

DATA SHEET AND DISCUSSION

LOCATION: NE SE SW (990 feet North of the South line and 330 feet West of the East line of the Southwest Quarter), Section 17, Township 8 North, Range 53 West, Logan County, Colorado.

COMMENCED: June 30, 1952

COMPLETED: July 13, 1952. Perforated 11 holes 4840 to 4841 filling at 10 bbls. per hour.

CONTRACTOR: Jet Drilling Company, Wichita, Kansas.

CASING: 5 Joints, 200 feet of 10 3/4" welded casing set at 214' with 175 sacks. 126 joints of 5 1/2" 8-th casing, 4946.44 feet, at 4938.6' with 200 sacks of cement. (3998.12 - 17#/ft., 242.29 - 14#/ft., 660.56 - 15.5#/ft., 55.47 - 17#/ft.) Ran 4 centralizers at 4909 - 4868 - 4826 - 4784. Ran 50' Halliburton rotating scratchers from 4825-4875. Ran 200 pounds of sap in 10 barrels of water ahead of the cement.

MEASUREMENTS: All measurements from the top of the Rotary Drive Bushing which is 12 feet above the ground elevation.

ELEVATION: Powers - Ground - 4157'; Kelly Bushing - 4169.

TOPS:

Formation:	Sample Tops	Lane Wells Tops	Datum
Hobbs	4958	3983	- 286
Timpas	4333	4335	- 166
Carlile	4381	4381	- 212
Greenhorn	4585	4582	- 413
Graneros	4593	4591	- 422
Limestone			
Marker	4742	4741	- 572
D Sand	4837	4836	- 668
T.D.	4940	(4861)	- 771

DISCUSSION: The D Sand, 4837, was cored. The top 12 feet was fair sand, well saturated, with good fluorescence. However, the well was 13 feet lower than the Luft #1. A drill stem test was then run from 4838 to 4845 which proved an oil well could be made, although not as good a well as the Luft #1. The well was then drilled to within 9 feet of the J Sand where pipe was set. The well was perforated from 4840 to 4841 with 11 shots and started to fill at the rate of 10 barrels per hour.

Respectfully submitted,

*George D. Volk*  
 GEORGE D. VOLK  
 Petroleum Geologist

SAMPLE LOG

Plains Exploration Co.  
#2 Conrad Luft, Jr.

17-8N-53W  
Logan County, Colo.

From-To:

3600-10	Shale dark gray and gray bentonitic; trace chert gray; trace inoceramous prisms.
3610-20	Same
3620-30	Same
3630-40	Same
3640-50	Shale dark gray and gray bentonitic.
3650-60	Same
3660-70	Shale dark gray and gray bentonitic; trace chert gray; trace inoceramous prisms.
3670-80	Same
3680-90	Shale dark gray and gray bentonitic.
3690-3700	Shale dark gray and gray bentonitic; trace chert gray; trace inoceramous prisms; trace pyrite.
3700-10	Shale dark gray and gray bentonitic; trace chert gray.
3710-20	Shale dark gray; little gray bentonitic; trace inoceramous prisms.
3720-30	Shale dark gray and gray bentonitic; trace chert buff to brown
3730-40	Shale dark gray and gray bentonitic.
3740-50	Shale dark gray and gray bentonitic; trace chert buff to brown; trace inoceramous prisms.
3750-60	Shale dark gray and trace gray bentonitic.
3760-70	Same
3770-80	Same
3780-90	Same
3790-3800	Same
3800-10	Shale dark gray, little gray bentonitic; trace chert buff; trace inoceramous prisms.
3810-20	Shale dark gray, trace gray bentonitic.
3820-30	Same, and trace chert buff.
3830-40	Same
3840-50	Shale dark gray, little gray bentonitic.
3850-60	Same, and trace inoceramous prisms.
3860-70	Same
3870-80	Same, and trace chert brown.
3880-90	Same
3890-3900	Same
3900-10	Shale dark gray and gray bentonitic; trace inoceramous prisms.
3910-20	Shale dark gray and gray bentonitic.
3920-30	Same; trace chert brown.
3930-40	Same
3940-50	Same; trace chert brown.

3958	<u>Niobrara</u>
3950-60	Shale dark gray, trace calcareous, and gray bentonitic.
3960-70	Shale dark gray, partly calcareous; gray bentonitic; trace inoceramous prisms.
3970-80	Shale dark gray, partly calcareous, and gray bentonitic.
3980-90	Same, and trace inoceramous prisms; slight trace limestone brown coarsely crystalline.
3990-4000	Shale gray to dark gray mottled, white to light brown calcareous; some black and little shale dark gray and gray bentonitic.
4000-10	Same
4010-20	Same, trace inoceramous prisms.
4020-30	Same, trace pyrite.
4030-40	Same
4040-50	Same
4050-60	Same
4060-70	Same
4070-80	Same
4080-90	Shale gray to dark gray
4090-4100	Same
4100-10	Little shale gray, and shale dark gray.
4110-20	Same, and trace inoceramous prisms.
4120-30	Same ditto
4130-40	Same
4140-50	Same
4150-60	Same
4160-70	Same
4170-80	Same
4180-90	Same
4190-4200	Same, and little limestone gray, shaley; trace inoceramous prisms.
4200-10	Limestone gray mottled white buff and brown, shaley; and shale dark gray.
4210-20	Trace limestone as above, shale dark gray, and shale gray to dark gray mottled buff calcareous.
4220-30	Shale dark gray and shale gray to dark gray mottled buff calcareous.
4230-40	Same
4240-50	Same
4250-60	Little limestone gray mottled white buff and brown, shaley; trace pyrite; and shale dark gray and gray to dark gray mottled buff calcareous.
4260-70	Shale dark gray and shale gray to dark gray mottled buff calcareous.
4270-80	Same, and trace inoceramous prisms.
4280-90	Same, and ditto
4290-4300	Same, and trace pyrite.
4300-10	Shale gray to dark gray mottled buff to brown, calcareous; little limestone gray shaley; and shale dark gray.
4310-20	Same and trace pyrite.

4320-30	Shale gray to dark gray, shale dark gray; trace limestone white chalky and gray shaley; trace inoceramous prisms; trace pyrite.
<u>4333</u>	<u>Timpan</u>
4330-40	Shale gray to dark gray, shale dark gray; trace inoceramous prisms.
4340-50	Shale gray; shale dark gray and limestone white dense.
4350-60	Limestone white dense and shale dark gray; trace pyrite.
4360-70	Same.
4370-80	Limestone white dense; trace shale dark gray.
<u>4381</u>	<u>Carlile</u>
4380-90	Limestone white dense; partly sandy; shale dark gray; trace siltstone gray.
4390-4400	Limestone white dense; shale dark gray; little siltstone gray.
4400-10	Trace limestone as above; shale dark gray; little siltstone gray.
4410-20	Same
4420-30	Shale dark gray, little siltstone gray.
4430-40	Same
4440-50	Same
4450-60	Same
4460-70	Same
4470-80	Shale dark gray.
4480-90	Shale dark gray; slight trace siltstone gray; trace inoceramous prisms.
4490-4500	Shale dark gray; trace siltstone gray.
4500-10	Shale dark gray; trace inoceramous prisms.
4510-20	Shale dark gray; little siltstone gray.
4520-30	Same
4530-40	Same
4540-50	Same
4550-60	Same; and trace inoceramous prisms and pyrite.
4560-70	Same, and ditto
4570-80	Same, and ditto
<u>4585</u>	<u>Greenhorn</u>
4580-90	Shale dark gray; siltstone gray, partly calcareous; trace pyrite.
<u>4593</u>	<u>Graneros</u>
4590-4600	Shale dark gray; siltstone gray; little limestone gray buff brown coarsely crystalline, partly sandy.
4600-10	Same; trace limestone as above.
4600-10	Same; trace ditto; and trace inoceramous prisms and pyrite.
4600-20	Same; trace ditto; ditto
4620-30	Same
4630-40	Shale dark gray; trace inoceramous prisms.
4640-50	Same ditto
4650-60	Same ditto
4660-70	Same; trace bentonite white to gray; trace inoceramous prisms and pyrite.
4670-80	Shale dark gray; trace inoceramous prisms and pyrite.
4680-90	Same and trace limestone gray buff to brown, sandy.
4690-4700	Same

4700-10	Shale dark gray; siltstone gray calcareous; trace pyrite and inoceramous prisms.
4710-20	Shale dark gray; little siltstone gray calcareous.
4720-30	Same; trace pyrite.
4742	<u>Limestone marker</u>
4730-40	Shale dark gray; trace siltstone gray calcareous; trace limestone white dense.
4740-50	Shale dark gray; slight trace limestone white buff gray brown coarsely crystalline; partly sandy; trace pyrite; trace inoceramous prisms.
4750-60	Same
4760-70	Shale dark gray; little siltstone gray; trace limestone as above; trace pyrite and inoceramous prisms.
4770-80	Same.
4780-90	Shale dark gray; trace siltstone gray; trace pyrite and inoceramous prisms.
4790-4800	Same
Core 30"	Same
Core 60"	Same
4800-05	No sample after circulating.
4805-10	Shale dark gray; trace siltstone gray; trace pyrite and inoceramous prisms.
4810-15	Shale dark gray; trace pyrite and inoceramous prisms.
Core 30"	Same
Core 30"	Same
4815-4860	See Core Description.
4860-65	No Sample
4865-70	Shale gray to dark gray, little sand gray fine silty, tightly cemented; no show; trace siltstone gray.
4870-75	Shale gray to dark gray and sand white fine to medium partly silty, porous; no show.
4875-80	Same; and trace inoceramous prisms.
4880-85	Same, ditto and little siltstone gray.
4885-90	Same
4890-95	Shale gray to dark gray; little siltstone gray; trace chert gray to brown.
4890-4900	Same
4900-05	Same; and trace inoceramous prisms and pyrite.
4905-10	Same
4910-15	Shale gray to dark gray.
4915-20	Same
4920-25	Same and trace pyrite.
4925-30	Same and siltstone gray
4930-35	Same and trace pyrite.
4935-40	Shale gray to dark gray; trace siltstone gray to dark gray; partly shaley.
Core 30"	Same
Core 60"	Same
4940	Total Depth

CORE DESCRIPTION AND  
CORE ANALYSIS RECORD

Core #1 4815 - 60. Recovery full.

22'0" Shale dark gray, poker chip.

11'0" Sand gray fine to medium silty, compact; streaks shaley; good to fair fluorescence; few thin shale streaks.

7'0" Sand gray fine to medium silty; shaley; no show.

0'6" Siltstone dark gray, quartzitic.

0'6" Shale dark gray, poker chip.

2'0" Sand gray fine to medium, very shaley; no show.

1'0" Shale dark gray, poker chip.

1'0" Shale dark gray, very sandy.

Sample No.	Depth	Permeability Millidarcys		Porosity %	Pore Space Saturation		Probable Prod.
		Horizontal	Vertical		Water	Oil	
1	4837	3.9	0	24.1	77.2	2.5	Low Perm.
2	4838	141.5	15.7	17.4	39.7	9.2	Water
3	4839	30.8	28.6	14.3	44.8	8.4	"
4	4840	392.0	231.2	19.3	38.9	13.5	"
5	4841	435.2	299.3	21.7	46.6	13.3	"
6	4842	104.2	93.2	17.0	43.7	8.8	"
7	4843	275.0	273.0	19.3	44.1	10.4	"
8	4844	391.9	346.0	19.8	37.4	12.6	"
9	4845	212.9	282.2	19.4	38.2	11.8	"
10	4846	347.0	243.9	18.9	40.8	15.4	"
11	4847						
	4848	284.4	184.0	18.7	40.1	12.3	"
12	4849						
	4850	119.1	16.6	21.0	85.8	0.0	"

DRILL STEM TEST

#1

4838 - 4845

The tool was opened for 30 minutes, then shut in 20 minutes. Strong blow from start, weakened some towards the end of the test. Gas reached the surface in 9 minutes. The test recovered 900 feet of fluid; 700 feet of clean oil, 50 feet of oil cut mud, and 150 feet of water, the bottom 90 feet was in the drill collars.

The gravity of the oil was 41.5 at 88°.

The flow pressure increased from 300 to 550 pounds per square inch.

The shut-in pressure 1325 pounds per square inch.

The static pressure was 2900 pounds per square inch.

The minimum pressure on bottom chart was 2100 pounds per square inch.

# DRILLING TIME LOG

Plains - #2 Conrad Luft, Jr.

17-8N-53W

<u>From-To:</u>	<u>Minutes Per 5-foot intervals</u>	<u>Remarks</u>
3800-50	3-4-1-3-4-4-4-4-5	
3850-3900	4-3-3-3-4-4-4-5-5-3	
3900-3950	6-3-6-4-4-4-6-3-5-3	
3950-4000	4-5-7-3-6-4-4-3-4-6	
4000-4050	4-7-3-4-5-6-4-8-4-8	
4050-4100	7-12-9-11-10-10-12-12-11-15	
4100-4150	14-13-13-14-14-14-10-14-12-12	
4150-4200	11-15-13-15-16-16-16-17-11-10	
4200-4250	11-19-13-21-10-16-13-17-15-17	
4250-4300	8-14-10-13-10-12-9-12-8-12	
4300-4350	8-13-8-10-9-10-13-16-14-21	
4350-4400	21-25-24-23-16-20-18-19-15-16	
4400-4450	13-24-25-23-19-20-18-24-22-26	
4450-4500	22-26-27-27-18-21-20-23-13-18	
4500-4550	16-19-19-22-23-22-22-24-25-25	
4550-4600	21-27-26-31-30-29-23-32-(t)-19-17	(t) trip
4600-4650	16-11-15-20-15-19-18-18-15-18	
4650-4700	17-19-15-17-18-22-12-18-14-20	
4700-4750	14-20-14-19-13-11-13-16-14-16	
4750-4800	12-16-14-16-13-16-13-16-17-15	
4800-4815	17-16-14	
<u>Minutes Per 1-foot Intervals</u>		
4815-4825	24-35-32-32-26-26-32-39-34-24	Core #1
4825-4835	23-30-26-23-24-24-32-24-26-26	Core #1
4835-4845	22-28-22-11-19-25-32-15-26-33	Core #1
4845-4855	35-34-23-11-21-28-25-19-21-32	Core #1
4855-65	8-12-27-21-19	Core #1
4860-70	5-4-7-5-6-4-5-9-3-4	
4870-80	7-5-4-5-4-5-5-5-6-5	
4880-90	5-4-7-5-6-8-8-8-6-6	
4890-4900	7-9-8-8-7-13-9-7-6-5	
4900-10	5-4-4-5-4-3-3-3-3-4	
4910-20	6-3-4-5-4-4-8-4-4-5	
4920-30	5-4-5-7-9-9-9-9-12-6	
4930-40	8-7-9-8-10-7-6-7-6-6	

# BIT RECORD

<u>No.</u>	<u>Make</u>	<u>Size</u>	<u>Type</u>	<u>From-To</u>	<u>Footage</u>	<u>Hrs Run</u>	<u>Condition</u>	<u>Remarks</u>
1	Hughes	7 7/8	OSC-3	223-3177	2954	31	WO	
2	Reed	7 7/8	IT-3 Jet	3177-4170	993	22	Green	
3	Hughes	7 7/8	OSC	4170-4591	421	30	WO	
4	Hughes	7 7/8	OSC	4591-4815	224	13	Dull-Pulled to Core	
5	Reed	6 1/8	Core	4815-4860	45		Hot Hurt	
5	OWS	7 7/8	OWS	4815-4900	85			

# MUD RECORD

<u>Date</u> 1952	<u>Depth</u>	<u>Wt.</u>	<u>Via.</u>	<u>Col</u> <u>St.</u>	<u>Water Loss</u> <u>in c.c.</u>	<u>Wall Calc</u> <u>in 32nds</u>	<u>pH</u>	<u>Salt</u>	<u>Chloride</u>	<u>Feater</u>
7-1	223									Baroid
7-3	3000	9.4	34	0	12	2	9	-	✓	"
7-4	4150	9.8	43	5	12.4	2	9	-	Hil	"
7-6	4660	10	59	6	7	2	9	-	"	"
7-7	4824	10.1	80	6	6	2	8.5	-	Trace	"