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Disposition of Gds (,,	, ,					1.00	,	•
5. List of Attachments									
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6. I hereby certify that	the informa	tion shot	vn on both side	s of this form is tru	ue and complet	te to the best o	of my knowled	ige and belie	:
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SIGNED M	he		1600	TITLE	Agent		·	DATE	<u>-25-76</u>
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INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Commission not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 30 through 34 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

	Southeas	tern New Mexico	Northwestem New Mexico			
T. B.	Anhy	T. Strawn 8135 T. Atoka 8650	T. Ojo Alamo	C. Penn. "C"		
T. T.	7 Rivers	T. Devonian	T. Cliff House	C. Madison		
T. T.	Paddock Blinebry	T. McKee		C. Granite		
T. T. T.	Drinkard	T. Delaware Sand T. Bone Springs T T	T. Entrada			

FORMATION RECORD (Attach additional sheets if necessary)

			TORMATION RECORD (Alideii	udal Horidi	, sileers it	riecessur	y)
From	То	Thickness in Feet	Formation	From	То	Thickness in Feet	Formation
0	200	200	Sand and Shale	5330	6400	1070	Shale with minor sandstone
200	400		Shale	1			Stone and limestone
400	610		Sand & Shale	6400	8120	1720	Shale & limestone with minor
610	830		Shale & Limestone				granite wash & igneous rocks
830	1120				1.		
1120	1300		1 9				
1300	1560	260	Dolomite, Anhydrite &	8120	8810	690	Limestone with Shale
	_		Igneous Rock	8810	8930	120	Igneous Rock & Limestone
1560	2620	1060	Limestone, Dolomite & Anhydrite	8930	9100	170	Shale with Limestone & Sandston
2620	2770	150	Sandstone & Dolomite	9100	9200	100	Limestone, Chert, Dolomite & Shale
2770	2990	220	Igneous Rock	9200	9330	130	Limestone & Dolomite
2990	3180		No Returns				
3180	3760		Sandstone, Igneous rock	9330	9440	110	Dolomite & Minor Chert
3760	4200	440	Salt, Anhydrite, Igneous	9440	9730		Dolomite
_	.		Rock & Dolomite	9730	9760		Igneous
4220	5330	1110	Shale with minor Igneous	9760	9835		Dolomite, increasingly sandy
	İ		Igneous Rock				toward bottom
				9835	9852	17	Igneous Rock
	·						
							e and the second
			·				
•							

6 A.M. Daily Reports

Date	Operations	Depth		Mud	•
12-12-75	Digging am		Wt.	Vis	W.L.
12-13-75	Rigging up				
12-14	Spud 12 1/4" hole	301	41	9.1	
	Drilling	2181	48	8.8	
1 2 - 15	Drilling	548 1	49	8.9	
12-16	Drilling	7361	38	8.9	
12-17	Drilling	9801	39	9.4	
12-18	Drilling	1054*	38	9.2	
12-19	Drilling	11351	40	9.3	
12-20	Drilling	12421	42	9.5	
12-21	Drilling .	1281	3 7	9.6	
12-22	Drilling	13561	40		
12-23	Drilling	1441		9.3	
12-24	Running logs @ sur. cs	a 77634	43	9•5	
12-25	Set 8 5/8" casing @		60	9•4	
12-26	Nippling up	14631			
12-27	Make trip for square c	14631			
12-28					
12-29	Drilling with air & mi				
	Drilling	1976 •	•		
12-30	Drilling	20 90 ° .			
12-31	Mudded up @2096 *	2112*	45ć	8.6	9
1-1-76	Drilling	2 2231	33	8.6	9
1-2-76	Drilling	23651			•
1-3	Drilling	2558°	39	8.7	9
1-4	Prepare to run DST #1	2636 *		001	,
1-5	Drilling	28421	35	8.6	דר
1-6	Drilling	29601	38	8.8	10 10
1-7	Drilling .	30701	wate		1 0
1-8	Drilling	31601			
	5Set 7" casing @ 3183	31831	wate	er	
- /,20,002	Logging	٠ر٥٩ر			•
	Go to 6 1/4" hole				•
1-16	Drilling				
1-17		33501			
1-18	Trip, lay down reamer	35681			•
	Trip	37001			•
1-19	Trip	37 40†			
1-20	Drilling	37881			
1-21	Drilling, stuck @ 3851			•	
	for nine hours	38511	31	8.8	
1-22	Drilling	39361	, J.	0.0	•
1-23,24	Try to convert to air	J/J0			
•	drilling, hole won't dr	ν `		•	
_	resume mud drilling		1.0	0 1	
1-25	Drilling	3983;	40	8.6	0
1-26	Drilling	42101	33	8.7	9
1-27	Drilling	4364	35	9.0	9
	-			•	•

Daily Report, con't

<u> Date</u>	Operations	Depth		Mud	
1-28 1-29 1-30 1-31 2-1 2-2 2-3 2-4 2-5 2-6 2-7 2-8 2-9 2-10 2-11 2-12 2-13 2-14 2-15	Drilling Drilling Drilling Drilling Trip for plugged bit Drilling Drilling Drilling Trip Drilling	4608† 4770† 4915† 5025† 5149† 5303† 5402† 5560† 5625† 5688† 5767† 5897† 6085† 6165† 6250† 6373† 6484† 6660†	Wt. 342 333 333 344 345 366 365 373 373 373 373 373 373 373 373 373 37	Vis. 9.0 8.9 8.9 8.7 8.6 8.7 8.8 8.8 8.8 8.8 8.8 8.8 8.9 8.8 8.9 8.9	W.L. 10 15 10 10 10 9 11 12 9.5 16 8 8 10 15 9.6 7.2 8.8 10.2 9.6
2-16 2-17	Drilling Drilling	69201 70601	33 35	8.8 8.8	10.8 8
2-18 2-19 2-20	Drilling Drilling Drilling	71 75 † 7 277 † 7 396 †	34 34 34	8.8 8.8 8.7	8 7 8
2-21 2-22 2-23	Trip for Bit # 22 Drilling Drilling	7474 ° 7 496 ° 76 18°	34 36	8.7 8.8	10 10
2-24 2-25	Drilling Drilling	7748 † 7850 †	34 34 35	8.8 8.7 8.7	9.6 11 9
2-26 2-27 2-28	Drilling Drilling Running DST # 2	7983 * 8118 * 8160 *	34 34	8.7 8.7	15 10
2-29 3-1 3-2	Fishing Drilling Circulating	8160° 8226° 8350°	42	8.8	8
3-3 3-4 33-5	Running DST # 3 Drilling Drilling	8350† 8480† 8610†	38	8.8	8.5
3-6 3-7	Running DST # 4 Drilling	8694 1 8753 1	40	8.8	9
3-8 3-9	Drilling Drilling	8862† 8959†	39 39	8.7 8.7	10 10
3-10 3-11	Bit # 25, fishing for Drilling	9050*	40	8.7	9
3-12	Drilling	90801	38	8.8	10

Daily Report, con't

<u>Date</u>	<u>Operations</u>	Depth	Mud			
			Wt.	Vis.	W.L.	
3-13 3-14 3-15	Drilling Drilling Drilling	9190† 9331† 9535†	38 . 38 . 38	8.8 8.8	9.5 10 10	
3-16	Bit # 26, fishing	96301	. 38	8.9	10	
3-17 3-18	Drilling Drilling	9655‡ 9735‡	38 38	8.9 8.8	10 9	
3-19	Reach T.D. @ 4 A.M.	9851:	38	8.8	9	

DEV LATIONS

<u>Depth</u>	Degrees	<u>Depth</u>	Degrees	<u>Depth</u>	Dogrees
159; 436; 986; 1019; 1038; 1102; 1123; 1165; 1196; 1258; 1258; 1254;	111424545443322223333333334444466667988776555444	4680* 4643* 4929* 50115* 5024* 50125* 5347* 5532* 55347* 5532* 5538* 5665* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 5782* 57838* 6187* 6251* 6374* 6578* 6880* 67074* 77219*	66555554667777666665543344444444545555556666666555433444444454555555566666666	77151 77701 78411 79041 79621 80261 80871 81501 82741 83501 84261 85391 86941 86941 86941 90151 90741 91951 93801 93801 94361 95061 96891	1/4 6 1/2 6 3/4 6 6 6 5 5 5 5 5 5 5 6 5 6 5 6 5 4 4 1/2 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4

BIT RECORD

				•			
No.	Make	Type	Size	<u>In</u>	Out	Footage	Hours
1 2 3 4 5 6 7 8 9 10 11 2 13 RR 14 15 6 17 8 9 20 21 22 32 45 RR 16 RR 16	Hughes "" "" "" "" "" "" "" "" "" "" "" "" "	XV RRJ44 XIG J7 OW4T J-55 OWV "" J-55 "" OWV J-55 "" "" F-55 ""	12 1/4 11 7 7/8 11 11 11 11 11 11 11 11 11	0 666 1054 1264 1468 1513 2249 3188 3740 3828 3740 4680 4981 5322 5665 6191 6889 7476 8160 8694 9023 9082	666 1054 1264 1264 1468 1513 2249 3188 3560 3710 3828 3917 3981 4255 4680 4981 5322 5665 6191 6889 7476 8160 8694 9082 9082 9630	666 388 210 204 45 734 939 380 142 30 88 89 64 274 425 301 341 303 458 68 698 587 694 634 329 59 548	Hours 46 1/2 54 1/4 44 1/2 53 3/4 4 1/2 93 105 1/2 15 1/2 16 1/2 13 1/2 14 1/2 53 1/2 18 1/2 74 18 1/2 79 72 13 73
27	11	tt	tr ·	9630 9643	9643 9714	13 71	3 13
28	11	tż	17	9714	9851	138	25 1/2

Total rotating hours = 1496.50

DRILL STEM TESTS

2550 to 2635 (Yeso formation) Test #1 1st open = 10" Good blow of air immediately 1st shut in = 60° 2nd open = 60" Good blow of air immediately, decreased to weak in 20" and died in 60". No gas to surface. Final shut in = 120" Initial Hydro-static = 1197# lst flow = 477# - 831#**lst** shut **in** = 883# 2nd flow = 844# - 883#Final shut in = 883# Final Hydro -static = 1197# Recovered 1515; of fluid - 200; drilling mud, 260; of drilling mud and water, and water (20,000 ppm chloride). Bottom hole temperature = 102 8120' - 8160' (Top of Strawn formation) Test #2 1st open = 10" No blow 1st shut in = 30^{11} 2nd open = 60" No blow 2nd shut in = 120" Initial Hydro -static = 3673# 1st flow = 367# - 432#1st shut in = 540# 2nd flow = 410# - 432#Final shut in = 540# Ran 1000 water cushion - Tool stuck on way out of hole and recovery was flushed out while trying to unstick drill pipe. Recovered 2000 cc drilling mud from bottom hole sampler. Test #3 8140 - 8350 (Strawn formation) 1st open = 10" No blow 1st shut in = 42^{n} 2nd open = 105" Slight blow after 35#, increased to fair and decreased to weak at end of test. 2nd shut in = 180" Initial Hydro-static = 3840# lst flow = 409# - 387#1st shut in = 774# 2nd flow = 559# 559# Final shut in = 645# Final Hydro-static = 3840# Recovered 1210' fluid, 1000' water cushion and 210' drilling mud. Bottom hole temperature = 207°

DRILL STEM TESTS, con't

Test #4 8654; - 8694; (Top of Atoka formation)

lst open = 10" No blow

lst shut in = 30"

2nd open = 90" Weak blow after 45"

2nd shut in = 180"

Initial Hydro -static = 3899#

lst flow = 487# - 487#

lst shut in = 553#

2nd flow = 487# - 487#

Final shut in = 664#

Final Hydro -static = 3922#

Recovered 1000; water cushion, slightly gas cut

GEOLOGIC TOPS

Geologic System	Depth	Formation	S.L.Datum
Quaternary 170†	0- 1701	Alluvium	+4972 K.B.
Late Cretaceous 770°	170° 760°	Mesaverde Dakota	+4802 +4212
Triassic 380°	9401	Dockum	+4032
Permian 5900	1320° 1760° 4200° 6380°	San Andres Yeso (?) Abo Wolfcamp (?)	+3652 +3212 +772 -1408
Pennsylvanian 1905†	7220† 7620† 8135† 8650†	Cisco Canyon Strawn Atoka	-2248 -2648 -3163 -3678
Mississippian 2201	91251	Mississippian	-4153
Silurian 105†	9345*	Fusselman	-4373
Ordovician 3901	9450° 9575° 9760°	Montoya El Paso Bliss	-4478 -4603 -4788
Pre-Cambrian	98401	Pre- Cambrian	-4868

Formation tops were selected by incorporating data from the Gamma- Neutron log, paleontology information and well samples.

GENERAL GEOLOGY

The State Lease L.G. 1453-1 was drilled as an exploration test for oil and/or gas production within the geologic province known as the Tularosa Basin. The test was approximately 26 air miles north of the town of Alamogordo, New Mexico along the east - central portion of the aforementioned geologic province. Surface environment would be classified as southwestern desert with abundant greasewood bush and dry arroyos. Geologically, the area would be considered a Basin and Range province, with north trending moutain ranges and desert plains between. Previous drilling in the area consists entirely of work conducted in 1974 by Houston Oil and Minerals on their Lewelling #1 (NW12, Tl2S, R9E), which reached a total depth of 9358; and bottomed in the Bliss sandstone. This well resulted in a small gas well after completion and is currently shut in. A subsequent well drilled further to the south, State #3724 (SW26, Tl4S, RlOE), resulted in a dry hole after reaching a total depth of 4580! in metamorphic rock.

All Geologic Systems, with the possible exception of Jurassic and Devonian strata, from Late Cretaceous to Pre-Cambrian were found to be present in the State L.G. 1463-1. A brief resume of each of these and the formations included will follow.

Late Cretaceous- Approximately 770; of Late Cretaceous sediments were penetrated in this well.

Underlying the Quaternary Alluvium at 170' a dark grey to black, carbonaceous marine shale was encountered which is considered to be equivalent to the Mesaverde or Mancos formations of the Rocky Mountain region. The top of the Dakota formation was picked at 760' from electric log characteristics and was composed of dark grey, limy, very silty, calcareous shales with a basal medium grain, sub- angular quartz sandstone member.

Late Cretaceous sediments in this area are considered by the writer to be of prime importance as future potential production zones. The dark marine shales of the Late Cretaceous Age are recognized throughout the Rocky Mountains as an excellent source bed. All that is needed in the Tularosa Basin area are reservoir rocks of sufficient porosity and permeability to contain oil and/ or gas.

Triassic- The Triassic rocks, felt to be of the Dockum group, were topped at 940° and were characterized by vary colored, marly to sandy shales with intermittent lens of colorful redorange sandstone. The lower 180° was predominantly igneous material consisting of light green granite with some metamorphic material.

Permian- The Permian sediments were found to be 5900! thick at this location and were divided into the San Andres, Yeso, Abo, and Wolfcamp formations.

The San Andres top was picked at 1320 on a grey, dark brown, dense dolomite. Underlying this dolomite, a 90 igneous sill was encountered, underlain by 200 of carbonates consisting of dark grey, black, crystalline limestone.

The Yeso formation was picked at 1760° on top of the first massive, white, sucrosic anhydrite. Generally the Yeso could be described as a carbonate section of 2440° in thickness, consisting of dark brown- grey, crystalline limestones, white sucrosic to dense anhydrite with interfingering beds of brown to grey, crystalline dolomite. Massive igneous sills were predominate in the lower half of the section along with some massive red, Saline sandstones. One Drill Stem Test was run in the Yeso (2550-2635) with a recovery of 1515° of drilling mud and water.

Abo sediments consisting of red, red-brown, soft, anhydritic to slightly arenaceous shale was encountered at 4200° and was found to be 2180° thick. The shales became limy and darker in color in the lower 1000° with and occasional influx of granite wash sandstone.

The Wolfcamp top was picked at 6380? on a combination of paleo information and Gamma- Neutron log characteristics. A slight increase in limestone was noted in the samples along with a subtle dark color change in the shales. The Wolfcamp is believed by the writer to be a re- worked section in this area, recieving sediments both from the underlying Pennsylvania rocks and the overlying redbeds of the Abo formation.

Pennsylvanian- Pennsylvanian strata in this well were determined by paleontological data and log characteristics to be 1905' thick. The System is divided into four formations which in descending order are Cisco, Canyon, Strawn and Atoka. These formations are felt by the author to have the most potential for future exploration work in the area. Three Drill Stem Tests were run within this interval, all with negative results, which is attributed to the large argillaceous content of the carbonates. Limestones and dolomites were generally poorly developed.

The Cisco formation top was picked at 7220. Samples showed a grey, dense, colitic limestone and black, hard, calcareous shale.

The Canyon top was picked at 7620° and could be described essentially the same as the overlying Cisco with a slightly larger shale content. An increase of igneous sills was also noted along with more argillaceous content in the limestones.

The Strawn top was picked at 8135. Better developed limestones were noted although a significant amount of argillaceous material was still present. Samples indicated abundant fracturing throughout the Strawn formation with the majority of these being filled with calcite. The fractures account for the gas shows on the hydrocarbon log being of large magnitude and only of short duration with negative Drill Stem Test results.

The Atoka Series of Lower Pennsylvanian age was picked at 8650° by paleontology data. The section would be described as predominately a black, sandy-silty shale with an upper grey, light grey, argillaceous limestone member.

Mississippian- No distinction is made in this report as to specific formations of the Mississippian System, which was picked at 9125?. The strata consisted principally of a grey, dark grey, dense limestone with some interbedded grey, very fine grain, sandy dolomite.

Silurian— The Fusselman dolomite of Silurian Age was topped at 9345° and is described as grey, light grey, crystalline dolomite. This well—developed carbonate exhibited good intercrystalline porosity with abundant traces of dead oil stain. No shows were noted on the gas detector and it is assumed that the formation was water wet and flushed by hydrocarbons.

Ordovician— The Ordovician in this locale consisted of three formations which, in descending order, are the Montoya, El Paso, and Bliss.

The Montoya was topped at 9450° and can be detected from the overlying Fusselman by an influx of medium to coarse well—rounded individual sand grains interbedded within the dolomite. Some coarse, sub—angular chert was also noted.

The El Paso was picked at 9575° and was characterized by a white, crystalline, sandy dolomite.

The top of the Bliss, which is generally a sandstone in this area, was found to be at 9760° and is described in this well as a light grey, white, crystalline to sucrossic dolomite, becoming increasingly glauconitic in content.

All of the above formations of Ordovician Age exhibited good porosity but no shows of hydrocarbons.

Pre-Cambrian- This basement rock was topped at 9840° and was found to be dark red granite.