NORTH DAKOTA INDUSTRIAL COMMISSION

OIL AND GAS DIVISION

6369

Wesley D. Norton
CHIEF ENFORCEMENT OFFICER

F. E. Wilborn
DEPUTY ENFORCEMENT OFFICER

Clarence G. Carlson
GEOLOGIST

Charles Koch
ENGINEERING DEPT

Doren Dannewitz
FIELD SUPERVISOR

Glenn Wollan
RECLAMATION SUP.

December 14, 1990

Anadarko Petroleum Corporation
16801 Greenspoint Park Drive, Ste. 200
Houston, TX 77060
RE: BOND NO. A311

Gentlemen:

The following well sites have been approved by our field personnel in regard to surface restoration and our files show that all reports, logs, samples and cores have been properly filed and therefore are released from your Bond No. A311.

5481 - Wells "A" #1	5817 - Albert Schmidt #1
6088 - Anderson #1	6100 - Martin #1
6369 - Perdaems #1	6492 - Gustafson "A" #1
6485 - Dance Creek State "A" #1	
6675 - Isaak #1	6674 - Link #1
6682 - Burlington Northern #1	
6945 - Kostelecky #B-1	6943 - Kostelecky #C-1
6934 - Kilene #1	7212 - Decker "A" #1
9142 - Flahaven "A" #1	9419 - Krauth #A-1
9219 - E. J. Peterson #1	5231 - Krenz "A" #1
6676 - Horning #1	5482 - Deckers "A" #1
10164 - Randalls #A-1	10518 - Samuels #A-1
11026 - McGinnity #36-6	11419 - Fedorenko #A-1
6871 - Olafson #1	

Some data from the following wells required to be filed has not been received; therefore, the wells cannot be released from your bond:

4746 - Magedanz "A" #1 - Missing 4 DST'S and MOP (Movable Oil Plot) log;
5352 - Delaittre-Jones "A" #1 - Missing Core Analysis;
9648 - Repetowski #A-1 - needs to have drilling samples sent to the Core Lab of the Geological Survey in Grand Forks, North Dakota.

In the future, if slumping of the pit and/or trenches, erosion, casing leaks, or similar problems, should occur, you will be required to correct the problem.

Sincerely,

F. E. Wilborn

F. E. Wilborn
Deputy Enforcement Officer

FEW/mr

cc: Seaboard Surety Company
Route 206, Burnt Mills Rd.
Bedminster, NJ 07921

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6871 - Olafson #1

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Sincerely,

FE Wilborn

F. E. Wilborn
Deputy Enforcement Officer

FEW/mr

6369

JOHNSTON

Schlumberger

technical report

F. R. #10010 D

COMPANY ANADARKO PRODUCTION COMPANY WELL PERDEAMS #1 TEST NO. 1 COUNTY STARK STATE NORTH DAKOTA

JOHNSTON
Schlumberger

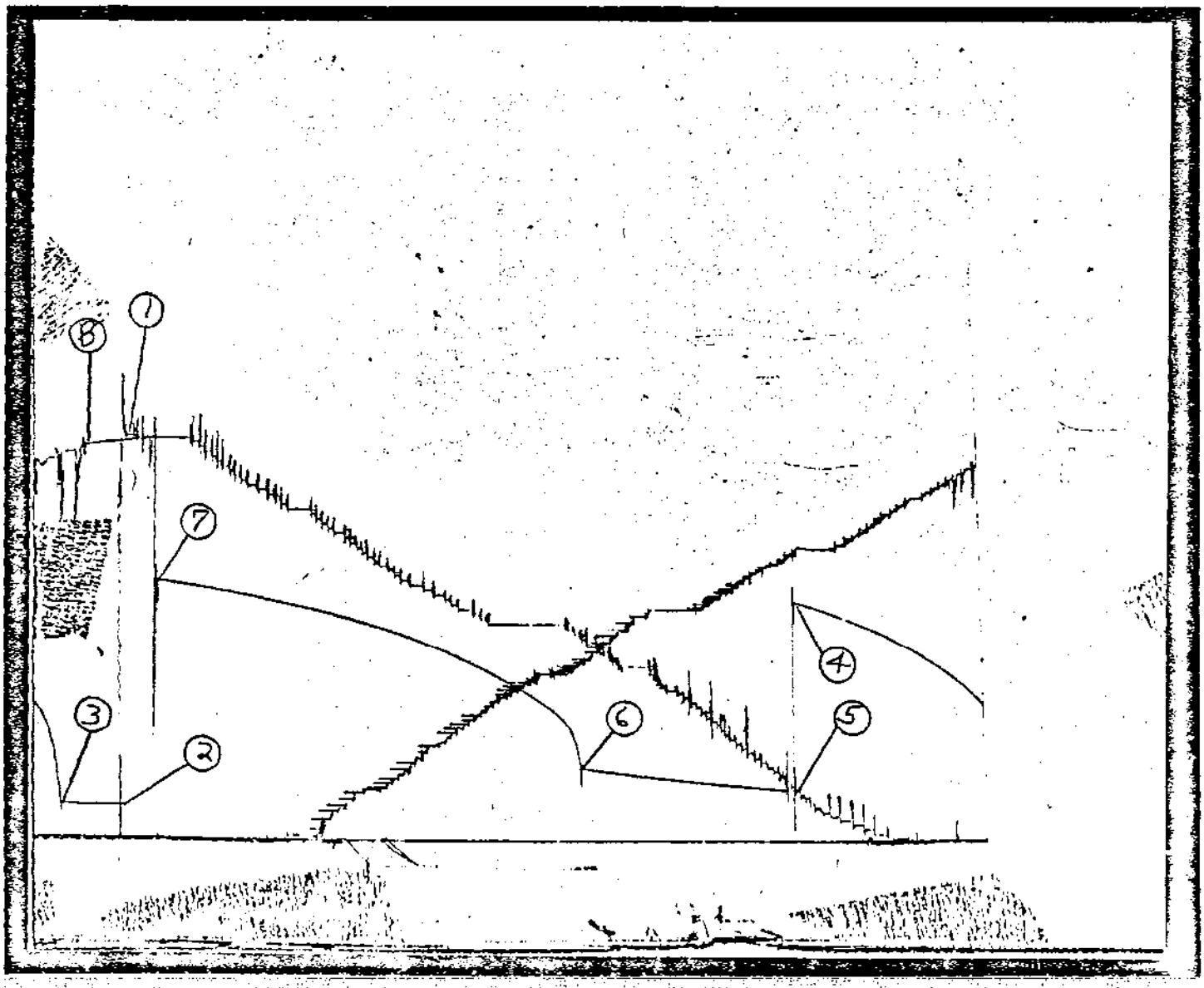
FIELD REPORT NO.: 10010 D

INSTRUMENT NO.: J-091

CAPACITY: 9000#

NO. OF REPORTS: 8-

PRESSURE DATA FROM THIS CHART IS PRESENTED ON NEXT PAGE



JOHNSTON

Schlumberger

SURFACE INFORMATION

Description (Rate of Flow)	Time	Pressure (P.S.I.G.)	Surface Choke
Opened Tool	0051	–	1/8''
BLOW, 1'' IN WATER			
BLOW, 1/2'' IN WATER	0052	–	''
BLOW DIED	0055	–	''
CLOSED FOR INITIAL SHUT-IN	0106	–	''
FINISHED SHUT-IN	0206	–	''
RE-OPENED TOOL	0207	–	''
BLOW, 1/8'' IN WATER			
BLOW DIED	0208	–	''
CLOSED FOR FINAL SHUT-IN	0307	–	''
FINISHED SHUT-IN	0507	–	''
PULLED PACKER LOOSE	0509	–	–

Cushion Type	Amount	Pressure	Bottom Choke
	–		Size 15/16''

MUD DATA

Mud Type: SALT GEL – STARCH Wt.: 10.6
Viscosity: 35 Water Loss: 7.0 C.C.
Resist. of Mud: .06 @ 50 °F; of Filtrate: .04 @ 50 °F
Chloride Content: 182,000 PPM

EQUIPMENT & HOLE DATA

Type Test: M. F. E. OPEN HOLE
Formation Tested: TYLER
Elevation: 2533 G.L. Ft.
Net Productive Interval: 2 Ft.
Estimated Porosity: 5 %
All Depths Measured From: –
Total Depth: 8085 Ft.
Main Hole/Casing Size: 7 7/8''
Rat Hole/Liner Size: –
Drill Collar Length: 604' I.D. 2.25''
Drill Pipe Length: 7351' I.D. 3.8''
Packer Depth(s): 7986 & 7990 Ft.

MULTI-FLOW EVALUATOR FLUID SAMPLE DATA

Sampler Pressure: 20 P.S.I.G. at Surface
Recovery: Cu. Ft. Gas: –
cc. Oil: –(SCATTERED SPECKS)
cc. Water: 250
cc. Mud: 2000 (WATER CUT)
Tot. Liquid cc.: 2250
Gravity: – °API @ – °F.
Gas/Oil Ratio: – cu. ft./bbl.

	Resistivity		Chloride Content
Recovery Water	.08 @ 60 °F.		169000 ppm
Recovery Mud	– @ – °F.		
Recovery Mud Filtrate	– @ – °F.		– ppm
Mud Pit Sample	.06 @ 50 °F.		
Mud Pit Sample Filtrate	.04 @ 50 °F.		182000 ppm

Recovery Description	Feet	Barrels	% Oil	% Water	% Others	API Gravity	Resistivity	Chl. PPM
DRILLING MUD	* 4607	59.80				@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	
						@ °F.	@ °F.	

Remarks: * MUD DROPPED 5'/ MINUTE DURING END OF FINAL SHUT-IN. HAD 1'' BLOW IN BUCKET. CAME OUT OF HOLE AND FOUND CROSS-OVER SUB WASHED OUT & BOTTOM DRILL COLLAR WASHED OUT.

Address: P. O. BOX 5050; DENVER, COLORADO

Company: ANADARKO PRODUCTION COMPANY Field: (WILD CAT) SENIC PROSPECT
Well: PERDEAMS #1 Location: SEC. 15 – T139N – R98W
Test Interval: 7990' TO 8085' Test #: 1 Date: 12-17-77

County: STARK State: NORTH DAKOTA Field Report No.: 10010 D
Technician: OMLID(WILLISTON) Test Approved By: MR. JOHN C. SCHILLO No. Reports Requested: 8XXX

BOTTOM HOLE PRESSURE AND TIME DATA

JOHNSTON Schlumberger

INSTRUMENT NO.: J-091 CAPACITY(P.S.I.): 9000 DEPTH: 8004 FT.

PORT OPENING: OUTSIDE BOTTOM HOLE TEMP.: 112

DESCRIPTION	LABELED POINTS	PRESSURE (P.S.I.)	GIVEN TIME	COMPUTED TIME
INITIAL HYDROSTATIC MUD	1	4651.1		
INITIAL FLOW(1)	2	432.5		
INITIAL FLOW(2)	3	460.2	15	16
INITIAL SHUT-IN	4	2769.0	60	61
FINAL FLOW(1)	5	630.1		
FINAL FLOW(2)	6	866.5	60	60
FINAL SHUT-IN	7	2990.6	120	119
FINAL HYDROSTATIC MUD	8	4543.9		

INCREMENTAL READINGS

LABEL POINT	DELTA TIME	PRESSURE (P.S.I.)	T + DT/DT	LOG	PW - PF (P.S.I.)	COMMENTS
1		4651.1				HYDROSTATIC MUD
2	0	432.5				INITIAL FLOW(1)
	5	438.0				
	10	441.7				
	15	456.5				
3	16	460.2				INITIAL FLOW(2)
3	0	460.2				STARTED SHUT-IN
	5	1417.0	4.200	0.623	956.7	
	10	1708.8	2.600	0.415	1248.6	
	15	1880.6	2.067	0.315	1420.3	
	20	2026.5	1.800	0.255	1566.3	
	25	2155.8	1.640	0.215	1695.5	
	30	2272.1	1.533	0.186	1811.9	
	35	2375.5	1.457	0.164	1915.3	
	40	2466.1	1.400	0.146	2005.8	
	45	2547.3	1.356	0.132	2087.1	
	50	2621.2	1.320	0.121	2161.0	
	55	2687.7	1.291	0.111	2227.5	
	60	2750.5	1.267	0.103	2290.3	
4	61	2769.0	1.262	0.101	2308.8	INITIAL SHUT-IN
5	0	630.1				FINAL FLOW(1)
	5	633.8				
	10	652.3				
	15	667.1				
	20	683.7				
	25	704.0				
	30	724.3				
	35	744.6				
	40	766.8				
	45	789.0				
	50	811.1				
	55	837.0				
6	60	866.5				FINAL FLOW(2)
6	0	866.5				STARTED SHUT-IN
	1	1008.8	77.000	1.886	142.2	

LABEL POINT	DELTA TIME	PRESSURE (P.S.I.)	T + DT/DT	LOG	PW - PF (P.S.I.)	COMMENTS
	2	1169.5	39.000	1.591	302.9	
	3	1272.9	26.333	1.421	406.3	
	4	1350.5	20.000	1.301	483.9	
	5	1404.0	16.200	1.210	537.5	
	6	1446.5	13.667	1.136	580.0	
	7	1485.3	11.857	1.074	618.7	
	8	1516.7	10.500	1.021	650.1	
	9	1546.2	9.444	0.975	679.7	
	10	1577.6	8.600	0.934	711.1	
	12	1633.1	7.333	0.865	766.5	
	14	1684.8	6.429	0.808	818.2	
	16	1734.6	5.750	0.760	868.1	
	18	1784.5	5.222	0.718	918.0	
	20	1830.7	4.800	0.681	964.1	
	22	1873.2	4.455	0.649	1006.6	
	24	1915.6	4.167	0.620	1049.1	
	26	1958.1	3.923	0.594	1091.6	
	28	1998.8	3.714	0.570	1132.2	
	30	2037.5	3.533	0.548	1171.0	
	35	2131.7	3.171	0.501	1265.2	
	40	2218.6	2.900	0.462	1352.0	
	45	2298.0	2.689	0.430	1431.4	
	50	2371.9	2.520	0.401	1505.3	
	55	2438.3	2.382	0.377	1571.8	
	60	2501.1	2.267	0.355	1634.6	
	65	2558.4	2.169	0.336	1691.9	
	70	2610.1	2.086	0.319	1743.6	
	75	2660.0	2.013	0.304	1793.4	
	80	2706.2	1.950	0.290	1839.6	
	85	2748.6	1.894	0.277	1882.1	
	90	2791.1	1.844	0.266	1924.6	
	95	2829.9	1.800	0.255	1963.4	
	100	2868.7	1.760	0.246	2002.1	
	105	2903.8	1.724	0.236	2037.2	
	110	2937.0	1.691	0.228	2070.5	
	115	2968.4	1.661	0.220	2101.9	
7	119	2990.6	1.639	0.214	2124.0	FINAL SHUT-IN
8		4543.9				HYDROSTATIC MUD

JOHNSTON

PRESSURE LOG*

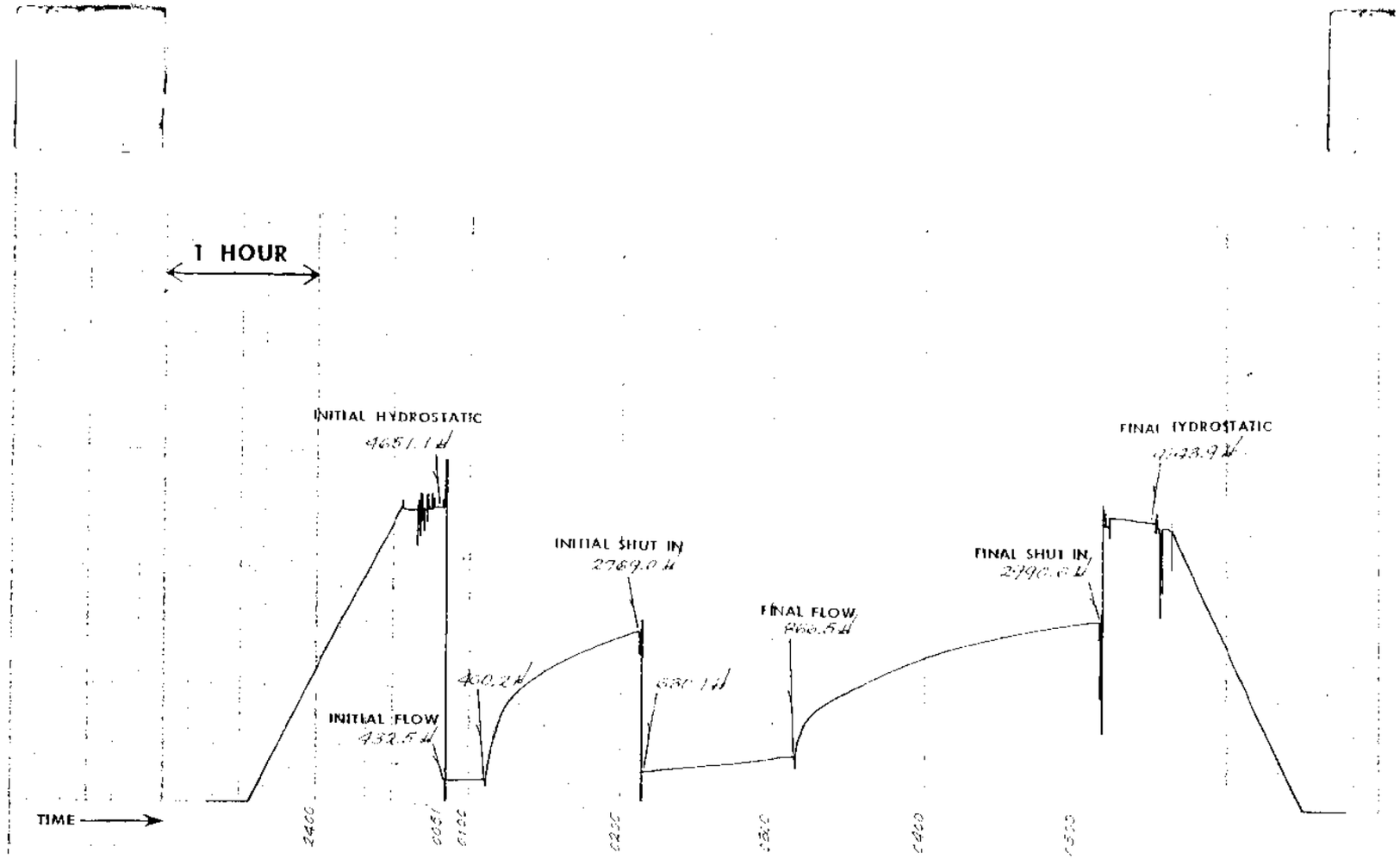
Field Report No. 10010 D

Instrument: Number J-091

Capacity 7000 p.s.i.

Depth 8004 ft.

*a continuous tracing of the original chart



NORTH DAKOTA INDUSTRIAL COMMISSION

OIL AND GAS DIVISION

WESLEY D. NORTON
Chief Enforcement Officer

F. E. WILBORN
Deputy Enforcement Officer

CLARENCE G. CARLSON
Geologist

CHARLES KOCH
Engineering Dept.

DOREN DANNEWITZ
Field Supervisor

KEN KALLESTAD
Reclamation Sup.

January 29, 1987

P.C. Pennock
Anadarko Production Co.
P.O. Box 5050
Denver, CO 80217

Dear P.C. Pennock:

In reviewing our files, I noted that our office has not received copies of the drill stem test reports for the well listed below. Please submit the tester's report and charts, in triplicate, at your earliest convenience. Thank you.

Sincerely,

Lynette Entzi
Clerk II

LE/tp

#6369 - PERDAEMS #1 - S/2 SW/4 Sec.15-139-98, Stark County
Missing DST #1

6369

ANADARKO PRODUCTION COMPANY
A Panhandle Eastern Pipe Line Company Subsidiary

1325 So. Colorado Blvd., Suite 708
P. O. Box 5050
Denver, Colorado 80217
(303) 759-4201

January 3, 1978

State Geologist
North Dakota Geological Survey
University Station
Grand Forks, North Dakota 58202

Re: Permit 6369, Perdaems #1
C SW¼, Sec.15-T139N-R98W
Stark County, North Dakota
Plugging Reports

Gentlemen:

The "Sundry Report" and "Plugging Report", copies required by the State Rules and Regulations, are enclosed.

The required cutting samples are to be sent from Amstrat, Billings, Montana, and the open hole logs from Schlumberger Well Surveying Corporation.

If additional information is required, please advise.

Yours very truly,

ANADARKO PRODUCTION COMPANY

R. L. Jones
Division Production Engineer

RLJ/ck
Enclosure

FORM

NUMBER TO PERMIT # 6369

North Dakota State Industrial Commission
Oil and Gas Division
PLUGGING RECORD

E 6369 F

(Within 30 days after the plugging of any well has been accomplished, the owner or operator thereof shall file this form with the State Geologist, setting forth in detail the method used in plugging the well.)

OPERATOR Anadarko Production Company FIELD Senic Prospect

LEASE NAME Perdaems WELL NO 1 SEC C S/2 SW 15 TWP 139 N RGE 98W

PERMIT NO. 6369 POOL ~~Wildcat~~

ELEVATION 2533' above sea level (D.F., G.R., K.B.) COUNTY Stark

ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO: Anadarko Production Co.

STREET 1385 South Colorado Blvd. CITY Denver Colorado STATE Colorado 80217

P.O. Box 5050

DATE WELL WAS PLUGGED 12-19-77 19 77

TOTAL DEPTH 8155'

ELECTRIC OR OTHER LOGS RUN? yes Run #1- Dual Laterlog-Gamma Ray 8133 to 650
Run #2- BHC-Sonic-Gamma Ray- Caliper 8142-6100

WAS THIS WELL CORED? no IF SO, GIVE INTERVALS

WAS THE WELL FILLED WITH MUD LADEN FLUID, ACCORDING TO REGULATIONS OF THE STATE INDUSTRIAL COMMISSION? yes HOW WAS MUD APPLIED? Halliburton Pump WERE PLUGS USED? yes

IF SO SHOW ALL SHOULDERS LEFT FOR CASING, SIZES AND LENGTHS OF CASING, SIZE AND KIND OF PLUGS USED, AND DEPTHS PLACED. ALSO AMOUNT OF CEMENT AND ROCK 652'- 8 5/8-28.5 lb.

Plug #1-8155 to 8055	30 sacks class G	Otter
Plug #2-6687 to 6587	30 Sacks of Class G	Spearfish Checked plug and was Okay
Plug #3-5467 to 5367	30 Sacks of Class G	Dakota
Plug #4-700 to 600	30 Sacks of Class G	Guide shoe
Plug #5-35 to 0	10 Sacks of Class G	Surface plug

Braden head was cut off 3' below ground level and well as capped.

WAS NOTICE GIVEN BEFORE PLUGGING, TO ALL AVAILABLE ADJOINING LEASE AND LAND OWNERS? yes

GIVE DRILL STEM DATA ON REVERSE SIDE OF THIS FORM.

EXECUTED THIS 3 DAY OF January 19 78 Anadarko Production Company
(Company or Operator)

(Signature) Division Prod. Engineer (Title)

STATE OF)
) ss
COUNTY OF)

Before me the undersigned authority, on this day personally appeared known to me to be the person whose name is subscribed to the above instrument, who being by me duly sworn on oath states that he is authorized to make this report and has knowledge of the facts stated herein and that said report is true and correct.

Subscribed and sworn to before me his the day of :$

My Commission expires Notary Public in and for

INSTRUCTIONS

The office of the State Geologist will retain three copies of this form. Be sure the form is complete and properly notarized.

BE SURE THAT YOU HAVE READ AND THOROUGHLY UNDERSTAND THE RULES AND REGULATIONS OF THE NORTH DAKOTA STATE INDUSTRIAL COMMISSION.

DRILL STEM TEST DATA

Well: Perdaems #1
Date of Test: 12-17-77
Interval Tested: 7990 to 8085
Formation Tested: Tyler

IF 402 to 421
ISIP 2732
FF 604 to 788
FSIP 2970

Initial Hydrostatic 4603
Final Hydrostatic 4603
BHT 112 degrees Fahreinheit

Recovery: Total fluid recovery in MFE Chamber 2250 CC
2000 cc of water cut mud
250 cc of water
2250 Total

Remarks:
A very few scattered specks of oil were found in sample chamber fluid

FORM 4

Industrial Commission of the State of North Dakota

SEE INSTRUCTIONS ON OTHER SIDE

Refer to Permit No. 6369

SUNDRY NOTICES AND REPORTS ON WELLS

6369

1.	Notice of Intention to Drill or Redrill	7.	Report of Casing
2.	Notice of Intention to Change Plans	8.	Report of Redrilling or Repair
3.	Notice of Intention to Pull Casing	9.	Supplementary History
4.	Notice of Intention to Abandon Well X	10.	Well Potential Test
5.	Report of Water Shut-Off	11.	
6.	Report of Shooting or Acidizing	12.	

(Indicate nature of notice by proper check mark in space above)

NAME OF LEASE Perdaems Date January 3, 19 78

WELL NO. 1 is located 1320 ft. from (N) (S) line and 1320 ft. from the (E) (W) line of

Section 15 Township 139N Range 98W in Stark County

Wildcat Field Pool. The elevation of the GL is 2533 feet above sea level.

Name and Address of Contractor, or Company which will do work is:

Bomac Drilling, Suite 700, Westland Bank Bldg., 10403 W. Colfax, Lakewood, CO 80215

(DETAILS OF WORK)

(State names of, and expected depth of objective sands; show sizes, weight, and lengths of proposed casing, indicate mud weights, cementing points, and all other details of work).

Verbal permission was obtained for the following plugging procedure from the State Geologist by Consultant John Schillo, International Petroleum Engineering, PO Box 165, Malta, Montana 59538.

8-5/8" OD 28.55# K-55 STC RGE-3 Surface csg was set & cmtd to surface from 650' KB, 11-29-77

T.D. Well - 8155' Driller

Cmt Plug #1	8155'-8055'	30 sx Class G + 0.03% HR-4-Otter
#2	6687'-6587'	30 sx Class G + 0.03% HR-4-Spearfish
#3	5467'-5365'	30 sx Class G-Dakota
#4	700' - 600'	30 sx Class G-CSG Shoe
#5	35' - 0	10 sx Class G-Surface

Mud between plugs - wt-10.5#; vis-42; salt-300,000 ppm; ph-7.5; solids-7.5%; sd-tr.

Braden head cut off 3' below G.L. & plate welded.

Company ANADARKO PRODUCTION COMPANY

Address PO Box 5050; Denver, CO 80217

By R. L. Jones

Title DIVISION PRODUCTION ENGINEER

Do not write in this space

Approved JAN 6 1978 19

By F. E. Williams

Title

6369

GEOLOGICAL WELL REPORT

Anadarko Production Co. Perdaems No. 1
C SW¼, Section 15, T 139 N, R 98 W
Stark County, North Dakota
Elevation: 2533' Ground, 2544' K.B.

Edward S. Earle

by Edward S. Earle
January 3, 1978

CONTENTS

GENERAL INFORMATION

Well Name: Anadarko Production Co. Perdaems #1

Location: C SW¼ Section 15, T 139 N, R 98 W, Stark County, North Dakota

Rig: Bomac #38

Pusher: Bill Kruger

Surface Casing: 8 5/8" set at 650 with 300 sacks

Logs: DLL-Gamma Ray, BHC Sonic-Gamma Ray

Drill Stem Test: DST #1 7990-8085

Spudded: November 28, 1977

Completed: December 19, 1977

Status: Plugged and Abandoned

CHRONOLOGICAL HISTORY

11-28-1977	Studded hole 5:00 p. m. November 28, 1977, drilled 12¼" hole 40-387.
11-29-1977	Drilled 12¼" hole 387-650. Ran 14 joints 8 5/8" casing. Set at 650 with 300 sacks.
11-30-1977	Drilled 7 7/8" hole 650-1741. Brine, NaCl 123,750.
12- 1-1977	Drilled 7 7/8" hole 1741-4030. Brine, NaCl 123,750.
12- 2-1977	Drilled 7 7/8" hole 4030-5344. Mud Wt. 9.0, Vis. 28, NaCl 123,750.
12- 3-1977	Drilled 7 7/8" hole 5344-5429. No check.
12- 4-1977	Drilled 7 7/8" hole 5429-5527. Mud Wt. 9.2, Vis. 28, NaCl 67,650.
12- 5-1977	Drilled 7 7/8" hole 5527-5915. Mud Wt. 9.9, Vis. 37, W. L. 36, NaCl 115,500.
12- 6-1977	Drilled 7 7/8" hole 5915-6126. Mud Wt. 10.2, Vis. 32, W. L. 19.8, NaCl 183,150.
12- 7-1977	Drilled 7 7/8" hole 6126-6230. Pits frozen.
12- 8-1977	Drilled 7 7/8" hole 6230-6432. Mud Wt. 10.4, Vis. 37, W. L. 21.5, NaCl 254,000.
12- 9-1977	Drilled 7 7/8" hole 6432-6670. Mud Wt. 10.2, Vis. 37, W. L. 18.2, NaCl 254,000.
12-10-1977	Drilled 7 7/8" hole 6670-6915. Mud Wt. 10.5, Vis. 35, W. L. 11.2, NaCl 307,250.
12-11-1977	Drilled 7 7/8" hole 6915-7222. Mud Wt. 10.6, Vis. 35, W. L. 12.2, NaCl 330,000.
12-12-1977	Drilled 7 7/8" hole 7222-7538. Mud Wt. 10.6, Vis. 36, W. L. 14.2, NaCl 328,250.
12-13-1977	Drilled 7 7/8" hole 7538-7640. Mud Wt. 10.6, Vis. 34, W. L. 8.5, NaCl 293,700.
12-14-1977	Drilled 7 7/8" hole 7640-7848. Mud Wt. 10.7, Vis. 33, W. L. 3.8, NaCl 293,700.
12-15-1977	Drilled 7 7/8" hole 7848-7975. Mud Wt. 10.7, Vis. 35, W. L. 7.0, NaCl 280,500.
12-16-1977	Drilled 7 7/8" hole 7975-8085. Mud Wt. 10.6, Vis. 35, W. L. 11.0, NaCl 300,300.
12-17-1977	Ran DST #1 7990-8085. Drilled 7 7/8" hole 8085-8126.
12-18-1977	Drilled 7 7/8" hole 8126-8155. Conditioned hole for logs. Mud Wt. 10.9, Vis. 43, W. L. 7.0. Ran DLL-Gamma Ray and BHC-Sonic-Gamma Ray.
12-19-1977	Plugged and abandoned 10:00 p. m., December 19, 1977. Rig released 11:00 p. m. December 19, 1977.

BIT RECORD

Run	Make	Size	Type	Depth Out	Feet	Hours	Deviation
1A.	HTC	12½	OSC3A	650	610	9½	1 °
1.	Smith	7 7/8	SDS	2161	1511	11¾	¾°
2.	Sec.	7 7/8	S3J	4446	2285	20¾	½°
3.	Sec.	7 7/8	S4T	5429	983	16¼	1 °
4.	Sec.	7 7/8	S86F	6230	801	64¾	1 °
5.	Sec.	7 7/8	S86F	7538	1308	99¼	¾°
6.	Smith	7 7/8	F-3	7838	295	35¾	1 °
7.	HTC	7 7/8	J-44	8085	252	37½	¾°
8.RR	HTC	7 7/8	J-44	8155	70	9¼	

PLUGGING RECORD

Depth	Sacks	Formation
1. 8155-8055	30	Otter
2. 6687-6587	30	Spearfish
3. 5467-5365	30	Dakota
4. 700-600	30	Surface Casing
5. 35-0	10	Surface

ELECTRIC LOG FORMATION TOPS

Formation	Depth	Sub-Sea
Pierre	1950'	+ 594
Greenhorn	4552'	-2008
Muddy	5167'	-2623
Dakota Silt	5417'	-2873
Dakota Sand	5448'	-2904
Jurassic	5776'	-3232
Piper Limestone	6433'	-3889
Spearfish	6637'	-4093
Minnekahta	7187'	-4643
Opeche	7230'	-4686
Minnelusa	7413'	-4869
Amsden	7834'	-5290
Tyler	7959'	-5415
Otter	8119'	-5575
Total Depth	8147'	

DRILL STEM TEST

DST 7990-8085(95') Open 15 minutes, Shut in 60 minutes, Open 60 minutes, Shut in 120 minutes. Opened tool with 1" blow, died in 4 minutes. Opened tool for final flow with 1/8" blow, died in one minute. Shut in tool. In 90 minutes mud started dropping in annulas and had 1" blow. Changeover sub was washed out.

Recovered: 4607' Drilling Mud

MFE Chamber: Capacity - 2300 cc. Pressure - 20 PSI
Recovered - Gas, none
250 cc. water, few specks black oil
2000 cc. WCM
Resistivity - .08 at 60° F.
Chlorides - 169,000 ppm.

Pressures:		
	IHP	4603
	IFP	402-421
	ISIP	2732
	FFP	604-788
	FSIP	2970
	FHP	4603

Pit Mud Resistivity .06 at 50°F.

Pit Mud Filtrate: Resistivity - .04 at 50°F.
Chlorides - 182,000 ppm.

Temperature 112°F. 150 ppm. Nitrate in mud from spike.

SAMPLE DESCRIPTIONS

6370-6410 Sandstone, light grey, medium grey, extremely fine to lower fine, sub-angular, very calcareous, numerous dark grey grains, hard, tight, no show.

6410-6420 Shale, dark red, soft, very calcareous.

6420-6440 Shale, dark red, grey-green, firm, calcareous.

6440-6457 Shale, medium greyish-red, soft, calcareous.

Sample Top Piper Limestone 6457'(6433 E-log)

6457-6490 Dolomite, cream, white, earthy to chalky, numerous clear anhydrite inclusions, scattered clear chert, no visible porosity, no show.

6490-6510 Limestone, light brown, tan, sublithographic to lithographic, scattered light grey chert, slightly pelletal.

6510-6520 Shale, red-brown, soft, very slightly dolomitic, anhydrite inclusions, streaks gypsum, white, very soft.

6520-6540 Sandstone, reddish-brown, extremely fine to very fine, sub-angular, slightly dolomitic, hard, tight, no show.

6540-6560 Gypsum, white, very soft.

6560-6596 Shale, brick-red, slightly silty, slightly dolomitic, numerous white anhydrite inclusions.

6596-6638 Drilled one minute per foot, probably salt.

6638-6640 Gypsum, white, soft.

6640-6650 No sample.

6650-6753 Shale, brick-red, slightly silty, slightly dolomitic, occasional white anhydrite inclusions.

6753-6778 Salt, clear, crystalline.

6778-6875 Shale, as at 6650.

6875-6890 Salt from drilling time.

6890-6910 Shale, as at 6650.

6910-6950 Salt, clear, pink, coarsely crystalline.

6950-6975 Very poor samples. Probably Shale, as at 6650.

6975-6990 Salt, clear, crystalline.

6990-7187 Shale, red-orange, silty, slightly dolomitic, occasional gypsum inclusions.

Sample Top Minnekahta 7187'

7187-7210 Very poor samples. Anhydrite, white, sublithographic, soft.

7210-7250 Limestone, pink, cream, sublithographic to lithographic, occasional clear anhydrite inclusions, trace porosity, no show.

7250-7269 Limestone, as above, pink, red, brown; Shale, red-brown, silty, dolomitic.

7269-7344 Salt, clear, crystalline.

7344-7390 Shale, red-orange, soft, slightly dolomitic, calcareous.

7390-7410 Shale, red-orange, silty, slightly dolomitic.

Sample Top Minnelusa 7410'

7410-7425 Dolomite, cream, pink, sublithographic, sandy, tight, slightly cherty, no show.

7425-7500 Sandstone, white, pink, fine to upper medium, sub-round to well-rounded, very slightly dolomitic, good porosity, no show; with streaks Sandstone, white, pink, lavender, fine, sub-round, dolomitic, hard, tight, no show. Sandstone is largely free drilling.

7500-7540 No samples.

7540-7560 Dolomite, lavender, pink, sublithographic, silty, sandy, hard, tight, no show.

7560-7590 Sandstone, pink, lavender, white, medium fine, sub-round, dolomitic, slight porosity, no show.

7590-7610 Dolomite, pink, lavender, cream, light brown, sublitho-graphic, silty, sandy, scattered milky chert, tight, no show.

7610-7630 Dolomite, cream, pink, lavender, sublithographic, very silty in part; with laminations Siltstone, lavender, red, very dolomitic, argillaceous, tight, no show.

7630-7640 Siltstone, lavender, pink, very dolomitic, soft, extremely argillaceous.

7640-7650 Siltstone, light grey, brown, pink, extremely dolomitic.

7650-7670 Siltstone, dolomitic, light grey, pink, cream, grades to silty dolomite in part.

7670-7675 Shale, brick-red, hard, calcareous.

7675-7700 Dolomite, grading to Siltstone, light grey, tan, lav-ender, sublithographic, silty, sandy, scattered milky chert.

7700-7710 Dolomite, light, pink mottling, sublithographic, silty, tight, no show.

7710-7770 Dolomite, as above; interbedded with Siltstone, light grey, pink, dolomitic; Sandstone, pink, white, light grey, extremely fine to fine, sub-angular, dolomitic, tight, no show.

7770-7780 Shale, brick-red, firm, dolomitic, sandy.

7780-7820 Dolomite, cream, white, red specks, sublithographic to lithographic.

7820-7860 Dolomite, light grey, cream, pink, sublithographic, silty, tight, no show; interbedded with Shale, brick-red, firm, dolomitic.

7860-7885 Dolomite, cream, tan, light grey, sublithographic, scattered Forams, tight, no show; with streaks Limestone, tan, sublithographic, occasional Forams, tight, no show.

7885-7900 Limestone, light grey, greyish-tan, sublithographic, scattered Forams.

7900-7925 Limestone, as above; with laminations Shale, lavender, brick-red, silty, dolomitic; trace Dolomite, pink, extremely fine, anhydritic.

7925-7940 Limestone, medium grey-brown, dark brown, sublithographic, argillaceous, scattered Forams; with laminations Shale, calcareous, black, hard.

7940-7960 Limestone, light grey-tan, medium grey-brown, slightly argillaceous, numerous Ostracods, scattered Forams; with laminations Marl, medium grey, red mottled, soft.

Sample Top Tyler 7960'

7960-7968 Shale, lavender, medium red, grey-green, calcareous, soft.

7968-7993 Limestone, dark grey, black, scattered Ostracods, Forams, argillaceous; with Shale, black, hard, calcareous, one or two pin points of medium brown oil stain.

7993-8005 Limestone, black, greyish-brown mottling, earthy, very argillaceous, Ostracods, Forams, trace pin points weak natural fluorescence, weak cut fluorescence, no porosity.

8005-8010 Marl, light grey with black carbonaceous specks, soft, silty in part.

8010-8018 Shale, grey, grey-green, mustard, soft, sandy in part.

8018-8020 Sandstone, white, upper fine to lower medium, sub-round, calcareous cement, tight, no show.

8020-8026 Shale, as 8010.

8026-8028 Sandstone, white, fine to medium, scattered coarse, well-rounded, very calcareous, tight, no show.

8028-8030 Sandstone, as above, very hard, tight, no show.

8030-8032 Sandstone, as at 8026, trace pin porosity, no visible oil stain.

8032-8044 Shale, medium grey-green, medium grey, firm, non calcareous to slightly calcareous.

8044-8053 Sandstone, white, fine grading to Siltstone in part, sub-angular to sub-round, calcareous, white clay cement, no visible porosity, no oil stain.

8053-8070 Shale, black, calcareous, soft, coaly.

8070-8075 Marl, black with light grey mottling, very soft.

8075-8085 10' downhole correction.

8085-8090 Shale, medium grey, non-calcareous, numerous black carbonaceous specks, scattered fine to medium rounded quartz grains.

8090-8095 Shale, as above, with trace Sandstone, light grey, fine to medium, sub-round, white clay cement, tight, no show.

8095-8101 Coal, black, pyritic.

8101-8108 Shale, light grey-brown, numerous black carbonaceous specks; trace Sandstone, white, light grey, fine, sub-angular, clay and lime cement, tight, no show.

8108-8110 Limestone, tan, light grey, light brown, sublithographic, very slightly silty, tight, no show.

8110-8120 Shale, as 8101.

Sample Top Otter 8120'

8120-8155 Limestone, medium brown, light grey, grey-green, sub-lithographic, slightly argillaceous; laminations Shale, medium green, soft, very calcareous.

Total Depth Driller 8155'

STATE N. Dakota	COMPANY Anadarko
COUNTY Stark	FARM Perdaems — WELL NO 1
BLOCK	SURVEY
SEC. 15	
T 139N R 98W	TOTAL DEPTH 8155
	CONTRACTOR Bomac #38
	COMMENCED 11-28-1977
	COMPLETED 12-19-1977
ALTITUDE 2544 KB	REMARKS
PRODUCTION P&A	

CASING RECORD

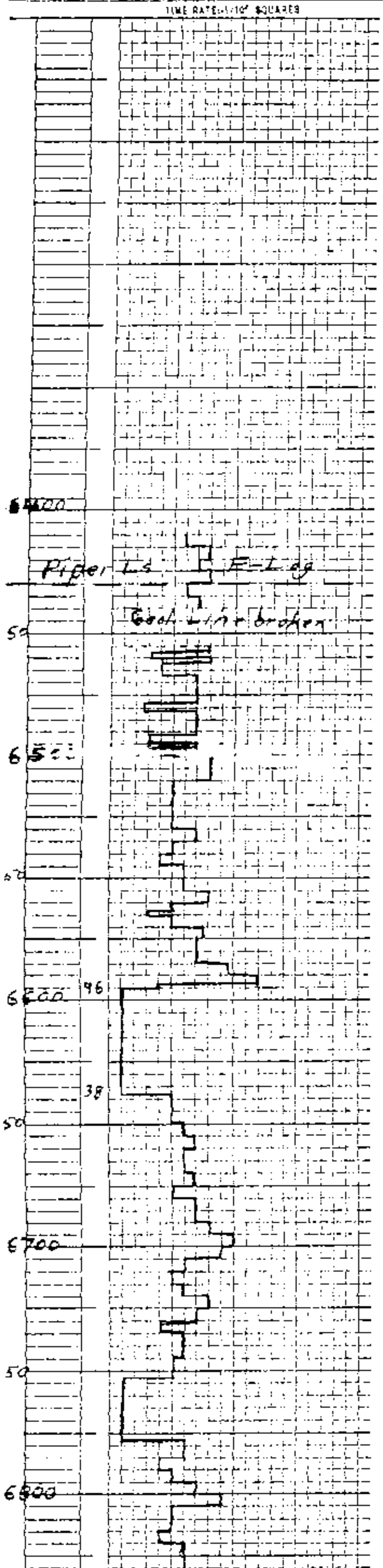
8 5/8" set @ 650 w/300 sx

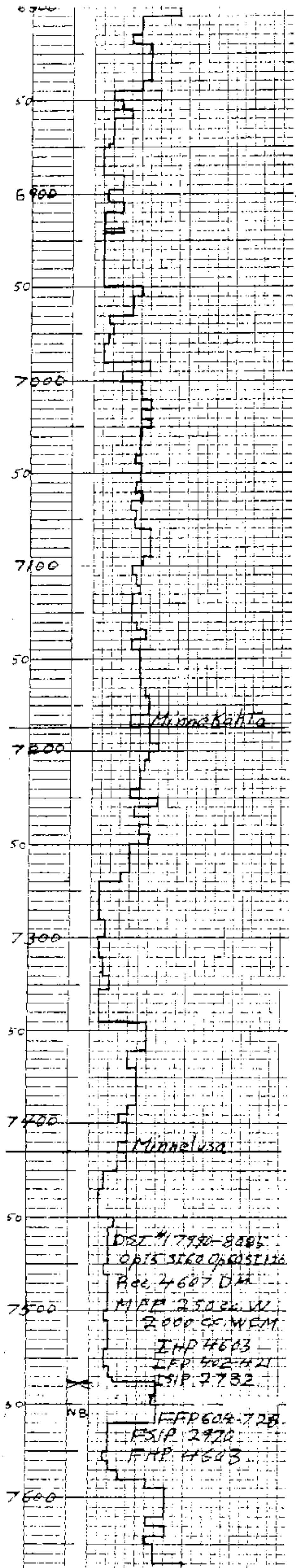
SHOT — QUARTS — BETWEEN

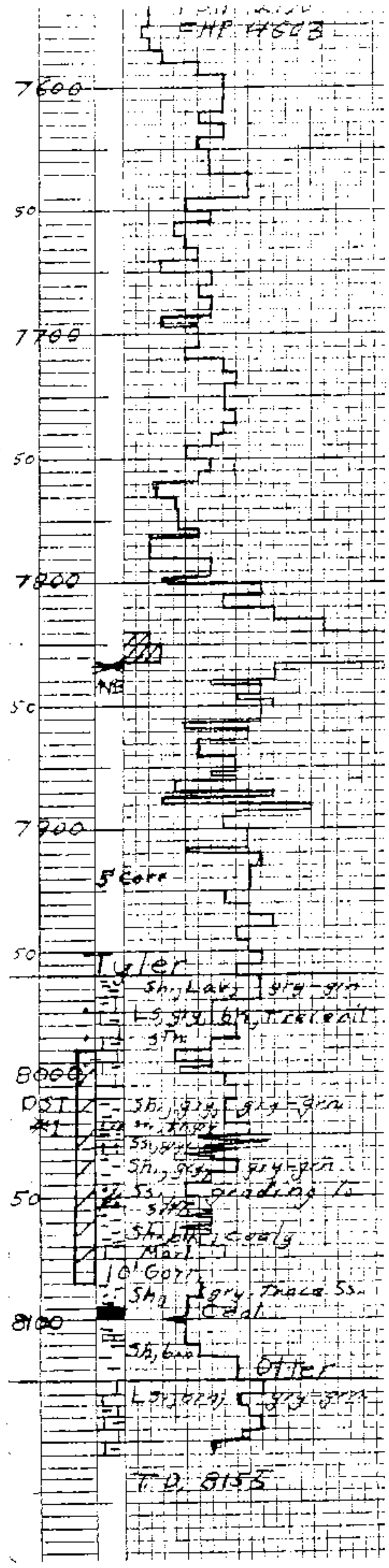
TIME RATE SCALE: 1/10" = MINUTES

450 TULSA, OKLAHOMA 74101 PRINTED IN U.S.A.

TIME RATE 1/10" SQUARES







October 27, 1977

Mr. R. L. Jones
Anadarko Production Company
P. O. Box 5050
Denver, CO 80217

Dear Mr. Jones:

Check No. 2910 in the amount of $25.00 was received.

Enclosed is Permit No. 6369 to drill the Perdaems #1 well, located in the C S/2 SW/4 Sec. 15, T. 139 N., R. 98 W., Stark County, North Dakota.

Sincerely yours,

Lee C. Gerhard
Acting State Geologist

kah
enc.

Industrial Commission of the State of North Dakota

SEE INSTRUCTIONS ON OTHER SIDE

FORM 4

Refer to Permit No. 6369

SUNDRY NOTICES AND REPORTS ON WELLS

1. Notice of Intention to Drill or Redrill	X	7. Report of Casing	
2. Notice of Intention to Change Plans		8. Report of Redrilling or Repair	
3. Notice of Intention to Pull Casing		9. Supplementary History	
4. Notice of Intention to Abandon Well		10. Well Potential Test	
5. Report of Water Shut-Off		11.	
6. Report of Shooting or Acidizing		12.	

(Indicate nature of notice by proper check mark in space above)

NAME OF LEASE Perdaems Date October 24 19 77

WELL NO. 1 is located 1,320 ft. from ~~XXX~~ (S) line and 1,320 ft. from the ~~XXX~~ (W) line of

Section 15 Township 139N Range 98W in Stark County

Wildcat Field ----- Pool. The elevation of the ground is 2,533 feet above sea level.

Name and Address of Contractor, or Company which will do work is:

Contractor not yet contracted.

(DETAILS OF WORK)

(State names of, and expected depth of objective sands; show sizes, weight, and lengths of proposed casing, indicate mud weights, cementing points, and all other details of work).

PROPOSED CASING

Hole Size	Pipe	Depth
24"	18"	40'
12 1/4"	8 5/8"-24#	600'
7 7/8"	1,500'-17#	8,250'
	6,750'-15.5#	

OBJECTIVE SANDS

Tyler - 7,935'
Tyler E - 8,035'
Otter - 8,105

DRILLING MUD

0-600' Drill with 12 1/4" bit using brine gel. Set surface casing.

600'-5,000' - Drill out using brine water. (80,000-100,000 ppm Cl) with salt gel, starch, and LCM as necessary.

5,000'-6,200' - Increase water loss control to 12-15cc, and yield Point to 4 or 5. ph - 6.4. An increase in salinity will begin at 6,000', prior to drilling the Spearfish at 6,450'. 9.2 - 10.2 ppg mud wt.

(Continued)

Company ANADARKO PRODUCTION CO.

Address P.O. Box 5050 Denver, CO 80217

By R. L. Jones

Title Division Production Engineer

Do not write in this space

Approved OCT 27 1977 19

By F. Ellenbecker

Title

(Continued) (DETAILS OF WORK)

6,200' - 8,250' T.D. - SW gel should be saturated, with additions of starch to control fluid loss to approximately 10 cc. at Spearfish and 6-8cc. by 7,000'. 10.0 - 10.4 ppg mud wt. 32-34 sec Vis. for drilling and 45-50 sec Vis. for testing.

CEMENTING

18" - Conductor corrugated pipe to be cemented 0 to 40' with redi-mix

8 5/8" - Casing to be cemented 0 - 600' with Light cement, toiled in with class G, each with 2% calcium chloride.

5 1/2" - Casing cement two stages Stage 1 - 8,250' T.D. to 7,600' (650' fillup) with Poznix, 18% salt and 1% CFR-2. Stage 2 - 7,400' to 5,200' (2,200' fillup) Light cement, salt saturated.

BOP CONTROL EQUIPMENT

Series 900 Double Ram BOP and Annular preventer will be used with remote control and accumulator. Preventers and dual choke control manifold will be tested to 1,500 psig prior to drilling out from under surface casing, and subsequently tested by operation daily.

TESTING AND LOGS

Drill stem testing is anticipated in Tyler. Additional tests will be run as dictated by shows.

Logs - DIL - GR Surface casing to T.D. BHC Sonic - GR- Caliper over lower 1,500' of hole.

Mud Logging Unit will be in operation from 5,000' to T.D.

FORM 1

Oil and Gas Division
North Dakota State Industrial Commission

APPLICATION TO DRILL

SEE INSTRUCTIONS OTHER SIDE

FILE THIS APPLICATION WITH THE STATE GEOLOGIST, UNIVERSITY OF NORTH DAKOTA, GRAND FORKS, N. D.

DATE Oct. 24, 19 77

NAME ANADARKO PRODUCTION COMPANY
(Operator) (Driller)

SEND PERMIT TO: STREET P. O. Box 5050 CITY Denver STATE CO 80217

DESCRIPTION OF LEASE

NAME OF LEASE OWNER ANADARKO PRODUCTION COMPANY

NAME OF FEE OWNER Perdaems ACRES IN LEASE 2,100 WELL NO. 1

SEC. 15 (C S/2 SW/4) TWP. 139N RANGE 98W COUNTY Stark FIELD Wildcat

Distance from proposed location to (N) (S) Section Line 1,320 feet and distance from ~~(E)~~ (W) section line 1,320 feet.

Nearest distance from proposed location to drilling unit line 1,320 feet. Distance from proposed location to nearest drilling, completed permitted or applied for well 5,678 feet. Depth to which propose to drill 8,250 feet.

Acres in drilling unit 160 Elevation of (ground) ~~(KB)~~ ~~(DF)~~ above sea level 2,533 feet.

REMARKS Drilling Unit - SW 1/4 Sec.15-T139N-R98W

DATED THIS 24 DAY OF October, 19 77

BY R. L. Jones
R. L. Jones Denver, CO.
(Office)

OPERATOR

STATE OF Colorado
COUNTY OF Denver } ss

I, R. L. Jones, being first duly sworn on oath, state that I am the Division Production Engineer of ANADARKO PRODUCTION CO. and have knowledge of the facts and matter herein set forth and that the same are true and correct.

NAME R. L. Jones TITLE Division Production Engineer

SUBSCRIBED AND SWORN TO BEFORE ME THIS 24th DAY OF October, 19 77

Charlene M. Norris

PERMIT NO. 6369 33-089-00211

APPROVED OCT 27 1977

DENIED

BY Lee C. Gerhard
(State Geologist)

NOTARY PUBLIC, COUNTY OF Denver

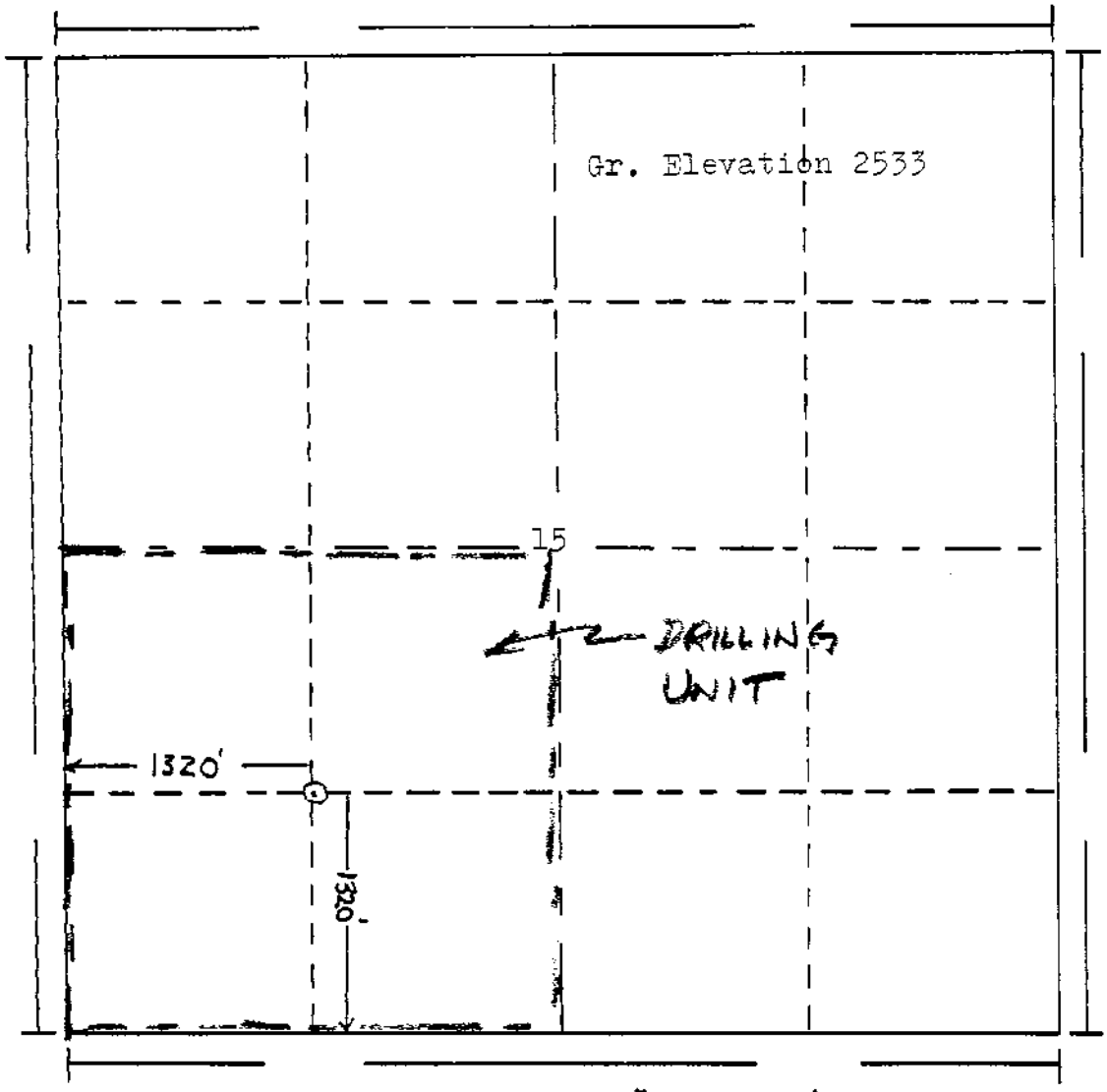
STATE OF Colorado

My Commission Expires MY COMMISSION EXPIRES AUGUST 4, 1980

FORM F-106

RECEIVED
OCT 17 1977
NORTHERN REGION

R. 98 W



N

T. 139 N

Scale··· 1" = 1000'

Powers Elevation Company, Inc. of Denver, Colorado has in accordance with a request from John Shilo for Anadarko Production Co. determined the location of #1 Perdeams to be 1320fsl, 1320fwl Section 15 Township 139 N Range 98 W of the Fifth Principle Meridian Stark County, North Dakota

I hereby certify that this plat is an accurate representation of a correct survey showing the location of #1 Perdeams

Date: 10-14-77

T Nelson

Licensed Land Surveyor No. 1130
State of North Dakota

ANADARKO PRODUCTION COMPANY
A Panhandle Eastern Pipe Line Company Subsidiary

1325 So. Colorado Blvd., Suite 708
P. O. Box 5050
Denver, Colorado 80217
(303) 759-4201

October 25, 1977

State Geologist
University of North Dakota
Grand Forks, N.D. 58201

Re: Perdaems #1
S15-T139N-R98W
Stark County, N.D.

Dear Sir:

Enclosed please find four copies of the following:

1. Application of Intent to Drill
2. Sundry Notices and Reports on Wells
3. Surveyor's Plat
4. Check #2910 for $25.00

Please return one approved copy for our file. If there are any additional questions, please advise.

Sincerely,

ANADARKO PRODUCTION COMPANY

R.L. Jones
Division Drilling Engineer

RLJ/er
encs.

CHECK SHEET

DATE October 27, 1977 **FILE NO.** 6369

COMPANY Anadarko Production Company

WELL NAME Perdaems #1

LOCATION C ~~S/2~~ SW/4 Sec. 15-139N-98W, Stark County

BR 12-14-90

Permit Fee	X
Application to Drill	X
Organization Report	X
$15,000 Bond	X
$5,000 Bond	
Certified Plat	X
Notice of Intention to Drill	X
Sundry Notice	
Completion Report	
Plugging Record	X
Authorization to Transport Oil	

DST #1 Enc 3-9-87

PERMIT NO. 6369 **ISSUED** October 27, 1977

Logs received Jan. 18, 1978

BHC

Dual Laterolog

Site approved 11-80.

CHECK SHEET

DATE October 27, 1977 **FILE NO.** 6369

COMPANY Anadarko Production Company

WELL NAME Perdaems #1

LOCATION C S/2 SW/4 Sec. 15-139N-98W, Stark County

Permit Fee	X
Application to Drill	X
Organization Report	X
$15,000 Bond	X
$5,000 Bond	
Certified Plat	X
Notice of Intention to Drill	X
Sundry Notice	
Completion Report	
Plugging Record	X
Authorization to Transport Oil	

PERMIT NO. 6369 **ISSUED** October 27, 1977

Logs received Jan 18, 1978

BHC

Dual Laterolog