements costing between \$150,000 and \$200,000 are to be made to the Santa R. Hotel and when the remodeling is completed the entire aspect of the big hostelry will be changed.

TOMBSTONE—Loss estimated between \$12,000 and \$15,000 resulted to business property here last week when fire destroyed several of the business houses in the heart of the town. The fire started when a gas tank in the Owl Cafe exploded while a leak was being mended by Joe Fredericks, 13. He was perhaps fatally burned and another, Robert Gilmore, was severely burned in attempting to save the boy.

MIAMI—Three Mexican mine laborers were crushed to death at the inspiration Consolidated Copper Company plant when they were carried to into workings of the mines on a conveyor belt on which they had gone to sleep.

TUCSON—One of the large Pickwick stage line buses was completely destroyed by fire which started from a heater. No one was injured and all baggage was saved.

AFTER CONDEMNING AUTOS FOR YEARS BUYS CHRYSLER 52

The Red Indian's trail, the pioneer's covered wagon, the stage coach, the railroad train and the steamboat, street cars, horseless carriages and their modern development, the fleet and beautiful automobile of today, even the aeroplane—all methods of transportation developed in the fast moving progress of the Nineteenth and Twentieth centuries have been watched with interest by Chaplain James King Gibson during the 52 years of his busy life. But until very recently the veteran national chaplain of the G. A. R. knew them only as spectator and passenger. Salesmen found him immune when they tried to induce him to buy.
Not until Walter P. Chrysler gave to the world an automobile so full of new beauty, smart handling, flashing acceleration and dependability that its appeal could not be resisted, did Dr. Gibson fall from grace. A few weeks ago he went into the showrooms of the Chrysler agency of Dayton, Ohio, and came out the owner of a Chrysler "67" coupe, the first car he has owned.
With only a few lessons he mastered the details of gear shift and steering, and he is now an enthusiastic Chrysler owner, driving through Dayton's city traffic with as much ease and certainty as any representative of young America.
Best Man: "Wasn't it annoying the way that baby cried all during the ceremony?"
Maid of Honor: "It was dreadful. When I am married I shall have enjoyed on the invitations, 'No babies expected.'"

SHERIFF'S NOTICE OF SALE

NO. 273
IN THE SUPERIOR COURT OF THE COUNTY OF GRAHAM, STATE OF ARIZONA.

M. E. O'Bryan, attorney-in-fact for the heirs of T. O'Bryan, deceased, plaintiff, versus Orville L. Larson and Orville L. Larson, administrators of the estate of Hazel Larson, deceased, defendant.
Under and by virtue of a special execution and judgment of foreclosure and sale issued out of the Superior Court of Graham County, Arizona, on the 23rd day of November, 1927,

All of lot 4 in Block 25 of Thatcher Townsite and bounded as follows, to-wit: Beginning at a point 92 rods North and 95 rods East of the Southwest corner of Section 2 Township 7 South of Range 25 East of Gila and Salt River Meridian in Graham County, Arizona; thence running East 16 rods; thence North 16 rods; thence West 16 rods; thence South 16 rods to the place of beginning, containing one and six-tenths (1 6/10) acres. Also one share of stock in Union Canal Company.

to-wit: together with all and singular the rights and appurtenances thereto in any wise belonging.
Public notice is hereby given that on Monday the 12th day of March, 1928, at 10:00 o'clock in the forenoon of said day at the court house door in the City of Safford, County of Graham, State of Arizona, I will, in obedience to the special execution, sell the above described real estate to satisfy said judgment. Interest, costs and expenses of said sale, to the highest bidder for cash, lawful money of the United States of America.
Dated this 15th day of February, 1928.

H. M. TATE, Sheriff.
By SETH DOUGE, Deputy.
First Publication: February 17, 1928
Last Publication: March 2, 1928



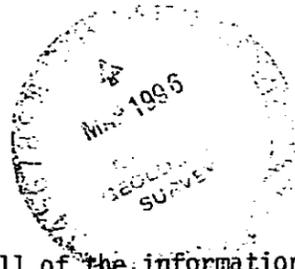
East via romantic New Orleans

—and southern and eastern point
Over this route travels the "Sunset Limited," famed round the world. It takes you swiftly and with the greatest comfort to New Orleans where connections are made to all principle cities of the east and south. On this train is a through standard sleeper to Jacksonville, Fla. and points enroute.
From New Orleans you can take a Southern Pacific steamer to New York and have this 100-hour ocean voyage with your meals and berth included at no extra fare.
Also the "Argonaut" daily over this route, carrying thru sleepers to St. Louis, Memphis, Washington, D. C. and intermediate points.
Ask the agent for free illustrated folder describing the Sunset journey east.
Southern Pacific

GRAHAM COUNTY GUARDIAN AND GILA VALLEY FARMER (Safford, Ariz.), February 17, 1928, p. 6

1109 Skyway
Las Cruces, New Mexico
88001-4016
March 10, 1996

Mr. Steven L. Rauzi,
Oil and Gas Program Administrator
Arizona Geological Survey
416 W. Congress, Suite 100
Tucson, Arizona 85701



Dear Mr. Rauzi:

Thank you more than I can say for all of the information you sent me about the two Whitlock Oil Company wells. The newspaper articles are especially helpful in indicating that different companies were carrying on drilling operations for several leaseholders in the same general area at the same time. I think you are correct though, in that the two Whitlock Oil Co. wells appear to have been the "flowing well" in the NE $\frac{1}{4}$, NE $\frac{1}{4}$, Sect. 36, T10S R28E, and the "Badger Den well" in the SW $\frac{1}{4}$, NE $\frac{1}{4}$, Sect. 20, T10S R29E⁵⁻⁹.

From the materials you sent I now have a much clearer idea as to where to direct additional inquiries. For example, we need to clarify ownership of the mineral rights as of the late 1920's. I had assumed that the Whitlock Oil Co., State 1 well in Section 36 was on a BLM section, since it is the BLM's Safford District office that is interested in the background on this well. But from what you found, and the statement in the Holbrook newspaper that "... the Whitlock Oil Co., having a state land lease 14 miles north of Bowie and a drilling site chosen, ..." it certainly sounds like Section 36 was a State section then. I assume that I need to direct this kind of question to the BLM and to the State Land Office.

With the names of both the companies involved and the individuals who served as officers in the Whitlock Oil Co., I can write to the Arizona Corporation Commission to ask about annual reports and whatever else they may have by way of records of this corporation.

My research will go to Dr. Pat Gilman at the University of Oklahoma, who will incorporate it with the results of her archeological field school in the area and pass the information to the BLM. My role involves two historic sites. One is the Whitlock #1 well location. The other is a trash dump and historic camp site about 1/4 mile north of the well, in Section 25. Dr. Gilman thought this might be the drillers' camp associated with the Whitlock #1 well. It seemed a bit remote, so I asked the BLM about any records of homesteading activity in Sections 25 and 36. They reported none.

After seeing your information I think Dr. Gilman was half-right with her expectation; the site in Section 25 was probably a drillers' camp but associated with another well. The Dec. 4 and 5, 1927 newspaper articles said that the Pinal Oil Co. of Superior had been drilling for the past 6 months, at 1,300 ft. north of the Whitlock Co. well. By reference to the chart with oil & gas map OM-201 it appears that the Pinal drilling site is the Bear Springs Oil and Gas Co., Allen 2 (Pinal 1) well location, completed in 1929 and abandoned. It was this well (ref. OM-201 again) that extended to a depth of 1,555 ft., not the Whitlock Oil Co. Penrod 1 well. The USGS Water-Supply Paper 769-F seems to have confused the three. Since I will have to deal with this campsite, I would like to see what records you have for the Bear Springs.... Pinal 1 well. Could you also make copies of these for me? I expect that this summer Dr. Gilman may want to look for the well site too.

-2-

The Dec. 4, 1927 article in the Phoenix paper raises another question. In this article is the statement that Whitlock #1 was drilled with a cable tool. However, in the column just before, the article says that oil has been flowing with the water "over both slush pits at the well and through the ditches as far as three-quarters of a mile across the desert." Also, that "a vast earthen dam has been constructed at some distance from the well" and that oil would be permitted to flow out into this reservoir, etc. I assume that things never got that bad or the site would probably be on the Superfund list, but I wonder what was meant by the two slush pits at the well? In your opinion, what might these have been; for what purpose? All I can think of is that these might have been ponding areas to contain the water that had been struck at higher levels in the well and that was flowing under artesian conditions. I don't know if the term mud pit was in use then, but absent the use of a rotary drilling rig, there shouldn't have been any mud pits at the site, do you think?

Thank you very much once again for your assistance.

Sincerely,

John P. Wilson

John P. Wilson



Fife Symington
Governor

State of Arizona
Arizona Geological Survey

416 W. Congress, Suite 100
Tucson, Arizona 85701
(520) 770-3500



Larry D. Fellows
Director and State Geologist

March 6, 1996

Mr. John Wilson
1109 Skyway
Las Cruces, New Mexico 88001

Dear Mr. Wilson:

The information on the two Whitlock Oil Company wells we talked about this morning is enclosed. This includes the cover sheet and lithology descriptions for each of the wells, Canfield's report on the two Whitlock wells, and the well sheet from USGS Oil & Gas Investigation Map OM-201.

Some early newspaper articles about the Whitlock Oil Company tests are also enclosed. These include articles from the 3/11/27 Holbrook paper; 4/8/27, 6/5/27, and 12/4/27 Phoenix paper; and 12/5/27 Tucson paper. It looks like promotional activities may have led to running of casing in the wells.

Two wells on the Javelina Peak 7.5' Quadrangle map may have been originally drilled as the two Whitlock Oil Company tests. These are the "flowing well" in ne ne 36-10s-28e and the "Badger Den well" in sw ne 20-10s-29e. A copy of this portion of the Javelina Peak Quad is also enclosed.

Let me know if I may be of further assistance on any oil and gas matter in Arizona.

Sincerely,

Steven L. Rauzi
Oil and Gas Program Administrator

Enclosures

trant in the face of the lower terrace. The water is stored near the spring in a small concrete reservoir, from which it is piped by gravity to the settlement. The spring dries up during several months of each year, and drinking water is then hauled from the Rhodes well, about 5 1/2 miles to the northwest. The water of newer wells is regarded by local residents as poor in quality.

A small spring in sec. 5, T. 6 S., R. 25 E., about 1 1/2 miles northeast of Bybee, flows from the base of porous conglomerate that caps impervious Pliocene lake beds. The spring yields about 12 gallons a minute of water at a temperature of 68° F. and is used to water stock. (See analysis F, p. 222.)

At Bear Springs, in secs. 1 and 2, T. 7 S., R. 23 E., two springs yield water from sand in the Pliocene lake beds where these are dissected by the heads of small streams. The spring in sec. 1 yields about 2 gallons a minute but has not been used. The water has a temperature of 54° F. (See analysis G, p. 222.) The spring in sec. 2 yields about half a gallon a minute of rather salty water.

A spring yielding less than half a gallon a minute in Cottonwood Wash, in the SE 1/4 sec. 5, T. 7 S., R. 24 E., issues from the base of a thin layer of gravel capping Pliocene lake beds.

A spring on the Pace estate, in the SW 1/4 sec. 3, T. 7 S., R. 25 E., about a mile west of Thatcher, at the southern edge of the alluvial lowland, yields about 5 gallons a minute of rather alkaline water. The water of this spring probably issues from a sandy layer in the Pliocene lake beds.

A spring known as the Porter Spring, in the southeastern part of T. 7 S., R. 25 E., which yields less than a gallon of water a minute, probably issues from a sandy layer in the Pliocene lake beds. It is used for watering stock.

A spring in the NW 1/4 sec. 5, T. 7 S., R. 26 E., which yields less than half a gallon of water a minute, issues from the base of gravel capping the Pliocene lake beds, on the face of the lower terrace about 30 feet above the alluvial plain.

A small seepage of water in the bottom of Stockton Wash east of Cactus Flat, in T. 8 S., R. 26 E., issues from alluvium where formerly there was sufficient water to create a marsh covering many acres. This seepage was known as the Lower Cienega, or Solomon Spring. The water was used for irrigation until the supply failed. The decrease in discharge is reported to have taken place shortly after the drilling of four flowing wells at Artesin in 1929-30, and the possibility is therefore suggested that the seepage rises from the artesian water sands underlying this part of the valley. The same explanation may be applicable to several small springs known as Cienega Springs (pl. 52, B), in Jacobson Wash, in sec. 9 of the same township, and Mud Spring, in sec. 17. Several former "mud springs" in the vicinity of Cactus Flat and Artesin have become dry since artesian wells have

salt water for a short time. No record was kept of the temperature or of the depth at which the water stood in the well, and no chemical analysis of the water is available.

In the southeastern part of T. 10 S., R. 28 E., two flowing artesian wells, the Whitlock Nos. 1 and 2 of the Pinal Oil Co., were obtained in drilling unsuccessfully for oil. The Whitlock No. 1 well, shown in plate 53, A, was drilled in 1927-28. It yields a strong flow of soft, warm water (temperature 105° F.) from conglomerate at a depth of 1,445 feet, above which only clay and sand, probably lake beds, were encountered. A flow of sulphur water was struck at a depth of 1,750 feet. "Limerock" was encountered at a depth of 1,500 feet, and the well was drilled through this to a depth of 1,925 feet and finished in "sandy lime." When the well was completed the discharge was estimated by the drillers to be about 12,000 barrels (500,000 gallons) in 24 hours. The discharge is controlled by a valve at the casing head. The Pinal Oil Co.'s Whitlock No. 2 well, was drilled with cable tools to a depth of 1,555 feet. It discharges a "2-inch pipe full" of lukewarm water. The depths to the water sands in this well were not ascertained.

The location of wells in the towns of Pima, Thatcher, and Safford in 1934 is shown in figures 31, 32, and 33. The data collected by the writer on these and other wells in the valley are presented in the table at the end of this paper.

SPRINGS

The Goodwin Springs, in Goodwin Wash, sec. 35, T. 4 S., R. 22 E., near the east boundary of the San Carlos Indian Reservation, is a seepage from the alluvial gravel of the creek bottom. The discharge on January 10, 1934, was about 8 gallons a minute. This spring is reported to have yielded much more copiously some years ago.

Several springs, yielding less than 100 gallons a minute in total discharge, issue along the sloping terrace escarpment that rises about 100 feet above the alluvial lowland plain in secs. 21 and 22, T. 4 S., R. 23 E. The water seems to come from the base of porous Pleistocene (?) gravel, several feet thick, which caps about 90 feet of dense lacustrine clays of Pliocene age exposed on the hillside. The water is highly mineralized and is used only for watering stock.

A spring about 1 mile northeast of Fort Thomas, near the southwest corner of sec. 25, T. 4 S., R. 23 E., yields about 6 gallons a minute. The water issues from the base of Pleistocene (?) terrace gravel overlying dense clays of the Pliocene lake beds. The spring is used to water stock.

The residents of Eden, in secs. 28 and 33, T. 5 S., R. 24 E., normally obtain their water supply from a small spring of seasonally variable yield about 1 mile northeast of the settlement. The spring issues from a small excavation in the porous gravel bottom of a minor reentrance

Doubtless

IN August Report of the Bear RY Springs Oil & Gas Company W

SAN SIMON VALLEY—

San Simon Well, on SE $\frac{1}{4}$ N $\frac{1}{4}$ Sec. 27; T. 13S., R. 30E.; Torrence ranch 2 miles west of San Simon. Walter Tuttle, driller, has the deepest oil well, drilling in Arizona, 4230 feet, now in hard black sand (Lime) Good oil showings; 170 degree water at 4058 ft.; 6 $\frac{1}{4}$ in. casing hanging at 4035 ft. Will underream to 4160 ft. to shut off water and dry hole.

Pinal Oil Co. Well No. 1 on Allen permit, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 25; T. 10S., R. 28E., 17 miles north of Bowie. Sam Twentier, Field Supt. with crew of three has had a hard job to get two camps in shape to start active work. These two wells have been practically shut down for the past three years.

Whitlock Oil Co. Well No. 1, on NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 36, T. 10S., R. 28E., State land, 17 miles north of Bowie. Pinal Oil Co. in return for loan of National No. 2 drilling machine and 30 h. p. Buffalo Gasoline engine, owned by Whitlock Oil Co., have repaired and put in good working order to pull 6 5-8 in. casing and plug Whitlock No. 1 Well back to 1500 ft. before moving the above equipment to Pinal No. 1 Well.

Whitlock No. 2 Well, on NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 20, T. 10S., R. 29E., on Penrod permit, still shut down at 521 ft.

Finn No. 1 Well, 9 miles north of Bowie on SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 28, T. 11S., R. 28E., Reed permit, still negotiating with eastern capital to drill his permit.

Ryan et al Well on SE $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 34, T. 14S., R. 30E., State Land 9 miles south of San Simon at 920 ft. Tentative option has been given a group of oil men on the fifteen state land sections, held by R. J. Ryan and associates of Montebello, Calif. A "K" type O'Keefe drilling machine is on location and the option calls for completion of the well.

SULPHUR SPRINGS VALLEY—

Benedum-Trees, Arzberger No. 1 Well on NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 19; T. 15S., R. 26E., 14 miles SE of Willcox, 4000 ft. 8 $\frac{1}{4}$ in. casing unloaded by S. P. Ry. and delivered to well 10 in. set at 2348 ft. Depth 3140 ft. in hard

brown shale with shells. Little water in hole. Two towers with crew of five. R. W. Hickman in charge, making very good progress, considering the many delays. John Pugh of the Two John Drilling Co., contractors, made a flying trip from Shreveport, La., Denver, Willcox and back to headquarters.

Geronimo Oil Co., No. 1, No. 2, and No. 3 Wells, in town of Willcox have shut down for the time being. Mr. I. R. Borck is in charge and expects a large heavy standard rig within 60 days. The splendid oil showings in their wells should warrant further explorations.

S. V. Windle, Riggs No. 1 Well, N E $\frac{1}{4}$ Sec. 10, T. 17S., R. 28E., still waiting for equipment necessary to spud in.

Western Water Works of Alamo-gordo, N. M., was awarded the contract for drilling the state well for artesian water to irrigate 10,000 acres in the Stewart District. An appropriation of \$10,000.00 was allowed to do this drilling.

GILA VALLEY—

Gila Oil Syndicate Well No. 1, SW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 30, T. 5S., R. 24E., 7 miles NW of Pima, shut down at 2680 ft.

Underwriters Syndicate Well No. 1 (Vaughn Oil Co.) 2 miles NW of Pima, on Mary Mack farm, NW $\frac{1}{4}$ N E $\frac{1}{4}$ Sec. 13, T. 6S., R. 24E., standing shut down at 3765 ft. Several deals pending to finish this well to completion.

SAN PEDRO VALLEY—

Century Petroleum Co. Well No. 1 on Colrazier permit, NW $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 17; T. 17S., R. 19E., 9 miles west of Benson, expecting to contract the deepening of this well, now shut down at 1550 ft.

Understand interested people are looking over this prospect with view of starting drilling.

San Pedro Oil Corp., No. 1 Well on Smith Bros. ranch 1 $\frac{1}{2}$ miles SE of Mammoth, shut down at 1400 ft.

CHINO VALLEY—

Pinal Oil Co. Lantz No. 1 Well NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 3, T. 16N., R. 2W., 19 miles north of Prescott spudded

in August 16th. Now about 300 feet. All casing on rack, all supplies purchased, work is progressing in fine shape, with a steam Star rig, under supervision of Fred Womack, Supt. A water well was drilled to 305 ft. and 350 bbls. a day artesian flow of good water was encountered there, making drilling water for that district a certainty.

Yavapai Oil Development Co. Kissel No. 1 Well, Sec. 27; T. 18N., R. 2W., 29 miles north of Prescott, in charge of A. E. Kissel, who, I am told, has a number of Japanese clients interested in this development. Their No. 1 Well will be spudded in on the 30th, I hear.

There is a possibility of a third well being drilled on the Puntzeney Ranch. I hear that all arrangements have been made and the rig is being shipped in from Los Angeles.

"Petroleum" a bulletin issued by the University of Arizona and prepared by Dr. G. M. Butler and J. E. Tenney is now ready for state distribution. The bulletin treats of the origin of petroleum, methods of concentration, favorable structures, hints to prospectors and tests for petroleum.

NEW COMPANIES INCORPD.—

Blue Ribbon Refinery Co., capital 100,000 shares, no normal par value. Incorporators, A. C. Hill, Robert U. Moore and R. H. Orkin.

National Carbonic Ice Co., capital 1,000,000 shares, no par value. Incorporators, R. M. Malone, H. A. Kehler and C. A. Winder, all of San Francisco.

Appointment of eight agents in Arizona was made yesterday by the Texas company, a foreign corporation, empowered to operate in Arizona. The agents are: Folsom Moore, Bisbee, Cochise Co.; Ed Matteson, Wenden, Yuma Co.; H. R. Sisk, Nogales, Santa Cruz Co.; J. Verne Pace, Safford, Graham Co.; L. F. Sweeting, Clifton, Greenlee Co.; A. W. Sydnor, Globe, Gila Co.; Kirk Moore, Tucson, Pima Co.; Ned Creighton, Phoenix, Maricopa Co.

BOB THOMAS.

Business Agent Bear Springs Oil & Gas Co., Bowie, Arizona.

file 5-10

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MANY TUCSO ESTIMATED FLOW OUT OF "DISCOVERY WELL" 1000-5000 BLS DAILY

Flow Brought In November 9 and Kept Silent While Discoverers Add to Leases; Local People Inspecting Area

Much interest is being shown in Tucson in news of the discovery of oil in commercial quantities in the Whitlock Oil Company's prospect No. 1, 17 miles south of Bowie. Announcement of the strike was officially made yesterday in Phoenix by T. F. Penrod, president of the company. Many of the stockholders in this company and in other companies operating in this section are residents of Tucson.

Several Tucsonans interested in this and other properties are planning trips there this week to check up on recent developments.

The Whitlock Company discovery was made November 8 and is said to have been in good quantities. No announcement was made of the strike to allow the company time to secure other acreage in that vicinity. Oil is said to have been found here at the 142-foot level in quantities much larger than any previous find in the state. Fractious "discoveries" have not panned out well.

Since striking this pay sand, the Whitlock company has been busy acquiring additional land, so that now they have a total of 70,000 under lease. The well is located in section 36, township 19 south, range 23 east. Estimates of its production possibilities vary from one to seven thousand barrels a day. It will be producing at capacity in three weeks, according to the president of the company.

Among Tucson business and professional men interested in this and other companies are J. Creas Myers, Dave Bloom, Dr. B. F. Morris, Dr. E. J. Gottlieb, John Murphy, John Martin, George Kitt, George Martin, F. J. Fairweather and Joe Johnson.

Local Firm Leases Tract
The firm of Myers and Bloom has a tract of 100 acres in that vicinity under lease, which has been released to a coast firm, which is now drilling there. They are already at a consid-

erable amount of money in the area.

Another particularly interested Tucsonan is F. J. Fairweather, who now resides here but formerly lived at Bowie. He has control of quite an acreage there, and has leased a portion of it. He expects to make a trip there this week.

The well where oil is said to have been struck has been capped since that time, and has been under special guard. The top of the hole is barricaded with barbed wire and at night two guards stand watch. This precaution is taken, it is said, because of trouble in that district a number of years ago when a strike was made and the well was damaged during the night when a large amount of iron was dumped into the hole.

Oil At 1200 Feet
At a depth of 1200 feet in the Whitlock company well, a flow of 2000 barrels of clear water was struck. Farther down a conglomerate was encountered after which came the oil sand. Drillers had expected a clay rock above the oil sand. Water which spouted out of the well brought a good showing of oil. It found the drillers unprepared to handle the oil flow, so they capped the well and sent in a rush order for cement. A contract has been let for casing cement which should be delivered this week.

The well was sounded out after being cut off, and it was determined that there was an oil sand at least 22 1/2 feet thick, according to a statement given the Arizona Republic by Mr. Penrod. Oil has been flowing with the water over both slush pits, and through ditches as far as three-fourths of a mile from the well. Oil flowing from the well has been analyzed as of high gravity with a paraffin base, differing radically from California oil, being more like the New Mexico oil where there are now about four hundred producing wells. Officers of the Whitlock company

addition to Mr. Penrod, who

is secretary of the company, are Boyd V. Linn, superintendent, and J. E. Penrod, president. Penrod pointed out that there were many or eight prospects being drilled in the district at the present time. Mr. Penrod declared he believed the discovery would start development unprecedented in the state in the district starting at Phoenix, through the San Simon valley to the town of Bowie and to Bowie, and in the Empyrean Springs valley from Wilcox to Douglas.

A survey of the area outlined by Mr. Penrod shows the following allocation: development of oil prospects:

Four miles east of Bowie, Bowie oil well No. 1200 which operations were continued for several years by F. L. Coplan, but which has been closed down for the past few months, is being re-opened by the Gillespie Petroleum company of California in an endeavor to obtain production.

Other Wells Going Down
The Gillespie company likewise has contracted for immediate drilling of one and possibly two wells north of the Bowie district.

J. E. Penrod of the Seminole Oil and Gas Company of Oklahoma City has leased a tract of 100 miles north of Bowie from the Bear Springs Oil and Gas Company of Globe and is arranging to start drilling there.

The Pinal Oil Company of Superior has been drilling for the past six months 1,000 feet north of the Whitlock company well, and is now down 1,100 feet and expects to reach oil sand soon.

Under Penrod's syndicate No. 1, the best lease struck in the area, capital is now down 700 feet and work is continuing daily. This syndicate is headed by William J. Vaughn of

Phoenix, who is president of the syndicate. The syndicate is being managed by W. A. Todd and W. A. East of New York, H. C. Wheeler of Boston, Richard Morrill of New York, and others. This prospect is 1000 feet deep and is working daily.

Bill another company organized recently plans for large drilling operations immediately. This organization by Phoenix men will be known as the Whitlock Extension Oil Company and is composed of T. F. Penrod, Ames Bates, Ralph H. Weaver, Dr. Charles Vines and Norman Abell. Several of these are stockholders in the original Whitlock Oil Company. The new company will drill on land immediately adjacent to Whitlock No. 1, the discovery well.

The Whitlock Oil Company's since its well "came in" has acquired all Penrod said, more than 70,000 acres of land in and around Bowie. It owns all prospects on five of the principal structures of the state. Mr. Penrod said from the Globe valley district north of Prescott to the Sulphur Springs district south of Douglas. It has made no plans for drilling other wells as yet, and will make plans in the first of the year when Whitlock No. 1 is producing at its capacity.

OIL WELL BROUGHT

WHITLOCK WELL STRIKES OIL IN 1427 FOOT HOLE

OIL has been discovered in commercial quantities in the Whitlock Oil Company's prospect No. 1, 17 miles south of Bowie, it was announced last night by T. F. Penrod, president of the company, and confirmed in reports received by The Arizona Republican from other sources in the Bowie district. The discovery well was brought in November 9, but the fact has been closely guarded for the past three weeks while the organization acquired other available oil prospects in the district. Oil was struck at 1,427 feet.

The Whitlock discovery is believed to be the first time oil in paying quantities has been discovered in Arizona, though several scores of geologists have maintained that there was oil in the state, and half a hundred or more "wildcatters" have been drilling in many parts of the state for a decade. Other "discoveries" have been reported at intervals, but none of them made the showing which has been encountered in the Whitlock well.

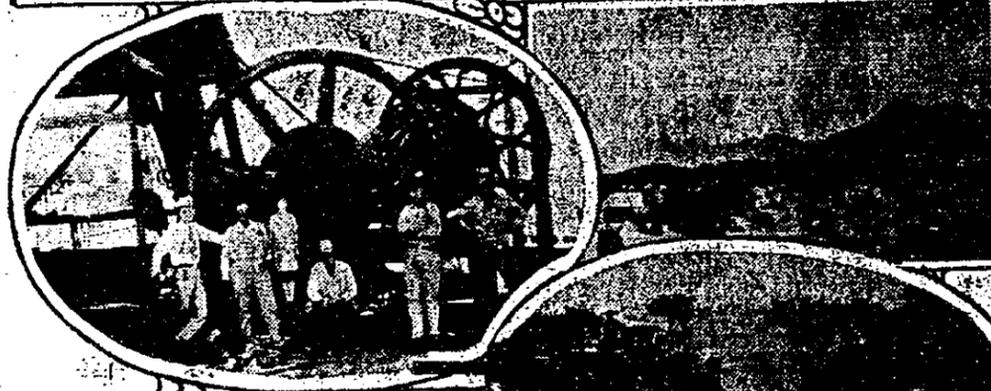
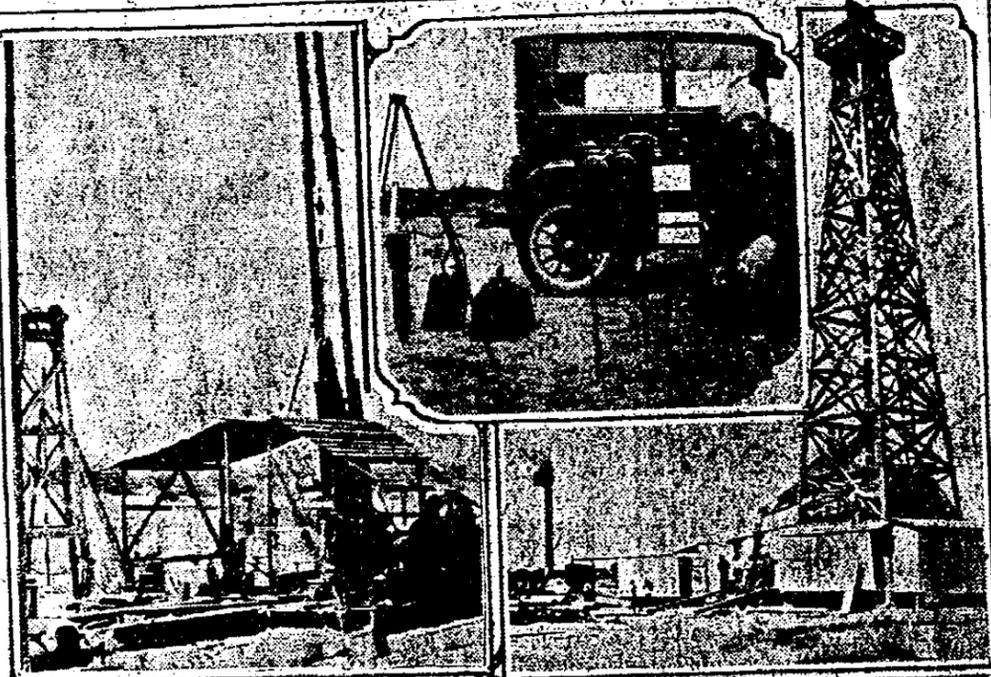
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The well, officially designated as being in Section 35, Township 10 South, Range 28 East, has been estimated as capable of producing 1,000 to 7,000 barrels of oil a day, by representatives of some of the largest oil companies in the country. Mr. Penrod said yesterday that the well would be delivering at its capacity within three weeks.

Drilling on Whitlock prospect No. 1 was started July 3, after 28 geologists and three geophysicists had reported favorably on the location chosen in the San Simon valley. Start of drilling climaxed seven years of preparation and study undertaken by the Whitlock Company, and in which between \$12,000 and \$15,000 was spent.

At 3,209 feet, when caprock had not yet been encountered, an artesian well delivering 5,000 barrels of clear, pure water was brought in. Drilling was continued down until conglomerate was encountered. Inasmuch as the drillers expect to encounter limestone as a caprock for oil sand, the conglomerate was drilled through without thought of encountering oil.

Where Black Gold Flows In Arizona



Views of the oil well site at Bowie, Arizona, where the Whitlock Oil Company, on November 9, brought in the first oil well delivering the precious "black gold" in paying quantities.

UPPER ROW, LEFT TO RIGHT—The rig and engine at Whitlock No. 1, which it is estimated will deliver 1,000 to 7,000 barrels of oil daily as soon as the casing has been cemented in; William Sharpe of the Colorado School of Mines, whose scientific instrument convinced the Whitlock Oil Company that petroleum could be found under its land; Trumbull No. 1, the first oil well being drilled in the Gila Valley at Cork Siding (Bear Springs) which is continuing.

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Discovery of oil beneath conglomerate, which is gravel cemented into an impervious layer by lime, instead of beneath a limestone cap rock, which had not yet been encountered, found drillers unprepared. Immediate steps were necessary to prevent a continuous flow of oil and water, so the well was sealed at the conglomerate and a "rush order" sent for cement.

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Mr. Penrod said last night a carload of special casing cement, guaranteed to seal off the water above the cap rock, was en route to Bowie from Los Angeles, having been shipped by the Southwestern Portland Cement Association. He also said the Whitlock Company had contracted, on the advice of the larger oil companies of the Pacific Coast, with the Perkins Oil Well Cementing Company to undertake the work of cementing off the well and bringing it into production.

Cementing off will be undertaken this week immediately on arrival of the cement, Mr. Penrod said, and allowing another week for the cement to set, the well will be producing three weeks from today, or December 24.

After the well was plugged back to the conglomerate, the company prospected with a core drill and proved, Mr. Penrod said, at least 22½ feet of oil sand and the bottom of the bed was not reached.

Oil has been flowing with the water over both slush pits at the well and through the ditch as far as three-quarters of a mile across the desert. A vast earthen dam has been constructed at some distance from the well, and as soon as the cementing off process is completed, oil will be permitted to flow out into this huge reservoir until tank or pipe line construction can be completed, Mr. Penrod said.

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or Bowie, Arizona, where the Whitlock Oil Company on November 9 "brought in" what is believed to be Arizona's first oil well delivering the precious "black gold" in

river, through Safford, up the San Simon valley to the town of San Simon and to Bowie, and in the Sulphur Springs valley from Willcox to Douglas.

Geologists affirm, Mr. Penrod said, that this district has much the same characteristics as the Bowie district, where Whitlock No. 1 is located. Drilling that well, he said, alternate layers of sand, shales and clay were discovered until the conglomerate capstone was reached.

See New Industry

"This type of land is easy drilling for rotary rigs," he said, "and many of them are likely to appear here almost at once. Whitlock No. 1 was drilled with a cable tool, which is much slower.

"I believe discovery of oil in this district has justified the faith of many men and is an event which heralds a new industry for the state—one long considered but little expected. I predict, and geologists join me in this, that petroleum production will soon rank second only to copper mining as a basic industry in Arizona.

"Many prospects are being drilled in our territory at the present time. And preparations are being made to start others. Discovery of oil in Arizona is the beginning of a new era rather than the climax of any efforts of the past.

A survey of the area outlined by Mr. Penrod shows the following situation in development of oil prospects:

Four miles east of Bowie, Bowie oil well No. 1, on which operations were continued for several years by F. L. Copening but which has been closed down for the past few months, is being re-opened by the Gillispie Petroleum Company of California in an endeavor to obtain production.

Other Wells Going Down

The Gillispie company, likewise has contracted for immediate drilling of one and possibly two wells north of the Bowie district.

J. F. Finn of the Seminole Oil and Gas Company of Oklahoma City has leased a tract of six miles north of Bowie from the Bear Springs Oil and Gas Company of Globe and is arranging to start immediate operations.

The Pinal Oil Company of Superior has been drilling for the past six months 1,300 feet north of the Whitlock Company well, and is now down 1,100 feet and expects to reach oil sand soon.

Underwriters Syndicate No. 1 prospect near Pima, financed by eastern capital, is now down 300 feet and work is continuing daily. This group is headed by William J. Vaughn of New York City, Carl A. Fuller of Chicago, R. S. Chapman of Dallas, Texas, and others.

A second well in the Gila Valley, is being drilled near Ashurst. It is financed by W. W. Todd and W. A. Lee of New York, H. C. Wheeler of Boston, Richard Morrell of New Jersey and others. This prospect

is down 200 feet and is working daily.

Still another company, organized recently, plans to begin drilling operations immediately. This, organized by Phoenix men, will be known as the Whitlock Extension Oil Company, and is composed of T. F. Penrod, Amos Berts, Ralph R. Weaver, Dr. Charles Vivian, and Norman Abell. Several of these are stockholders in the original Whitlock Oil Company. The new company will drill on land immediately adjacent to Whitlock No. 1, the discovery well.

The Whitlock Oil Company, since its well "came in," has acquired, Mr. Penrod said, more than 70,000 acres of land in and around Bowie. It owns oil prospects on five of the principal structures of the state, Mr. Penrod said, from the Chino Valley district north of Prescott to the Sulphur Springs district north of Douglas. It has made no plans for drilling other sites as yet, and will make none until the first of the year, when Whitlock No. 1 is producing at its capacity.

Geologists Report

Commenting on the fact that Whitlock No. 1 had been drilled only after 25 geologists had reported on the area, Mr. Penrod said:

"Consensus of opinion expressed in the reports of the geologists who have studied the oil possibilities of the Bowie and Bear Springs basins, characterized that section as rich in promise for the production of petroleum.

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(Continued on Page 2, Section 3)

Phoenix
4-8-27

Arizona May Assume Place As An Oil-Producing Area; Bowie Field Draws Interest

Arizona is destined to take its place among the oil producing states within a few months, and possibly weeks, if the opinion of oil experts and geologists who have been studying the fields of this section is correct.

At least nine drilling rigs are in operation at present, or will be in operation in the Bowie field this week and the northern Arizona areas have even more rigs now working and others are being fitted up for operation.

The Bowie field probably is the most attractive to oil prospectors at this time due to the interest manifested by representatives of two of the large oil companies.

T. F. Penrod, well known auto accessory salesman and president of the Whitlock Oil company, was in Phoenix yesterday and he spoke in enthusiastic terms of the oil possibilities at Bowie. "We have no stock on the market and our company is completely financed," Mr. Penrod said, "so I cannot be accused of trying to promote stock when I get enthusiastic in talking about Bowie."

The Whitlock company is made up of Arizona men. Mr. Penrod is president and Leroy Kennedy, manager of the Silver Belt at Miami is secretary of the company. The contract for drilling the company's first well was awarded last week and drilling apparatus is already on the ground.

M. C. Trumbull and H. T. Proctor of the Trumbull Oil Detecting Instrument company spent considerable time making a survey of the field and following their examination of oil prospects arranged for a well for their company.

Utah Firm Represented.
Frank Copening, head of the

Bowie Leasing Syndicate, has been operating in this field for some time and recently he entered into a contract with the Utah Petroleum corporation, independent operators composed of Utah and San Francisco capitalists. The drilling superintendent of the Utah Petroleum corporation is on the ground supervising the placing of the drilling rigs at the new well and it is understood that plans have been perfected to resume work on the original well southwest of Bowie.

William Crawford of the Pinal Oil company has drilled to more than 500 feet on a tract in the Bear Springs company's holdings 14 miles north of Bowie.

Active work on another lease near Ashurst on the Globe branch of the Southern Pacific will be started at once, according to announcement by W. J. Vaughn, New York city capitalist who is in Bowie.

The entire valley from Willcox north to Safford is humming with activity, Mr. Penrod says, and each day scores of automobiles pass through this district. Douglas reports state that oil men have been making their headquarters in that city for several weeks and it is expected that some important announcements will be made at the border city shortly.

Walter Gayhart, California geologist, spent some time in the Bowie field, and was favorably impressed with oil indications. R. E. Allen, also from California, and Adolph Gustafson of the Pan American Oil company; Professor Raensky, Polish geologist, and a score of less prominent oil engineers have made a survey of the field during the last few months.

M. C. Trumbull of the Trumbull Instrument company made squa-

ings in the district and reported higher indications than in any of the proven oil fields.

Triple Test Made

The Lind oil-detecting instrument also was used in this section, Mr. Penrod says, and tallied with the Trumbull instrument. H. T. Proctor then took the instrument and made tests in the large producing field to determine how accurate the readings could be taken. After the tests he returned to Bowie and took up several leases for himself, Mr. Penrod says.

William A. Sharpe, who spent some time in the Globe district for one of the large copper companies, spent two weeks in the Bowie district. Mr. Sharpe perfected the radio detecting device for locating submarines during the World war and his instrument has been used extensively by mining companies for locating lost mineral bodies.

Sharpe's report on the Bowie district was even more optimistic than the Lind and Trumbull reports, according to Penrod and he, too, is

taking up some leases in the district.

A large group of Phoenix men is interested in the Bowie field and with nine drilling rigs in operation this month some definite reports should be made at an early date.

Rumors of oil floating on the surface water have been received for several years and as far back as 1912 reports from Willcox told of gas breaking through water wells and destroying drilling rigs.

The Southern Pacific water well at Willcox has been reported in oil for some time and engineers contend that the oil is not a result of leakage from storage tanks in the vicinity.

WILL SELL STOCK—The Whitlock Oil company has been granted a permit by the Corporation Commission authorizing it to raise and sell 150,000 shares of its capital stock at \$1.00 a share. The permit supplements previous permits issued for stock sales and allows the company to put an additional 150,000 shares of stock on the market.

NEW COMPANY ENTERS OIL DISTRICT NORTH OF BOWIE IN ARIZONA

Followed 7/27
The Graham County Guardian, newspaper at Safford, Ariz., reports renewed activity in the oil district near Bowie, the Whitlock Oil Co., having a state land lease 14 miles north of Bowie and a drilling site chosen where an extremely high reading was obtained recently with the Lind oil detecting instrument. The Whitlock company announces that \$6,000 remains to be raised before actual drilling starts.

Timbers for a new derrick were hauled in the latter part of last week and actual construction was started by William Crawford, superintendent of drilling for the Pinal Oil company on a 250-acre tract, 14 miles north of Bowie.

The drill had penetrated to a depth of 300 feet according to reports in Safford Sunday last. At the latter depth a small oil showing was encountered. Other oil sands, sufficient to cause rainbow colors in the splash pond, have been encountered at 60 and 100 feet respectively.

The tract is being drilled by the Pinal Oil company of Superior under a sub-drilling contract with the Bear Springs Oil and Gas company of Globe.

Riders of the Pony Express carried Lincoln's inaugural address 1,966 miles in 7 days and 17 hours.

It was a barber who started that saying about two heads being better than one.

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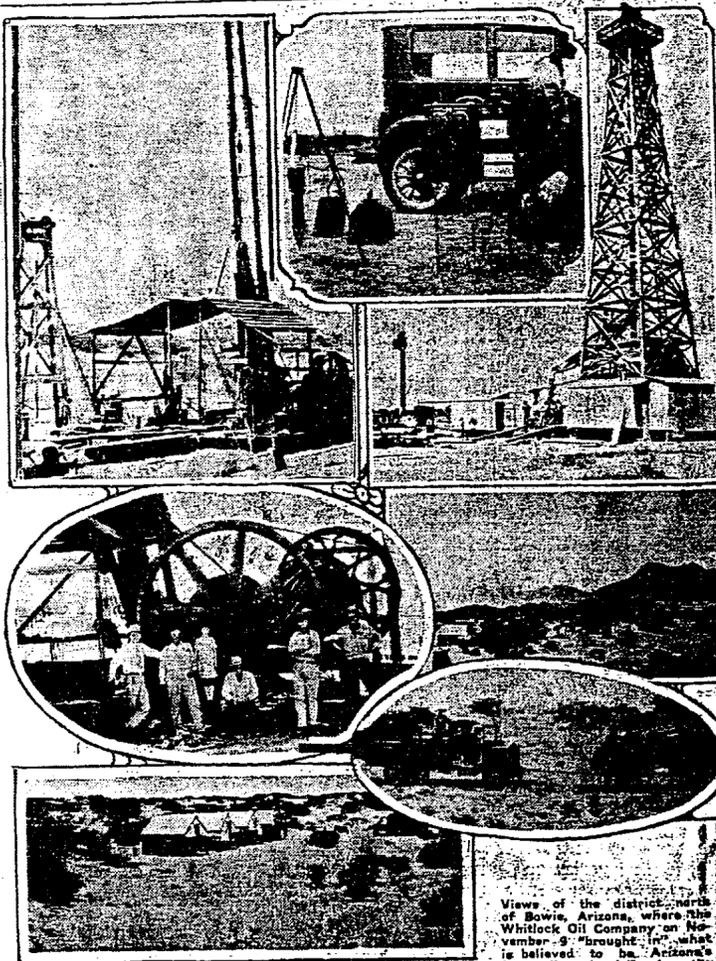
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