

BLACKWOOD & NICHOLS CO., LTD.

P.O. BOX 1237
DURANGO, COLORADO 81302-1237

(303) 247-0728

March 2, 1988

Mr. Ernie Busch
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Coalbed Methane Committee
Pressure Build Up Survey
NEBU #218
NW $\frac{1}{4}$, Sec. 16, T31N, R7W
San Juan County, New Mexico

Dear Ernie:

Enclosed are copies of a pressure build up test from the referenced well and a production status report.

Blackwood & Nichols Co., Ltd, in a cooperative agreement with Northwest Pipeline Company, conducted the above build up test in conjunction with a bottom hole pressure observation test in the San Juan 32-7 Unit Well No. 6, NE $\frac{1}{4}$, Sec. 17, T31N, R7W to determine if interference was occurring.

This test data is submitted to the Coalbed Methane Committee to assist the members in their evaluation and discussions.

Sincerely,

BLACKWOOD & NICHOLS CO., LTD.



William F. Clark
Operations Manager

WFC:ew

Enclosures

BLACKWOOD & NICHOLS CO., LTD.

P.O. BOX 1237

DURANGO, COLORADO 81302-1237

(303) 247-0728

TO: Northeast Blanco Unit Fruitland Formation
Working Interest Owners

SUBJECT: Well Number 218
Status Report and Pressure Survey

DATE: February 18, 1988

Drilled in 1985, the subject well produces from upper Fruitland Coal Zones. This well offsets the San Juan 32-7 Unit Number 6 well which is operated by Northwest Pipeline Company. Following is a brief well history, a discussion about the "dewatering" of this well and recent pressure testing for interference with the Number 6 well.

Completed as a natural open hole, the subject well penetrates two upper Fruitland Coal Zones, U1 - 3230 to 3260 (14' net) and U2 - 3318 to 3339 (16' net), which have 58' of shale separation. Drilling records report the U1 zone as being dry and water being encountered in the U2 zone. These coal zones have never been acidized or stimulated. A low solids, low water loss drilling mud was used during a completion fishing job.

In 1985, the drilling plan was for the subject well to offset the Number 6 well and only penetrate the uppermost coal zone (U1) which is open in the Number 6 well from 3196 to 3212'. The Phillips Number 6 well, as it is commonly referred to, is located approximately 1600 feet from the Number 218 well. Since 1956, the Number 6 well has produced over 1.3 billion cubic feet of gas.

In January 1986, the Number 218 well was first delivered; it yielded only a puff of gas and lots of water. To handle the water from the coal zones a recirculating gas lift system was installed. After swabbing the well in, continuous production was established at 60 MCFD and 90 BWD. Water production decreased and stabilized at 50 BWD in two weeks. Gas production steadily increased through May and during June averaged 134 MCFD.

Gas marketing problems (no demand) caused this well to be shut in June 26, 1986. It remained shut in until August 1987 - fourteen months. During August and September the well was swabbed several times; however, continuous flow with the recirculating system was not successfully established.

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Fruitland Formation Working Interest Owners
February 18, 1988

Finally in early October 1987, after being swabbed the subject well began continuous production. Initially the gas rate was very small, 10 MCFD and water production was significant, averaging 294 BWD in the first week. This water production decreased to 207 BWD in the second week, then to 102 BWD in the third week. While the water was decreasing, the gas rate was increasing and during December averaged 117 MCFD. Water production stabilized in December at 50 BWD.

In late January 1988, Blackwood & Nichols and Northwest Pipeline conducted pressure surveys to determine if interference between the Number 218 and the Number 6 well was occurring. On December 3, 1987, Northwest shut in the Number 6 well and monitored the surface pressure. Then on January 26, 1988, a bottom hole pressure observation test was started in the shut in Number 6 well. The Number 218 well produced until January 29, 1988, when it was shut in. Then on February 2, 1988, the Number 6 well was turned on and was producing on February 9, 1988, when the pressure bomb in the Number 218 well was recovered.

In summary, we obtained a monitoring record from the Number 6 well which shows the bottom hole pressure fluctuating a very small amount during the seven day test. A pressure build up on the Number 218 well was obtained and no interference is indicated because the reservoir pressure was still increasing after 11 days of shut in.

Perhaps the most important factor in this test is that in the Number 6 well only the uppermost or U1 zone is open; whereas, in the Number 218 well two zones are completed. Crossflow in the Number 218 well from the wet U2 zone into the dry U1 zone probably is preventing us from observing the common zone reservoir characteristics. Isolation of the U1 zone in the Number 218 well is desirable in any future testing efforts.

We plan to monitor the surface pressure of the Number 218 well until the end of February and run another observation survey if justified. In March the well will be returned to production and the dewatering will continue.

Sincerely,

BLACKWOOD & NICHOLS CO., LTD.



William F. Clark
Operations Manager

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Fruitland Formation Working Interest Owners
February 18, 1988

ENCLOSURES: 1) Pertinent Data Sheet
 2) Production History
 3) Gas and Water Production
 4) Pressure Survey - July 29, 1987
 5) Number 218 Well Pressure Buildup
 6) Number 6 Well Pressure Observation
 7) Stratigraphic Cross Section

February 18, 1988

PERTINENT DATA SHEET

Northeast Blanco Unit No. 218

LOCATION: 990' N, 990' W, Section 16, T31N, R7W, San Juan County, New Mexico

FIELD: So. Los Pinos ELEV: 6638' GL TD: 3347' PBTD: 3347'

COMPLETED: 9-6-85

CASING RECORD:

<u>HOLE SIZE</u>	<u>CSG SIZE</u>	<u>WT & GRADE</u>	<u>DEPTH</u>	<u>CEMENT</u>	<u>TOP/CEMENT</u>
12 1/4"	9 5/8"	36.0#,H-40	223'	236 cf	Circulated
8 3/4"	7"	23.0#,K-55	3200'	847 cf	200' T.S.
6 1/4"	Open Hole		3200-3347'		

TUBING RECORD: 108 Jts. 2 3/8" 4.7# J-55 EUE Tubing (3308') set at 3314' and Seating Nipple at 3283'; Tubing Stop at 3270'

FORMATION TOPS: Ojo Alamo - 2416'
Kirtland - 2560'
Fruitland - 3166'

LOGGING RECORD: Open hole - GR, Density, Neutron
Cased hole - GR, Neutron

COMPLETION: Drilled through 7" casing float and shoe at 3200' with gas; drilled Upper Fruitland Coal Zone at 3230'(1'), 3241'(1'), 3245 to 3247' (2') and 3250 to 3260' (10'); Natural gauge - 217 MCFD (pitot test), no water production. Drilled next coal zone from 3318 to 3332' (14') and 3337 to 3339' (2'); Well started making water and lots of coal fines; Natural gauge - 494 MCFD.

Stuck drill bit and tubing in open hole section; mudded up to 9.5 ppg and fished for 3 days. Logged hole after recovering fish. Displaced mud with water, unloaded water with gas; cleaned out to T.D. of 3347', well making water, gas and lots of coal fines; landed tubing; Natural gauge - 800 MCFD

NEBU Well No. 218

<u>DATE</u>	<u>EVENT</u>
1-13-86	Shut In Pressures: Tubing - 250 psi, Casing -1403 psig
1-15-86	Well First Delivered; after making 26 MCF of gas in a couple of hours, the well logged off with water.
2/86 to 4/86	Well not capable of producing; very little gas and lots of water
4-30-86	Swabbed well in and began producing by recirculating gas down the casing and up the tubing. No gas lift valves or packers installed.
5/86 to 6/86	Well producing; gas rate increasing and water production stabilized
6-26-86	Well shut in due to gas marketing problems
7/86 to 8/87	Well shut in
7/29/87	Pressure Survey: Surface: Tubing - 1423 psig, Casing - 1498 psig; Bottom Hole: 1632 psig @ 3284'
8/87 to 9/87	Attempted to produce well; flowed 37 MCF of gas and then logged off. Blew and swabbed well several times, unable to establish and maintain continuous flow up the tubing.
10-8-87	Swabbed well in, established recirculating flow; well initially made negible gas and 480 BWD
10/87 to 11/87	Well producing with recirculating gas lift; water decreasing and gas increasing
12/87	Well produced with compressor for first half of month then well was able to flow naturally, for approximately 8 hours, before logging off for 8-12 hours; well would unload and flow again by itself or be blown
1/88	Well produced with natural on/off cycle and

with compressor part of the time.

1-29-88 Started pressure build up test for
interference with the San Juan 32-7 Number 6
well

2-9-88 Pulled pressure bombs; well still shut in

NORTHEAST BLANCO UNIT NO. 218

Gas and Water Production

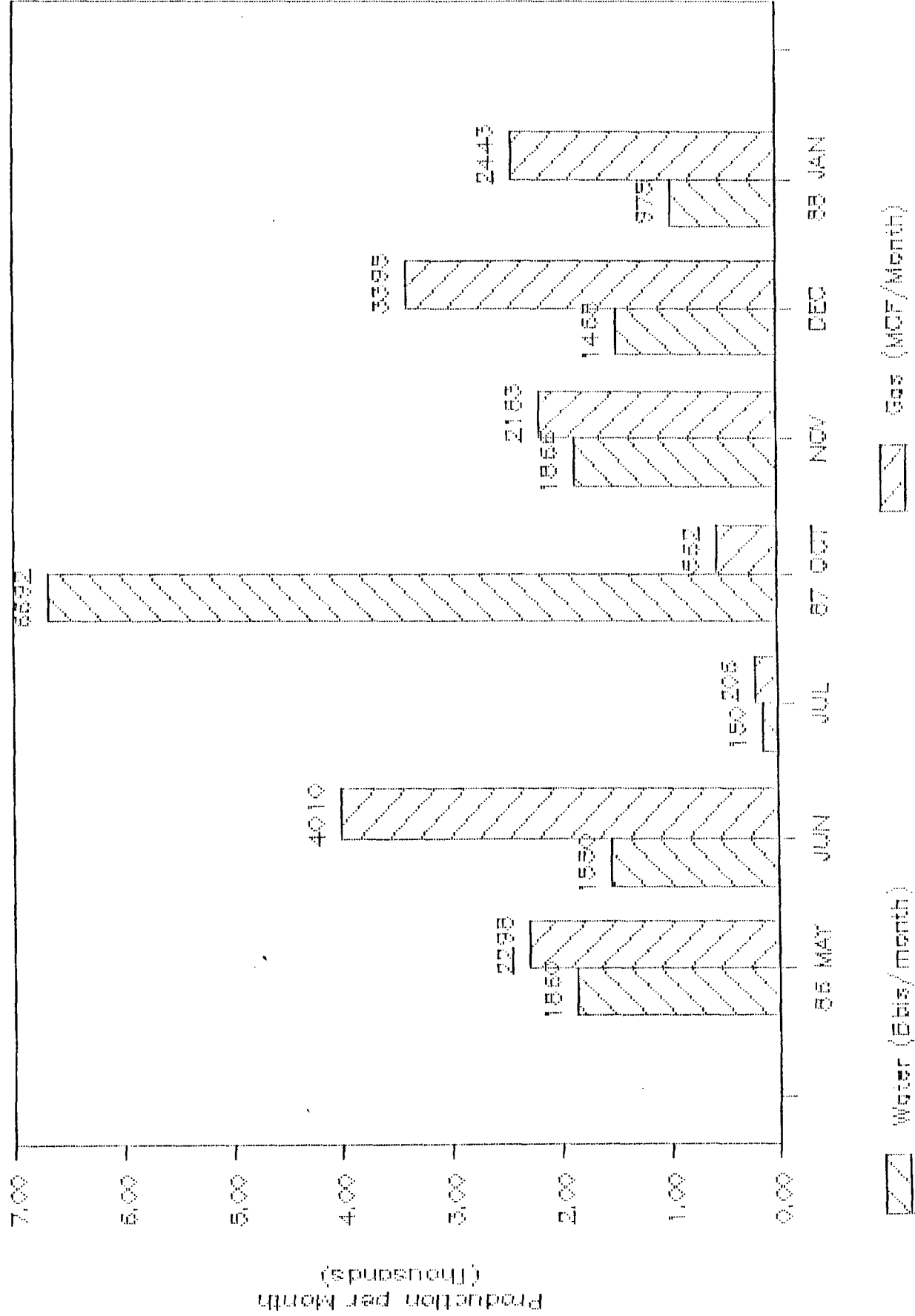
<u>YEAR</u>	<u>MONTH</u>	<u>DAYS</u> <u>PROD.</u>	<u>VOLUME</u> <u>(MCF)</u> <u>(15,025)</u>	<u>FLOW</u> <u>RATE</u> <u>(MCFD)</u>	<u>WATER</u> <u>PRODUCTION</u> <u>(B/D)</u>	<u>WATER</u> <u>PRODUCTION</u> <u>(B/M)</u>
1986	January	-	26	-	N/A	
	February	0	0	0	N/A	
	March	-	19	-	N/A	
	April	0	0	0	N/A	
	May	31	2,298	74	60	1,860
	June	30	4,010	134	50	1,500
	July	3	206	68	50	150
	Summary	<u>64</u>	<u>6,559</u>	<u>102</u>		
1987	August	1	37	N/A	N/A	500 *
	September	1	6	N/A	N/A	1,700 *
	October	17	562	33	480 to 51	6,692
	November	30	2,183	73	62	1,866
	December	29	3,395	117	50	1,468
	Summary	<u>78</u>	<u>6,183</u>	<u>223</u>		
1988	January	30	2,443	81 **	33 **	975

* Estimates of swabbed and unloaded water to pit

** Not continuously with gas lift; natural on/off flow 15 days

NORTHEAST BLANCO UNIT NO. 218

Gas and Water Production





EFTELLER, INC.

reservoir engineering data

MIDLAND TEXAS

Page 8 of 8
File 2-18620-P

Company BLACKWOOD & NICHOLS COMPANY, LTD. Lease NORTHEAST BLANCO UNIT Well No 218
Field SOUTH LOS PINOS County SAN JUAN State NEW MEXICO
Formation UPPER FRUITLAND COAL Test Date JULY 29, 1987

Status of Well Shut in (6/26/86)

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	1424	
1000	1461	0.037
2000	1499	0.038
2984	1535	0.037
3184	1586	0.255
3284 *	1632	0.460

* Open Hole

Datum Pressure Psig

WATER
LEVEL
3081'

Elev. 6638 UG Datum Ft.
Total Depth 3347 Perf. Open Hole Ft.
Tubing 2 3/8 in. to 3308 Ft.
Casing 7 in. to 3200 Ft.
Casing Press. 1498 DW Tubing Press. 1423 DW
Oil Level Water Level 3081
Temperature 123 °F (a) 3284 Ft.
Element No 53615 Range 0-3000
Last Test Date
Pressure Last Test Date Psig
B.H.P. Change Psi

↓



MIDLAND, TEXAS / FARMINGTON, NEW MEXICO
GRAND JUNCTION, COLORADO

P. O. Box 5247
Midland, Texas 79704
(915) 682-5574

February 12, 1988

Blackwood & Nichols Co., Ltd.
Box 1237
Durango, CO 81302-1237

Attention: Mr. William F. Clark

Subject: Buildup Measurement
Northeast Blanco Unit No. 218
South Los Pinos Field
San Juan County, New Mexico
Our File No. 2-19398-BU

Dear Mr. Clark:

Attached hereto are the results of a bottomhole pressure buildup measurement which was conducted on the above well January 28 through February 9, 1988.

The data presented are in tabular and graphical form.

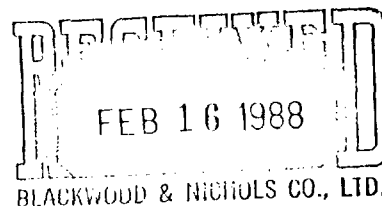
It has been our pleasure to have conducted this service for you. If we may be of further assistance, please call us at any time.

Respectfully submitted,

TEFTELLER, INC.

Neil Tefteller
Neil Tefteller

NT/1w



TEFTELLER, INC.

RESERVOIR ENGINEERING DATA

MIDLAND, TEXAS

WELL : NORTHEAST BLANCO UNIT NO. 218

PAGE 1 OF 9

FIELD : SOUTH LOS PINOS

FILE 2-19398-BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1988 DATE	STATUS OF WELL	TIME	ELAPSED TIME	LOG	T+ δ t δ t	DAILY RATE		WELLHEAD PRESSURE		BHP @		BHP @ 3270'
						WATER	B/D GAS	TBQ	CSG	3264'	PSIG	
1-29	Arrived on location, well flowing (on compressor) Rigged up and ran tandem instruments to 3270'	09:15						128	399	TOP	BOTTOM	
	Made flowing gradient stops going in hole, on bottom	10:00						128	398	INST	INST	
		11:15										478
		11:30										490
		11:45										513
		12:00				45	112					530
	Average rate last 7 days	12:00	0 00									549
	Shut-in for buildup	12:06	0 06		4.433					552		557
		12:12	0 12		4.132					561		
		12:18	0 18		3.956					557		554
		12:24	0 24		3.831					566		564
		12:30	0 30		3.734					575		573
		12:36	0 36		3.655					585		582
		12:42	0 42		3.588					593		590
		12:48	0 48		3.530					603		601
		12:54	0 54		3.479					611		609
		13:00	1 00		3.433					618		618
		13:15	1 15		3.337					642		639
		13:30	1 30		3.257					660		658

WELL : NORTHEAST BLANCO UNIT NO. 218

FIELD : SOUTH LOS PINOS

PAGE 2 OF 9

FILE 2-19398-BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

[illegible]

031-1

TEFTTELLER, INC.
RESERVOIR ENGINEERING DATA
MIDLAND, TEXAS

ELL : NORTHEAST BLANCO UNIT NO. 218

IELD : SOUTH LOS PINOS

PAGE 3 OF 9

FILE 2-19398-BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

DATE	STATUS OF WELL	TIME	ELAPSED TIME HRS.MIN.	LOG	T+ δ t δ t	DAILY RATE WATER B/D GAS MCFD	WELLHEAD PRESSURE		BHP @		BHP @ 3270'
							TBG	CSG	PSIG	INST	PSIG
							TOP		BOTTOM		
							INST		INST		
		04:00	16 00	2.232					1213		1213
		05:00	17 00	2.206					1222		1221
		06:00	18 00	2.181					1229		1229
		07:00	19 00	2.158					1237		1236
		08:00	20 00	2.135					1243		1242
		10:00	22 00	2.094					1254		1253
		12:00	24 00	2.057					1263		1263
		14:00	26 00	2.022					1270		1271
		16:00	28 00	1.991					1278		1278
		18:00	30 00	1.961					1284		1285
		20:00	32 00	1.933					1290		1289
		22:00	34 00	1.907					1294		1295
		00:00	36 00	1.883					1299		1300
		02:00	38 00	1.860					1303		1304
		04:00	40 00	1.838					1308		1310
		08:00	44 00	1.797					1317		1318
		12:00	48 00	1.760					1324		1326
		16:00	52 00	1.726					1330		1333
		20:00	56 00	1.694					1336		1339
		00:00	60 00	1.665					1343		1345
		04:00	64 00	1.637					1347		1350
		08:00	68 00	1.612					1352		1356
		12:00	72 00	1.587					1356		1359
		16:00	76 00	1.564					1361		1364
		20:00	80 00	1.543					1364		1366

1-30

1-31

2-1

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
MIDLAND, TEXAS

WELL : NORTHEAST BLANCO UNIT NO. 218

PAGE 4 OF 9

FIELD : SOUTH LOS PINOS

FILE 2-19398-BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1988 DATE	STATUS OF WELL	TIME	ELAPSED TIME HRS.MIN.	LOG	T+ δ t δ t	DAILY RATE WATER B/D GAS MCFD	WELLHEAD PRESSURE		BHP @		BHP @	
							TBG	CSG	3264'	PSIG	3270'	PSIG
									TOP	INST	TOP	INST
											BOTTOM	INST
2-2		00:00	84 00	1.522					1368		1370	
		04:00	88 00	1.503					1372		1374	
	Clocks ran out	08:30	92 30				1270	1269				
	Off bottom with tandem instruments	09:30	93 30	1.477			1270	1269	1379		1378	
2-3		10:00	94 00	1.475					1379		1378	
		12:00	96 00	1.466					1380		1378	
		16:00	100 00	1.449					1384		1382	
		20:00	104 00	1.433					1386		1385	
2-4		00:00	108 00	1.417					1389		1387	
		04:00	112 00	1.402					1392		1390	
		08:00	116 00	1.397					1395		1393	
		12:00	120 00	1.373					1398		1395	
2-5		16:00	124 00	1.359					1400		1399	
		20:00	128 00	1.346					1402		1401	
		00:00	132 00	1.333					1404		1403	
		04:00	136 00	1.321					1407		1406	
2-6		08:00	140 00	1.309					1409		1408	
		12:00	144 00	1.297					1411		1410	
		16:00	148 00	1.286					1413		1412	
		20:00	152 00	1.275					1415		1414	
2-7		00:00	156 00	1.264					1416		1416	
		04:00	160 00	1.254					1418		1418	
		08:00	164 00	1.244					1419		1420	

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
MIDLAND, TEXAS

WELL : NORTHEAST BLANCO UNIT NO. 218

PAGE 5 OF 9

FIELD : SOUTH LOS PINOS

FILE 2-19398-BU

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1988 DATE	STATUS OF WELL	TIME	ELAPSED TIME HRS.MIN.	LOG	T+ δ t δ t	DAILY RATE WATER B/D GAS MCFD	WELLHEAD PRESSURE		BHP @ 3264'		BHP @ 3270'	
							TBG	CSG	PSIG	INST	PSIG	INST
									TOP	BOTTOM		
									INST			
2-5		12:00	168 00	1.234					1421		1422	
		16:00	172 00	1.224					1423		1423	
		20:00	176 00	1.215					1424		1425	
2-6		00:00	180 00	1.206					1425		1426	
		04:00	184 00	1.197					1426		1427	
		08:00	188 00	1.188					1427		1429	
		12:00	192 00	1.180					1429		1430	
		16:00	196 00	1.171					1430		1432	
		20:00	200 00	1.163					1432		1433	
2-7		00:00	204 00	1.155					1433		1435	
		04:00	208 00	1.147					1434		1436	
		08:00	212 00	1.140					1435		1437	
		12:00	216 00	1.132					1435		1439	
		16:00	220 00	1.125					1436		1440	
		20:00	224 00	1.118					1437		1441	
2-8		00:00	228 00	1.110					1438		1442	
		04:00	232 00	1.103					1439		1443	
		08:00	236 00	1.097					1441		1445	
		12:00	240 00	1.090					1441		1445	
		16:00	244 00	1.083					1442		1446	
		20:00	248 00	1.077					1443		1447	
2-9		00:00	252 00	1.070					1445		1448	
		04:00	256 00	1.064					1445		1448	
		08:15	258 15	1.061					1445		1449	

Off bottom with tandem
instruments
Rigged down equipment

TEFTELLER, INC.

Reservoir Engineering Data

P.O. Box 5247

Midland, Texas 79704

BUILDUP CURVE

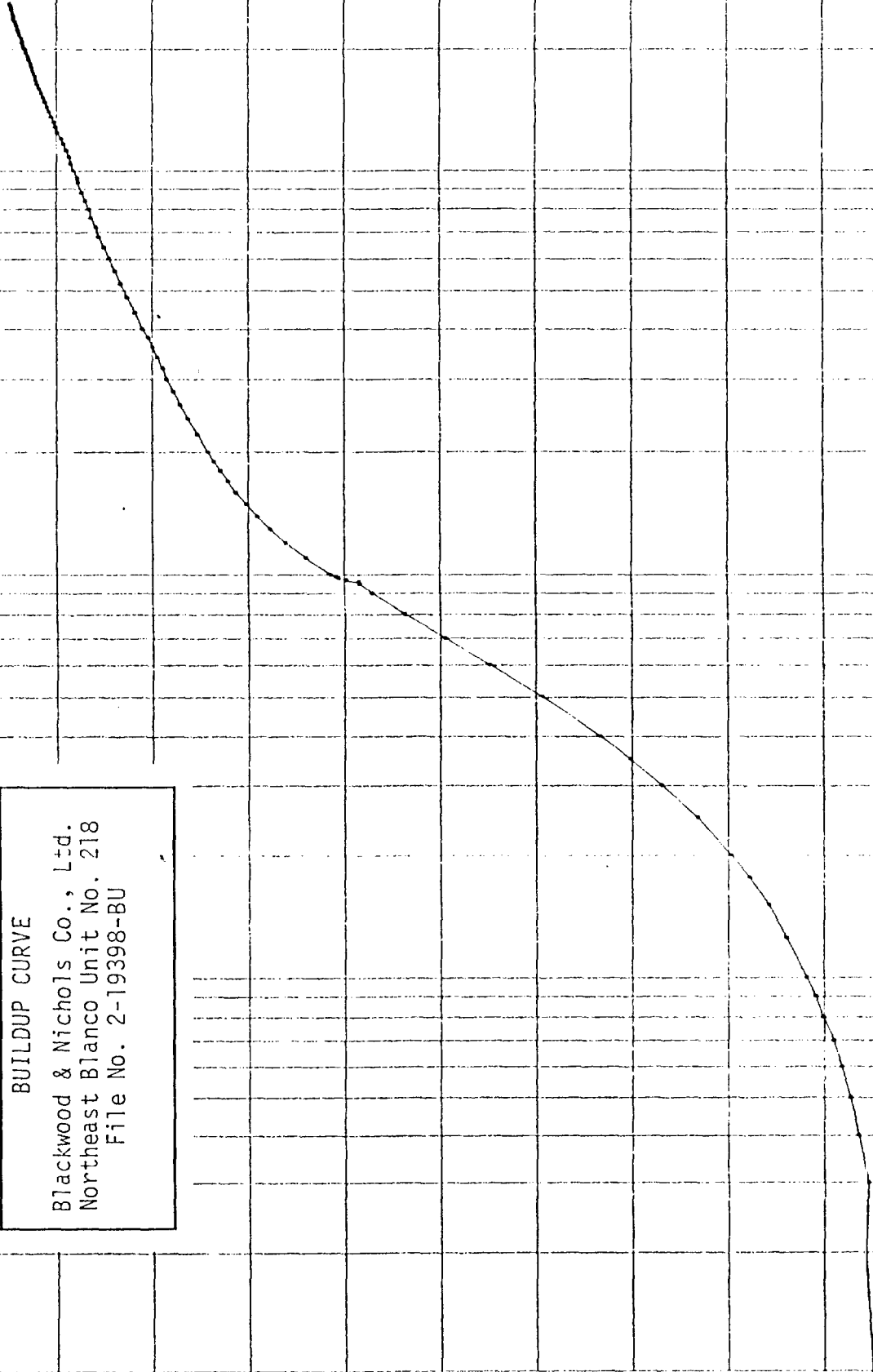
Blackwood & Nichols Co., Ltd.

Northeast Blanco Unit No. 218

File No. 2-19398-BU

BOTTOMHOLE PRESSURE AT 3270 FEET, PSIG

SHUT-IN TIME: HOURS



TEFTELLER, INC.
Reservoir Engineering Data
P.O. Box 5247
Midland, Texas 79704

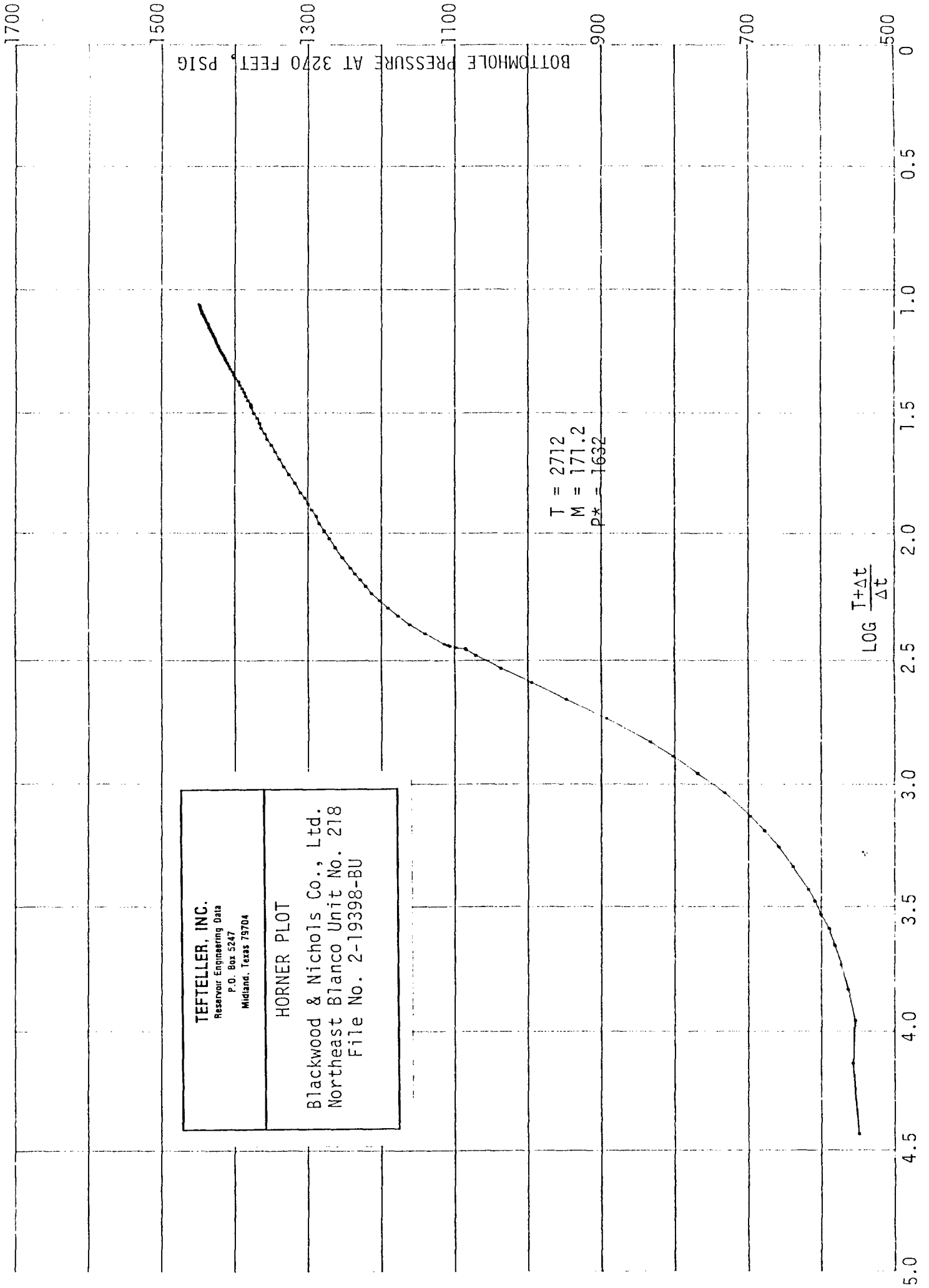
HORNER PLOT

Blackwood & Nichols Co., Ltd.
Northeast Blanco Unit No. 218
File No. 2-19398-BU

$T = 2712$
 $M = 171.2$
 $P^* = 1632$

BOTTOMHOLE PRESSURE AT 3270 FEET, PSIG

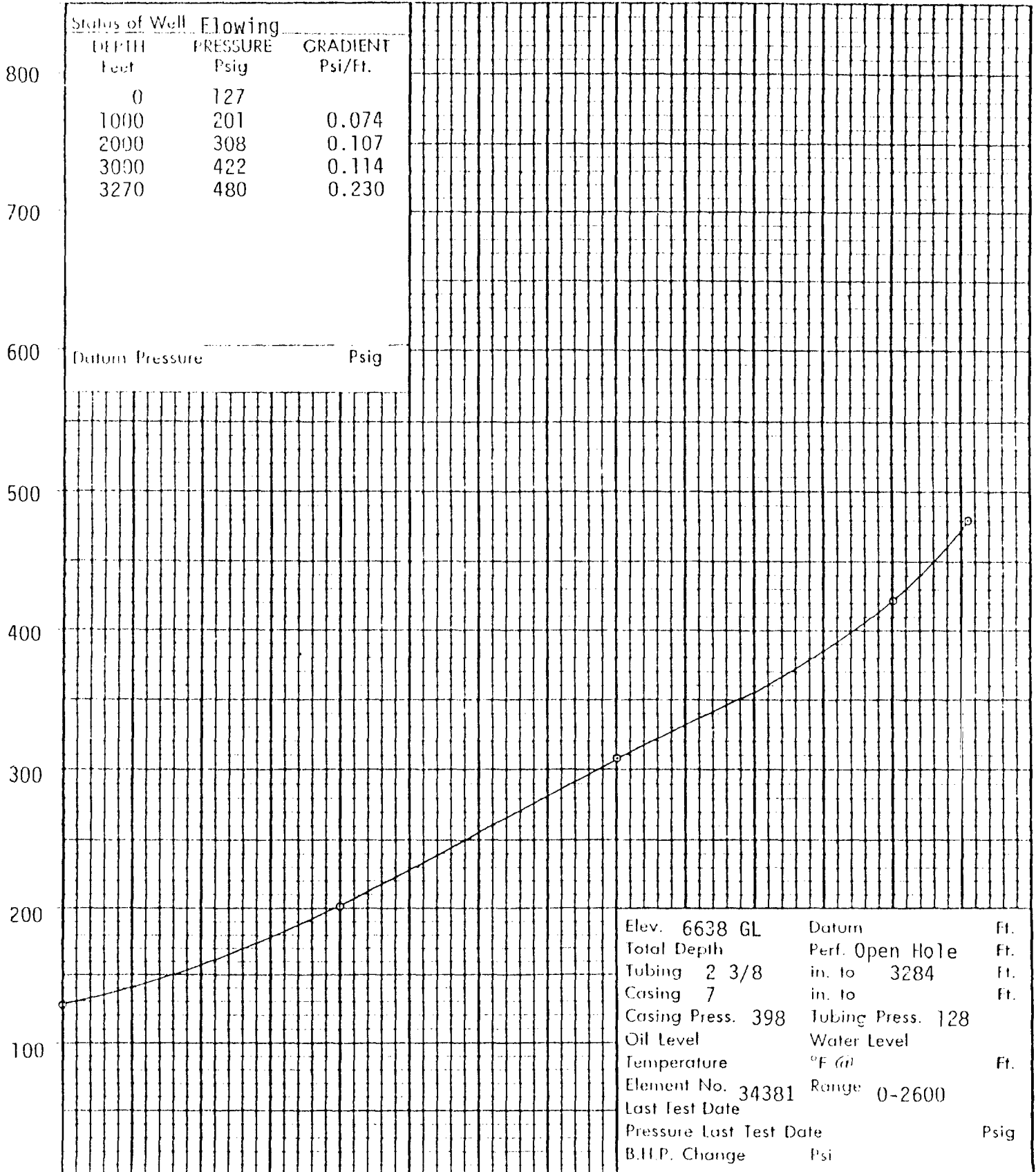
$\text{LOG } \frac{T+\Delta t}{\Delta t}$

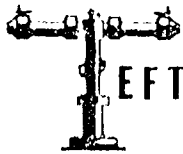




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File 2-19398-BU

Company BLACKWOOD & NICHOLS CO., LTD. Lease NORTHEAST BLANCO UNIT Well No. 218
Field SOUTH LOS PINOS County SAN JUAN State NEW MEXICO
Formation UPPER FRUITLAND COAL Test Date JANUARY 29, 1988





EFTELLER, INC.

reservoir engineering data

MIDLAND, TEXAS

Page 9 of 9
File 2-19398-BU

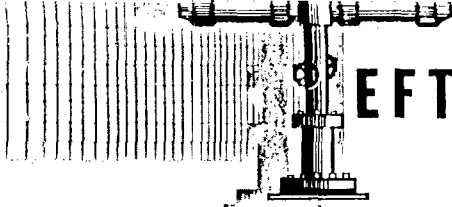
Company BLACKWOOD & NICHOLS CO., LTD. Lease NORTHEAST BLANCO UNIT Well No. 218
Field SOUTH LOS PINOS County SAN JUAN State NEW MEXICO
Formation UPPER FRUITLAND COAL Test Date FEBRUARY 2, 1988

Status of Well Shut-in 93 1/2 hours

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	1272	
1000	1305	0.033
2000	1337	0.032
3000	1370	0.033
3270	1379	0.033

Datum Pressure Psig

Elev.	Datum	Ft.
Total Depth 6638GL	Perf. Open hole	Ft.
Tubing 2 3/8	in. to 3284	Ft.
Casing 7	in. to	Ft.
Casing Press. 1269	Tubing Press. 1270	
Oil Level Nil	Water Level Nil	
Temperature 112	"F (a) 3270	Ft.
Element No. 34381	Range 0-2600	
Last Test Date		
Pressure Last Test Date		Psig
B.H.P. Change	Psi	



TEFTELLER, INC.

reservoir engineering data

MIDLAND, TEXAS / FARMINGTON, NEW MEXICO
GRAND JUNCTION, COLORADO

NORTHWEST PIPELINE CORPORATION

P. O. Box 5247
Midland, Texas 79704
(915) 682-5574

FEB 08 1988

PRODUCTION AND DRILLING

February 5, 1988

Northwest Pipeline Corporation
3539 E. 30th
Farmington, NM 87401

Attention: Mr. Mike Turnbaugh

Subject: Bottomhole Pressure Observation
San Juan Unit 32-7 No. 6
South Los Pinos (Fruitland) Field
San Juan County, New Mexico
Our File No. 2-19346-0

Dear Mr. Turnbaugh:

Attached hereto are the results of a bottomhole pressure observation which was conducted on the above captioned well January 26 through February 2, 1988.

The data presented are in tabular and graphical form.

It has been our pleasure to have conducted this service for you. If we may be of further assistance, please call us at any time.

Respectfully submitted,

TEFTELLER, INC.

Neil Tefteller

NT/1w

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
MIDLAND, TX.- FARMINGTON, NM.- GRAND JUNCTION, CO.

WELL : SAN JUAN 32-7 NO. 6

PAGE 1 OF 5

FIELD : SOUTH LOS PINOS FRUITLAND

FILE 2-19346-0

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

DATE	STATUS OF WELL	TIME	ELAPSED TIME HRS.MIN.	WELLHEAD PRESSURE TBG. CSG.	BHP @ 3144' PSIG	BHP @ 3150' PSIG
					Upper Inst.	Bottom Inst.
-26	Arrived on location	12:00	1298 00			
	well shut in	13:00	1299 00			
	Gradient Traverse	14:00	1300 00	*1253*1216	1359	
	Instrument @ 3150'	15:00	1301 00		1358	1359
		16:00	1302 00		1358	1359
		17:00	1303 00		1358	1359
		18:00	1304 00		1358	1359
		19:00	1305 00		1358	1359
		20:00	1306 00		1358	1359
		21:00	1307 00		1360	1361
		22:00	1308 00		1360	1362
		23:00	1309 00		1360	1362
-27		00:00	1310 00		1360	1362
		01:00	1311 00		1361	1362
		02:00	1312 00		1363	1364
		03:00	1313 00		1363	1364
		04:00	1314 00		1363	1364
		05:00	1315 00		1362	1363
		06:00	1316 00		1362	1363
		07:00	1317 00		1362	1363
		08:00	1318 00		1362	1363
		09:00	1319 00		1362	1362
		10:00	1320 00		1362	1362
		11:00	1321 00		1362	1362
		12:00	1322 00		1363	1364
		13:00	1323 00		1362	1364
		14:00	1324 00		1362	1364
		15:00	1325 00		1360	1361
		16:00	1326 00		1359	1360
		17:00	1327 00		1359	1361
		18:00	1328 00		1360	1360
		19:00	1329 00		1362	1360
		20:00	1330 00		1361	1361
		21:00	1331 00		1360	1361
		22:00	1332 00		1360	1360
		23:00	1333 00		1360	1360

*DWT

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
MIDLAND, TX.- FARMINGTON, NM.- GRAND JUNCTION, CO.

WELL : SAN JUAN 32-7 NO. 6

PAGE 2 OF 5

FIELD : SOUTH LOS PINOS FRUITLAND

FILE 2-19346-0

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

DATE	STATUS OF WELL	TIME	ELAPSED TIME		WELLHEAD PRESSURE TBG. CSG.	BHP @ 3144'	BHP @ 3150'
			HRS.	MIN.		PSIG Upper Inst.	PSIG Bottom Inst.
988		00:00	1334	00		1361	1360
		02:00	1336	00		1360	1360
		04:00	1338	00		1363	1362
		06:00	1340	00		1362	1362
		08:00	1342	00		1363	1363
		10:00	1344	00		1363	1364
		12:00	1346	00		1363	1364
		14:00	1348	00		1363	1364
		16:00	1350	00		1363	1364
		18:00	1352	00		1363	1364
		20:00	1354	00		1363	1364
		22:00	1356	00		1363	1363
-29		00:00	1358	00		1362	1361
		02:00	1360	00		1363	1362
		04:00	1362	00		1363	1362
		06:00	1364	00		1362	1360
		08:00	1366	00		1362	1360
		10:00	1368	00		1363	1360
		12:00	1370	00		1363	1361
		14:00	1372	00		1363	1361
		16:00	1374	00		1362	1360
		18:00	1376	00		1362	1360
		20:00	1378	00		1363	1360
		22:00	1380	00		1362	1359
-30		00:00	1382	00		1362	1359
		02:00	1384	00		1362	1359
		04:00	1386	00		1361	1359
		06:00	1388	00		1360	1358
		08:00	1390	00		1362	1359
		10:00	1392	00		1360	1358
		12:00	1394	00		1360	1358
		14:00	1396	00		1358	1355
		16:00	1398	00		1359	1355
		18:00	1400	00		1360	1356
		20:00	1402	00		1360	1356
		22:00	1404	00		1362	1357

TEFTELLER, INC.
RESERVOIR ENGINEERING DATA
MIDLAND, TX.- FARMINGTON, NM.- GRAND JUNCTION, CO.

WELL : SAN JUAN 32-7 NO. 6

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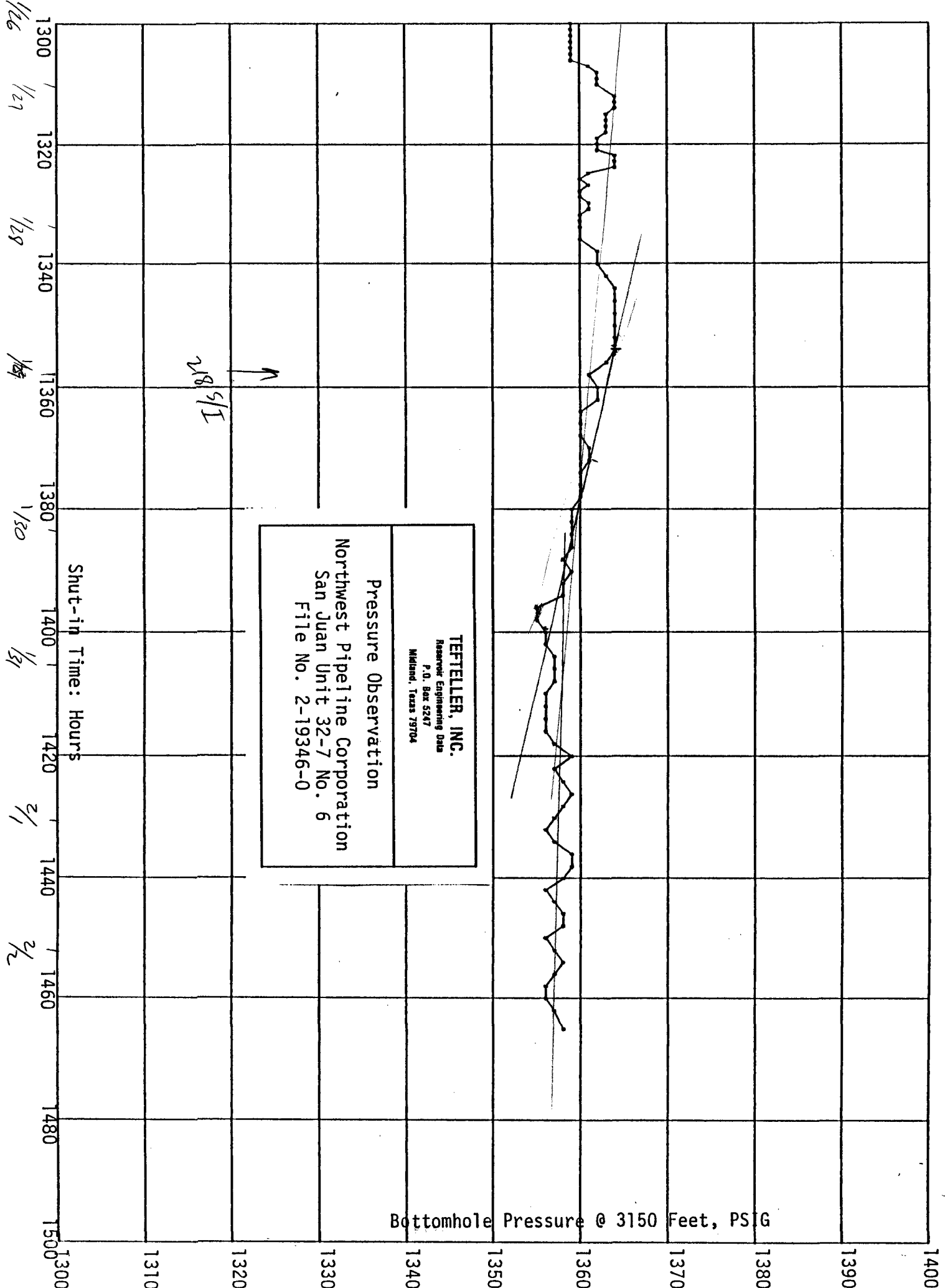
FIELD : SOUTH LOS PINOS FRUITLAND

FILE 2-19346-0

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

DATE	STATUS OF WELL	TIME	ELAPSED TIME		WELLHEAD PRESSURE TBG. CSG.	BHP @ 3144'	BHP @ 3150'
			HRS.	MIN.		PSIG	PSIG
						Upper Inst.	Bottom Inst.
988 -31		00:00	1406	00		1361	1357
		02:00	1408	00		1360	1357
		04:00	1410	00		1360	1356
		06:00	1412	00		1359	1356
		08:00	1414	00		1360	1356
		10:00	1416	00		1360	1356
		12:00	1418	00		1362	1357
		14:00	1420	00		1362	1359
		16:00	1422	00		1360	1357
		18:00	1424	00		1362	1358
		20:00	1426	00		1362	1359
		22:00	1428	00		1361	1358
2-1		00:00	1430	00		1360	1357
		02:00	1432	00		1359	1356
		04:00	1434	00		1362	1357
		06:00	1436	00		1362	1359
		08:00	1438	00		1362	1359
		10:00	1440	00		1360	1358
		12:00	1442	00		1359	1356
		14:00	1444	00		1360	1357
		16:00	1446	00		1360	1358
		18:00	1448	00		1360	1358
		20:00	1450	00		1359	1356
		22:00	1452	00		1360	1357
2-2		00:00	1454	00		1360	1358
		02:00	1456	00		1359	1357
		04:00	1458	00		1359	1356
		06:00	1460	00		1360	1356
		08:00	1462	00		1361	1357
	Off bottom with tandem instruments	11:00	1465	00	*1254*1217	1361	1358

*DWT



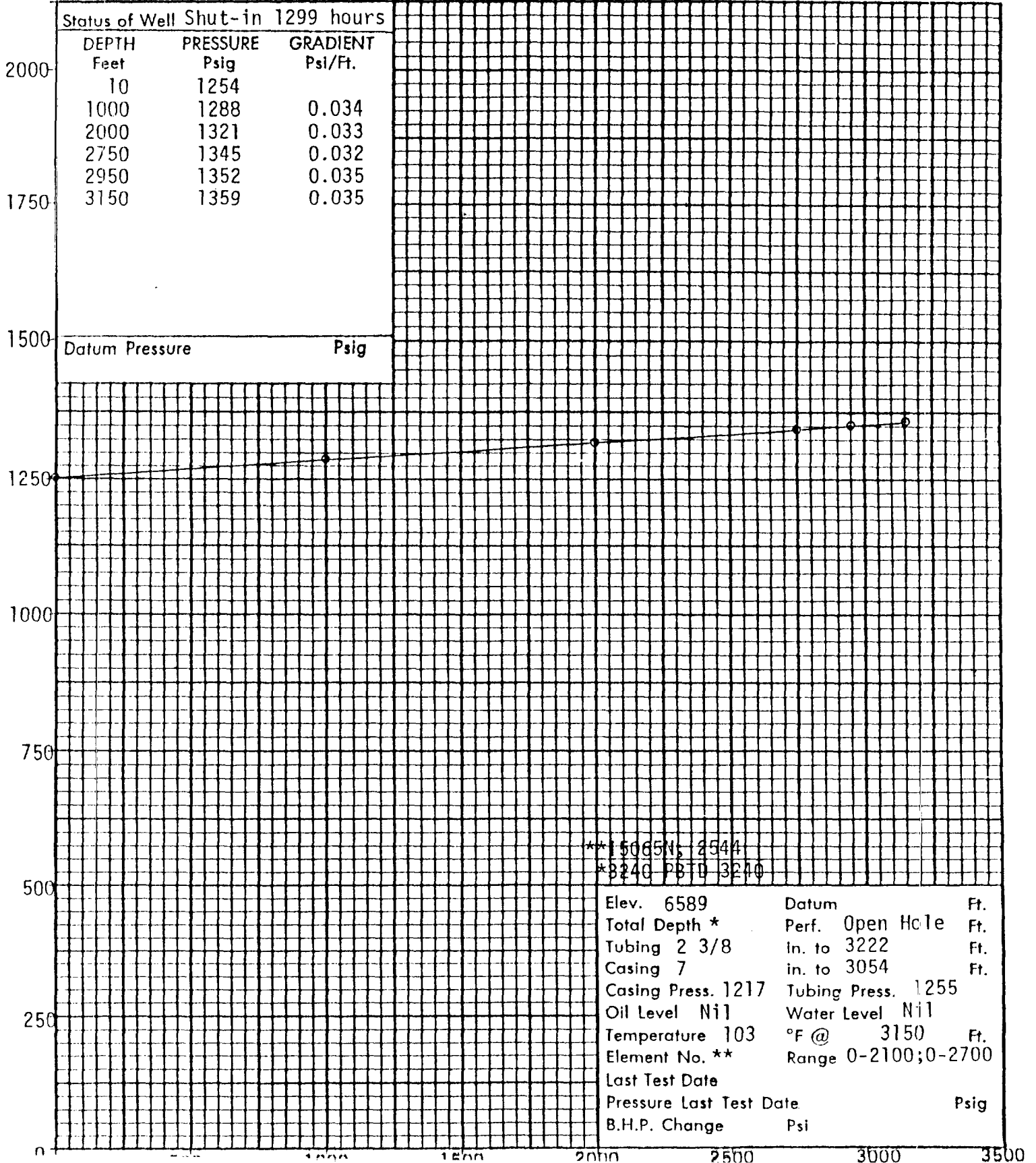
TEFTELLER, INC.
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Pressure Observation
Northwest Pipeline Corporation
San Juan Unit 32-7 No. 6
File No. 2-19346-0



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File 2-19346-0

Company NORTHWEST PIPELINE CORPORATION Lease SAN JUAN 32-7 Well No. 6
Field SOUTH LOS PINOS (FRUITLAND) County SAN JUAN State NEW MEXICO
Formation FRUITLAND COAL Test Date JANUARY 26, 1988



Memo

From
ERNIE BUSCH
Geologist - Field Rep.

2-4-87

To Mike Stoguer

Care No. 9420

Mike,

Attached you will find a copy
of the first fruits of our Fruitland
coal gas meeting. If you have
~~and~~ any questions or suggestions,
call me. I also included a
list of attendees.





STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

GARREY CARRUTHERS
GOVERNOR

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

February 4, 1987

TO: FRUITLAND COALBED METHANE COMMITTEE MEMBERS

RE: Minutes of January 29th meeting held in
Union Texas Petroleum Corporation's
conference room.

I called the meeting to order at 9:00 A.M. with 10 in attendance. I then stated the reason for calling the meeting and referred to a suggested agenda, that was attached to letters of invitations (see attached agenda).

We then began a discussion of the first item on the agenda, organizing a committee. Everyone was in agreement that a committee should be formed and asked me to chair it. I was appointed until approval was given from my supervisor. We next discussed who else in addition to operators should be involved. It was decided that Service Companies would not be involved. It was decided that there was a need for involvement by both the Colorado and New Mexico Oil Conservation agencies, but the question of BLM involvement was deferred until the next meeting.

The committee next discussed proposed goals. One goal was to look at multiminerall development areas, such as coal mining, and examine differences in rules and regulations. A discussion ensued pertaining to Utah International Inc., disposing of coal mining production water into the river systems, whereas it is illegal for the oil and gas operators to do so.

Another goal is to determine how to dispose of the produced water under current regulations.

The next set of goals are interrelated and are as follows:

1. Definition of vertical and horizontal limits.
2. Definition of Fruitland Coals and their extent as they apply to pools and boundaries.

Minutes of Meeting
February 4, 1987
Page 2

3. Determination of well spacing.
4. Study of commingled Fruitland and Pictured Cliffs production.
5. Obtain pool rules and regulations from other states.

Assignments for the next meeting were handed out as follows:

1. Katy Buell and Ernie Busch will provide a definition of the Fruitland Formation as applied by the Colorado Oil and Gas Conservation Commission and the New Mexico Oil Conservation Division.
2. Dana Craney will provide a geologic definition.
3. Randy Limbacher will provide an engineering definition.
4. Bill Clark will provide 2 base maps of the San Juan Basin that span state boundaries.
5. Each member will provide a list of all their companies' Fruitland and Pictured Cliffs wells.
6. Katy Buell and Ernie Busch will work on getting copies of pool rules from other states.

The meeting was adjourned at 11:45 A.M. until 9:00 A.M. on March 5th, at Union Texas Petroleum Corporation's conference room.

Yours truly,



Ernie Busch

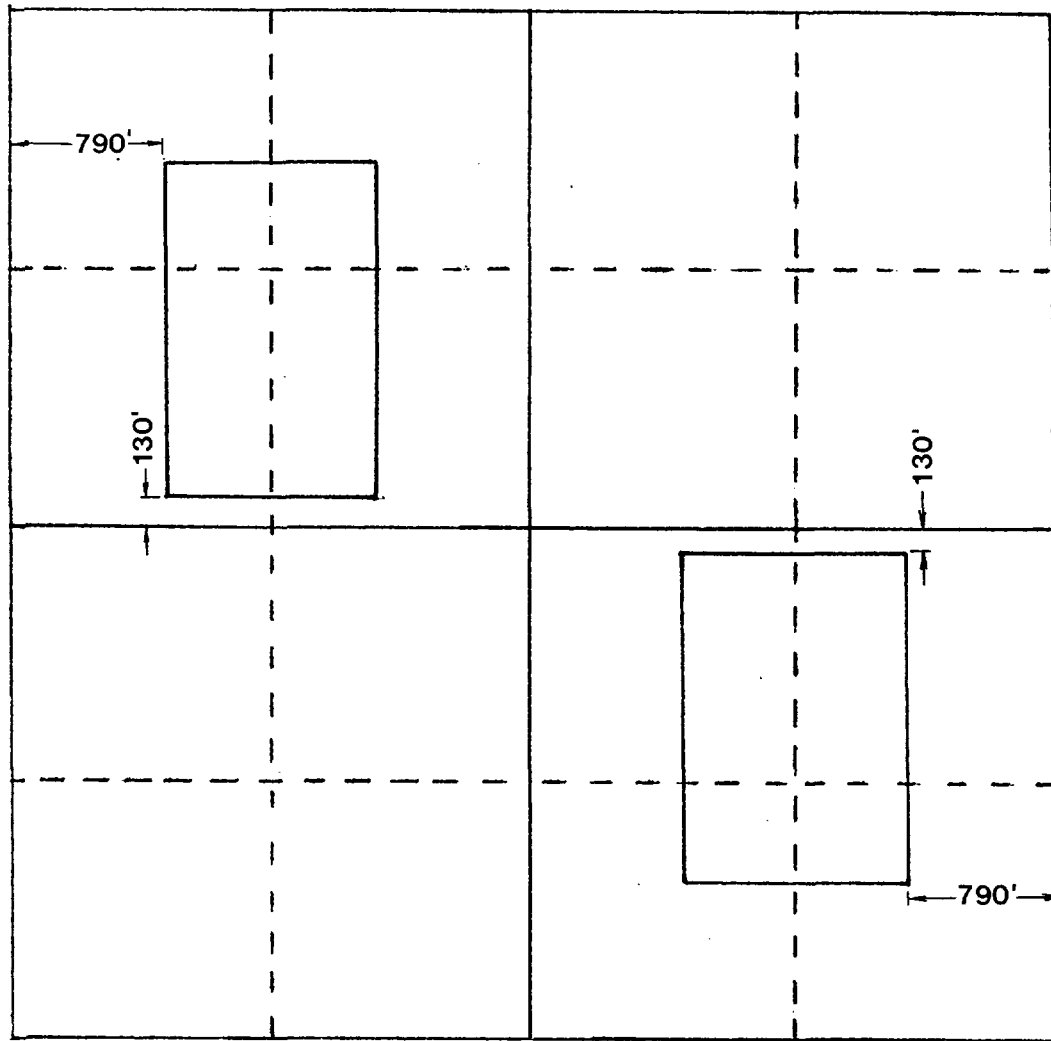
xc: Committee Members
Director - NMOCD
Director - Colo. O&GCC
Director - NMM&MD
File

Fruitland Coalbed Methane Committee Suggested Agenda

- 1) Organizing a committee
- 2) Addressing concerns of the state:
 - A) Spacing
 - B) Pool Development
 - C) Vertical Limits
 - D) Horizontal Limits

FRUITLAND COALBED METHANE MEETING 1-29-87

NAME	COMPANY REPRESENTED	ADDRESS	PHONE NUMBER
Ernie Busch	N M O C D	1000 Rio Brazos Aztec, New Mexico 87401	334-6178
Alan Wood	Amoco Prod. Co.	Denver Colorado	(303) 830-4327
Dana L. Craney	M O I	P.O. Box 4289 Farmington, New Mexico 87499	327-0251
Kurt ^{Fagnelius} Eagles	Dugan Production	P.O. Box 208 Farmington, New Mexico 87499	327-1821
Don Walker	Meridian Oil	P.O. Box 4289 Farmington, New Mexico 87499	327-0251
Randy Limbacher	Meridian Oil	P.O. Box 4289 Farmington, New Mexico 87499	327-0251
Katy Templeton-Buell	Colo. O C D	1114 1/2 17 1/2 Road Fruita, Colorado	(303) 858-1462
Bob Frank	Union Texas Petroleum	375 US Hwy 64 Farmington, New Mexico 87401	325-3587
Bill Clark	Blackwood Nichols	Box 1237 Durango, Colorado 81321	(303) 247-0728
Bob Sagle	Tenneco	6162 S. Willow Englewood, Colorado 80111	(303) 740-2555



SAN JUAN BASIN FRUITLAND COALBED METHANE GAS POOL
SPECIAL GAS SPACING -- 320.00 CONTIGUOUS ACRES

No closer than 790' to the drill tract outer boundary.

No closer than 130' to the inner boundary quarter section line.

Increase density well cannot be located in a 1/4 section containing a well to this pool.

No limitation on surface location of a horizontal well within drill tract.

Hearing
July 6, 1958

CASE 9420

In the matter of the hearing called by the Oil Conservation Division (OCD) on its own motion for a pool creation and Special Pool Rules, San Juan, Rio Arriba, McKinley and Sandoval Counties, New Mexico. The OCD on the recommendation of the Fruitland Coalbed Methane Committee, seeks the creation of a new pool for the production of gas from the coalbed seams within the Fruitland formation underlying the following described area:

Township 19 North, Ranges 1 West through 6 West;
Township 20 North, Ranges 1 West through 8 West;
Township 21 North, Ranges 1 West through 9 West;
Township 22 North, Ranges 1 West through 11 West;
Township 23 North, Ranges 1 West through 14 West;
Township 24 North, Ranges 1 East through 16 West;
Township 25 North, Ranges 1 East through 16 West;
Township 26 North, Ranges 1 East through 16 West;
Township 27 North, Ranges 1 West through 16 West;
Township 28 North, Ranges 1 West through 16 West;
Township 29 North, Ranges 1 West through 15 West;
Township 30 North, Ranges 1 West through 15 West;
Township 31 North, Ranges 1 West through 15 West; and
Township 32 North, Ranges 1 West through 13 West.

Also to be considered is the promulgation of special rules, regulations and operating procedures for said pool including, but not limited to, provisions for 320-acre spacing units, designated well locations, limited well density, horizontal wellbore and deviated drilling procedures, venting and flaring rules, and gas well testing requirements.

FRUITLAND COAL METHANE COMMITTEE

SUBCOMMITTEES

SPACING

Ernie Busch

LEADER	-	ALAN ALEXANDER	-	MERIDIAN OIL INC.	✓
MEMBERS	-	ALAN WOOD	-	AMOCO PRODUCTION CO.	✓
		TOM HAUN	-	MESA LTD. PARTNERSHIP	✓
		MICKEY O'HARE	-	NCRA	✓
		ALAN ALEXANDER	-	MERIDIAN OIL INC.	✓
		BILL SEVERNS	-	ARCO OIL CO.	✓
		KEN HOWELL	-	BLM	✓
		GAIL KELLER	-	BLM	✓
		BRAD BOYCE	-	SOUTHERN UTE TRIBE	✓
		MARK McCALLISTER	-	NORTHWEST PIPELINE CORP.	✓

COMMINGLING/NGPA-WELL CLASSIFICATION

LEADER	-	JEFF PEACE	-	EPNG CO.	✓
MEMBERS	-	VON McALLISTER	-	NORTHWEST PIPELINE CORP.	
		SCOTT THEODORE	-	TENNECO OIL CO.	✓
		KENT HOFFMAN	-	BLM	
		JANE CLANCY	-	BLM	
		STEWARD SAMPSON	-	MESA LTD.	
		BILL CLARK	-	BLACKWOOD & NICHOLS	✓
		TOM JOSEPH	-	MERIDIAN OIL INC.	
		DANA CRANEY	-	MERIDIAN OIL INC.	
		DAVID DECKER	-	RESOURCE ENTERPRISES	✓

WATER DISPOSAL

LEADER	-	BOB FRANK	-	UNION TEXAS PET. CORP.	✓
MEMBERS	-	KURT FAGRELIUS	-	DUGAN PRODUCTION CORP.	✓
		DOUG ENDSLEY	-	MERIDIAN OIL INC.	
		ERROL BECHER	-	BLM	
		DAVE POAGE	-	MERIDIAN OIL INC.	
		RICHARD FRALEY	-	MERIDIAN OIL INC.	
		MIKE TURNBAUGH	-	NORTHWEST PIPELINE CORP.	
		STERGIE KATIRGIS	-	UNION TEXAS PET. CORP.	

TESTING/VENTING-FLARING/HARDSHIP

LEADER	-	BOB SAGLE	-	TENNECO OIL CO.	
MEMBERS	-	JIM LAVATO	-	BLM	
		MORRIS BELL	-	NCRA	
		BILL CLARK	-	BLACKWOOD & NICHOLS CO.	
		JEFF VAUGHN	-	NORTHWEST PIPELINE CORP.	
		BRUCE WILLIAMS	-	AMOCO PRODUCTION CO.	
		PAUL BURCHELL	-	EPNG CO.	
		MARTIN BOGGS	-	SOUTHERN UNION EXPLOR. CO.	
		MIKE KUTAS	-	AMOCO PRODUCTION CO.	
		TERRY BRITT	-	MERIDIAN OIL INC.	

Meridian Oil Corp.