

CHECK SHEET

Date: 11/20/00 API Number: 071-22673
Company: ~~WBI Production, Inc.~~ Fidelity Exploration & Production Company
Well Name: Federal 1133
County: Phillips
Field: Bowdoin & Area
Surf. Location: 1387 FNL 1341 FWL NE NW Lot: 3 Sec: 6 Twp: 32N Rng: 33E

Permit Number: 16960 Drilling Fee: _____

Intention to Drill: 11/20/00 Expiration Date: 5/20/01

Mineral Ownership: Private State Federal Indian

Well Type: Vertical Multiple Laterals

Proposed Depth/Formation: MD: ~~1300~~ 1100' TVD: Phillips

Drilling Unit 160 Acres Description: NW/4

Samples Required: Received: Core Chips 875' to 904' 2-22-02

COMPLETION INFORMATION

Completion Date: 11-15-01 TD: 1450 PBDT: 1417

Completed As: Gas Well IP / Formation: 1020 mcf Phillips

Geological Well Report: _____ Mud Log: _____

Sundry Notices: Co. Name Change 4-2-01
Corrected Plot 5-1-01
Intent - Check Depth 9-14-01
Intent - Recompl. Bowdoin/Niobrara & Comm. w/Phillips 4-8-03
Subseq. Recomp. 7-28-03

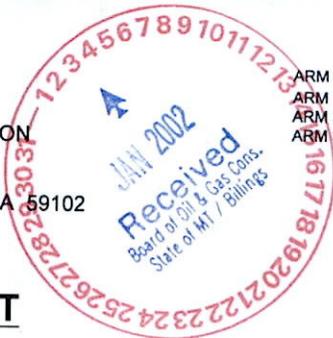
Subsequent Report of Abandonment: Received: _____ Approved: _____

Electric Logs: Platform Express Array Ind / BHCS Bowdoin Overlay / GR Sector Bond / CN Three Detector Density / Pulsed Neutron Decay } 1-3-02
Completion Record 7-28-03

Miscellaneous: Core Analysis 5-29-02

X			

(SUBMIT IN TRIPLICATE)
TO
BOARD OF OIL AND GAS CONSERVATION
OF THE STATE OF MONTANA
2535 ST. JOHNS AVENUE BILLINGS, MONTNA 59102



ARM 36.22.307
ARM 36.22.1011
ARM 36.22.1013
ARM 36.22.1414

Lot 3

COMPLETION REPORT

Company Fidelity Exploration & Production Company Lease Federal Well No. 1133
 Address P.O. Box 1010, Glendive, MT 59330-1010 Field (or Area) Bowdoin Dome
 The well is located 1387' FNL and 1341' FWL of Sec. 6
 Sec. 6; T. T32N; R. R33E; County Phillips; Elevation 2204' GL
 (D.F., R.B., or G.L.)
 Commenced drilling 09/25/01; Completed 11/15/01

Write the API# or the well name of another well on this lease if one exists N/A

The information given herewith is a complete and correct record of the well. The summary on this page is for the condition of the well at the above date.
 Completed as Gas Well Signed Judy Schmitt Title Operations Technician
 (oil well, gas well, dry hole) Date December 28, 2001
 API # 25-071-22673

(Bottom Hole Coordinates from Section Line)

IMPORTANT ZONES OF POROSITY

(denote oil by O, gas by G, water by W; state formation if known)

Niobrara	"G"	From	<u>463'</u>	to	<u>510'</u>
Bowdoin	"G"	From	<u>686'</u>	to	<u>836'</u>
Phillips	"G"	From	<u>885'</u>	to	<u>998'</u>

CASING RECORD

Size Casing	Weight Per Ft.	Grade	Thread	Casing Set	From	To	Sack of Cement	Cut and Pulled from
7"	17#	H - 40	8 Rd	167'	0	157'	130	--
4.5"	10.5#	J - 55	8 Rd	1445'	0	1435'	155	--

TUBING RECORD

Size Tubing	Weight Per Ft.	Grade	Thread	Amount	Perforations
1.25"	2.3#	A-25	11 1/2 V	930'	Open End

COMPLETION RECORD

Rotary tools were used from 0' to 1450
 Cable tools were used from --- to ---
 Total depth 1450 ft.; Plugged back to 1417 T.D.; Open hole from --- to ---

PERFORATIONS			ACIDIZED, SHOT SAND FRACED, CEMENTED			
INTERVAL		Number and Size and Type	INTERVAL		Amounts of Material Used	Pressure
From	To		From	To		
900'	910'	4 spf	900'	910'	40,300# 12/20	700#

(If P&A show plugs above)

INITIAL PRODUCTION

Well is producing from Phillips (pool) formation.
 I.P. --- barrels of oil per --- hours ---
 (pumping or flowing)
1020 Mcf of gas per 24 hours.
--- barrels of water per --- hours, or --- % W.C.
 (OVER)

INITIAL PRODUCTION-(Continued)

Initial 10-day average production --- (bbl./day) (if taken)
 Pressures (if measured): Tubing --- psi flowing; --- psi shut-in
 Casing --- psi flowing; 203.6 psi shut-in
 Gravity --- ° API (corrected to 60° F.)
 Formation Volume Factor --- Porosity --- % Average Connate Water --- %
 Type of Trap ---
 Producing mechanism ---

DRILL STEM TESTS

D.S.T. No.	From	To	Tool Open (Min.)	Shut-in	F.P.	S.I.P.	Recovery	Cushion
--	--	--	--	--	--	--	--	--

CORES

No.	Interval	Recovered
1	875' - 905'	30'

LOG RUNS

Type	From	To
PND	200'	1390'
CBL/GR	0	1394'
BHC	167'	1402'
AIL	167'	1444'
CNL	167'	1434'

FORMATION RECORD

(Need no be filled out if Geologist sample description filed with Commission)

TOP / BOTTOM	SAMPLE AND CORE NO. AND DESCRIPTION	Top of Formation
463' - 510'	Niobrara	463'
686' - 836'	Bowdoin	686'
885' - 998'	Phillips	885'

(Use additional sheets where needed to complete description)

Submit in quadruplicate to:

Montana Board of Oil and Gas Conservation
Billings or Shelby

Application for Permit

Lease Name: MTGF057386

Lease Type (Private/State/Federal):
Federal

Well Number: 1133

To: Drill Deepen Re-enter

Unit Agreement Name:
Bowdoin

Operator: **WBI Production, Inc.**
Address: Fidelity Exploration & Production Company
P. O. Box 131
City: Glendive State: MT ZIP: 59330-0131
Telephone Number: 406-359-7200 Fax Number: 406-359-7273

Field Name or Wildcat:
Bowdoin Dome

Objective Formation(s): Phillips

Location of Well (quarter-quarter section and footage measurements)
Lot 3, , T32N, R33E, Sec. 6, 1387' FNL, 1341' FWL
(if directionally drilled, show both surface and bottom hole locations above)

Section, Township, and Range:
Sec. 6, T32N, R33E

Proposed total depth: 1300' 1700'
Formation at total depth: Phillips
Elevation (indicate GL or KB): 2204' GL

County: Phillips

Size and description of drilling/spacing unit: 160
API number of another well on this lease (if any): None
Anticipated spud date: April 2001

Hole size	Casing size	Weight/foot	Grade(API)	Depth	Sacks of Cement	Type of Cement
9.875"	7"	17 #	H-40/8 RND	150'	80	Class G
6.25"	4.5"	10.5 #	J-55	1275'	115	Class G

Describe Proposed Operations:

Describe or attach labeled diagram of blowout preventer equipment. Indicate if air drilled or describe mud program.

Plan to drill a 9-7/8" surface hole and set and cement to surface 150' of 7", 17 lb/ft surface casing. Install and test BOP equipment. Then drill a 6-1/4" hole to TD and set and cement to surface 4-1/2" 10.5 lb/ft production casing. The well will then be completed in the Phillips formation and fracture stimulated. A wellhead assembly will then be installed and 1-1/4" tubing will be run to below the perforations. The well will be connected and metered and placed on production. Unlined pits will be used with fresh water mud. Upon completion of the drilling activity the drilling mud will be hauled to a private reservoir or left to dry in the pits.

BOARD USE ONLY

Approved (date) MAY 21 2001 Permit Fee \$2500
By [Signature] Check Number 547007
Title Accepted for record purposes only Permit Expires 11-21-01
Permit Number 17348
API Number 25- 071 - 22673
Re-permit

**THIS PERMIT IS SUBJECT TO THE
CONDITIONS OF APPROVAL
STATED ON THE BACK.**

The undersigned hereby certifies that the information contained on this application is true and correct:

Signed (Agent) [Signature]
John Kennah
Title Gas Production Staff Engineer
Date March 20, 2001

Samples Required: NONE ALL _____ From _____ feet to _____ feet

Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO, Dry, washed cut delivered prepaid to:

Montana Board of Oil and Gas Conservation
2535 St. Johns Avenue
Billings, MT 59102

Only freshwater based fluid may be used when
drilling surface hole Rule 36.22.1001(5)

Saltwater Pits Shall Be Impermeable

Submit in quadruplicate to:

Montana Board of Oil and Gas Conservation
Billings or Shelby

Lease Name: MTGF057386

Lease Type (Private/State/Federal):
Federal •

Application for Permit

Well Number: 1133

To: Drill Deepen Re-enter

Unit Agreement Name:
Bowdoin

Operator: WBI Production, Inc. *241 FI*
Address: P. O. Box 131
City: Glendive State MT ZIP 59330-0131
Telephone Number: 406-359-7200 Fax Number: 406-359-7273

Field Name or Wildcat: *1080*
Bowdoin Dome

Objective Formation(s):

Location of Well (quarter-quarter section and footage measurements)
Lot 3,, T32N, R33E, Sec. 6, 1387' FNL, 1341' FWL
(if directionally drilled, show both surface and bottom hole locations above)

Section, Township, and Range:
Sec. 6, T32N, R33E

Proposed total depth *1300-1700* Formation at total depth *Phillips* Elevation (indicate GL or KB)
2204' GL

County: Phillips

Size and description of drilling/spacing unit: 160 API number of another well on this lease (if any): None Anticipated spud date: April 2001

Hole size	Casing size	Weight/foot	Grade(API)	Depth	Sacks of Cement	Type of Cement
9.875"	7"	17 #	H-40/8 RND	150'	80	Class G
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Saltwater Pits Shall Be Impermeable *Only freshwater based fluid may be used when drilling surface hole Rule 36.22.1001(5)*

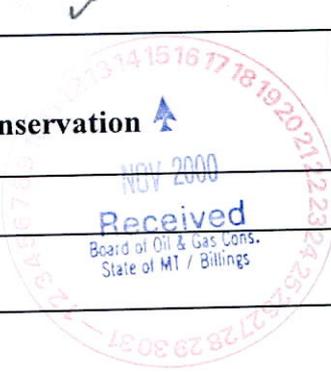
BOARD USE ONLY

Approved (date) NOV 20 2000 Permit Fee \$2500
Check Number 544852
Permit Expires 5-20-01
Permit Number 16960
API Number 25- 071 - 22673
Re-permit

The undersigned hereby certifies that the information contained on this application is true and correct:
Signed (Agent) *Don Brutlag*
Title Gas Production & Storage Superintendent
Date November 13, 2000

Samples Required: NONE ALL _____ From _____ feet to _____ feet

Core chips to address below, full cores to USGS, Core Laboratory, Arvada, CO, Dry, washed cut delivered prepaid to:
Montana Board of Oil and Gas Conservation
2535 St. Johns Avenue
Billings, MT 59102



Accepted for record purposes only

THIS PERMIT IS SUBJECT TO THE CONDITIONS OF APPROVAL STATED ON THE BACK.

SUPPLEMENTAL INFORMATION

Note: Additional information or attachments may be required by Rule or by special request.

- 1 Attach a survey plat certified by a registered surveyor. The survey plat must show the location of the well with reference to the nearest lines of an established public survey.
- 2 Attach an 8½ x 11" photocopy of that portion of a topographic map showing the well location, the access route from county or other established roads, residences, and water wells within a 2 mile radius of the well.
- 3 Attach a sketch of the well site showing the dimensions and orientation of the site, the size and location of pits, topsoil stockpile, and the estimated cut-fill at the corners and centerstake. (Note: the diagram need not be done by an engineer or surveyor). Attach a sketch of a top view and two side views of the reserve pit(s), if utilized. The reserve pit sketch must show the length, width, depth, cut and fill amount of freeboard, area of topsoil stockpile, and the height and width of berms.
- 4 Describe the type and amount of material or liner, if any, to be used to seal the reserve pit. If a synthetic liner is used, indicated the liner thickness (mils), bursting strength, tensile strength, tear strength, puncture resistance, hydrostatic resistance, or attach the manufacturer's specifications.
- 5 Describe the proposed plan for the treatment and/or the disposal of reserve pit fluids and solids after the well is drilled. If the operator intends to dispose of or treat the reserve pit contents off-site, specify the location and the method of waste treatment and disposal. (Note: The operator must comply with all applicable federal, state, county, and local laws and regulations with regard to the handling, transportation, treatment, and disposal of solid wastes.)
- 6 Does construction of the access road or location, or some other aspect of the drilling operation require additional federal, state, or local permits or authorizations? If yes, indicate the type of permit or authorization required:
 - No additional permits needed
 - Stream crossing permit (apply through county conservation district)
 - Air quality permit (apply through Montana Department of Health and Environmental Sciences)
 - Water discharge permit (apply through Montana Department of Health and Environmental Sciences)
 - Water use permit (apply through Montana Department of Natural Resources an Conservation)
 - Solid waste disposal permit (apply through Montana Department of Health and Environmental Sciences)
 - State lands drilling authorization (apply through Montana Department of State Lands)
 - Federal drilling permit
 - Other federal, state, county, or local permit or authorization: (specify type) _____

NOTICES:

- 1 Date and time of spudding must be reported to the Board verbally or in writing within 72 hours after the commencement of drilling operations.
- 2 The operator must give notice of drilling operations to the surface owner as required by Section 82-10-503, MCA, before the commencement of any surface activity.

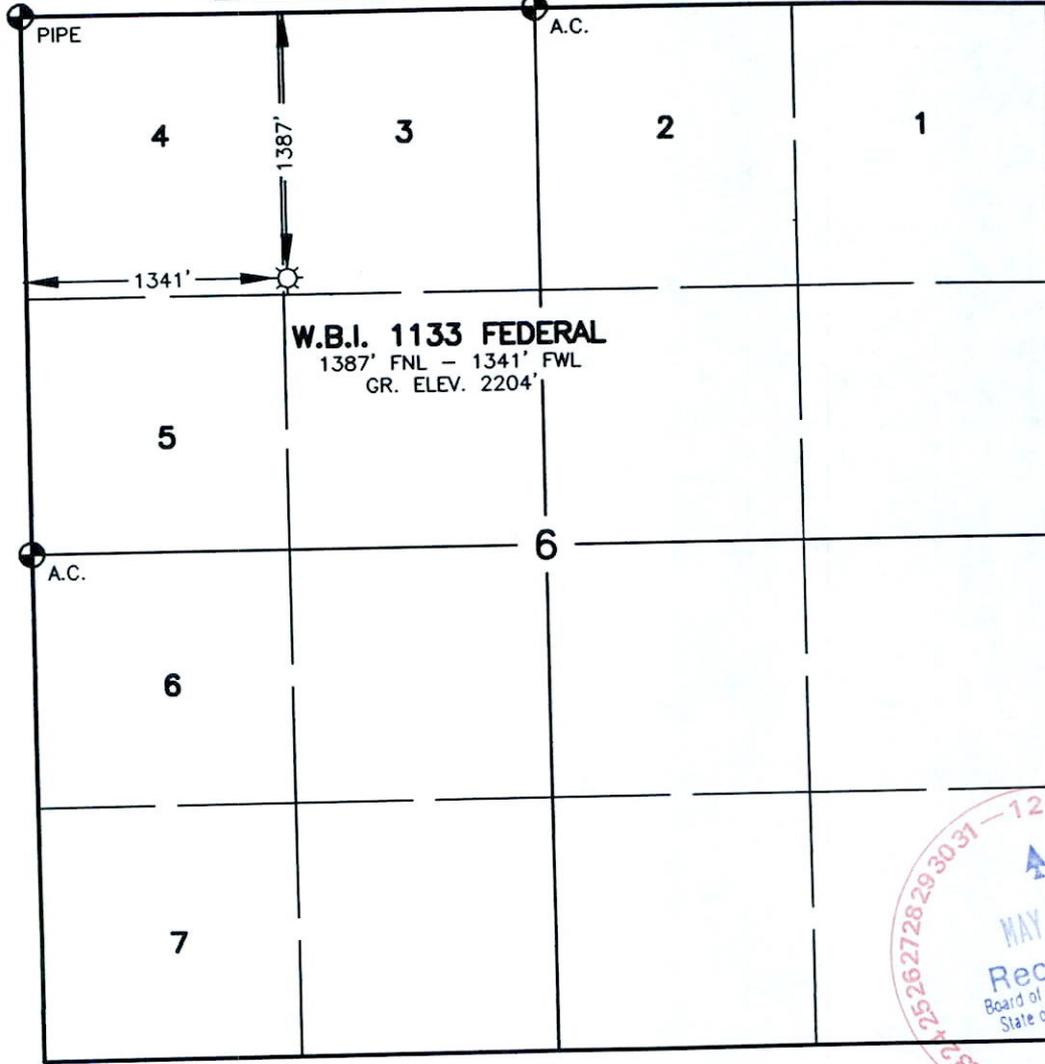
BOARD USE ONLY

CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

WARNING: Failure to comply with conditions of approval may void this permit.

WELL LOCATION PLAT
WILLISTON BASIN INTERSTATE PIPELINE COMPANY
 LOT 3, SECTION 6, TWP. 32 N. - RGE. 33 E., P.M.M.
PHILLIPS COUNTY, MONTANA



W.B.I. 1133 FEDERAL
 1387' FNL - 1341' FWL
 GR. ELEV. 2204'



I, Charles M. Madler certify that this plat correctly represents work performed by me or under my responsible charge, and is true and correct to the best of my knowledge and belief.

Charles M. Madler
CHARLES M. MADLER
 P.L.S. NO. 7327S
 SIEWING RANCH
 SURFACE OWNER



DATE STAKED 10-4-00
 BASIS OF VERTICAL DATUM: U.S.G.S. QUAD. MAP

EXHIBIT NO. 1

NO	DATE	BY	REVISION
1	4-24-01	M.P.S.	SURFACE OWNER CHANGE

 WBI PRODUCTION INC. A Subsidiary of WBI Holdings, Inc.				
W.B.I. NO. 1133 FEDERAL WELL LOCATION BOWDOIN FIELD				
DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
10-10-00	M.P.S.	1" = 1000'	1133LOC	A-5-2751

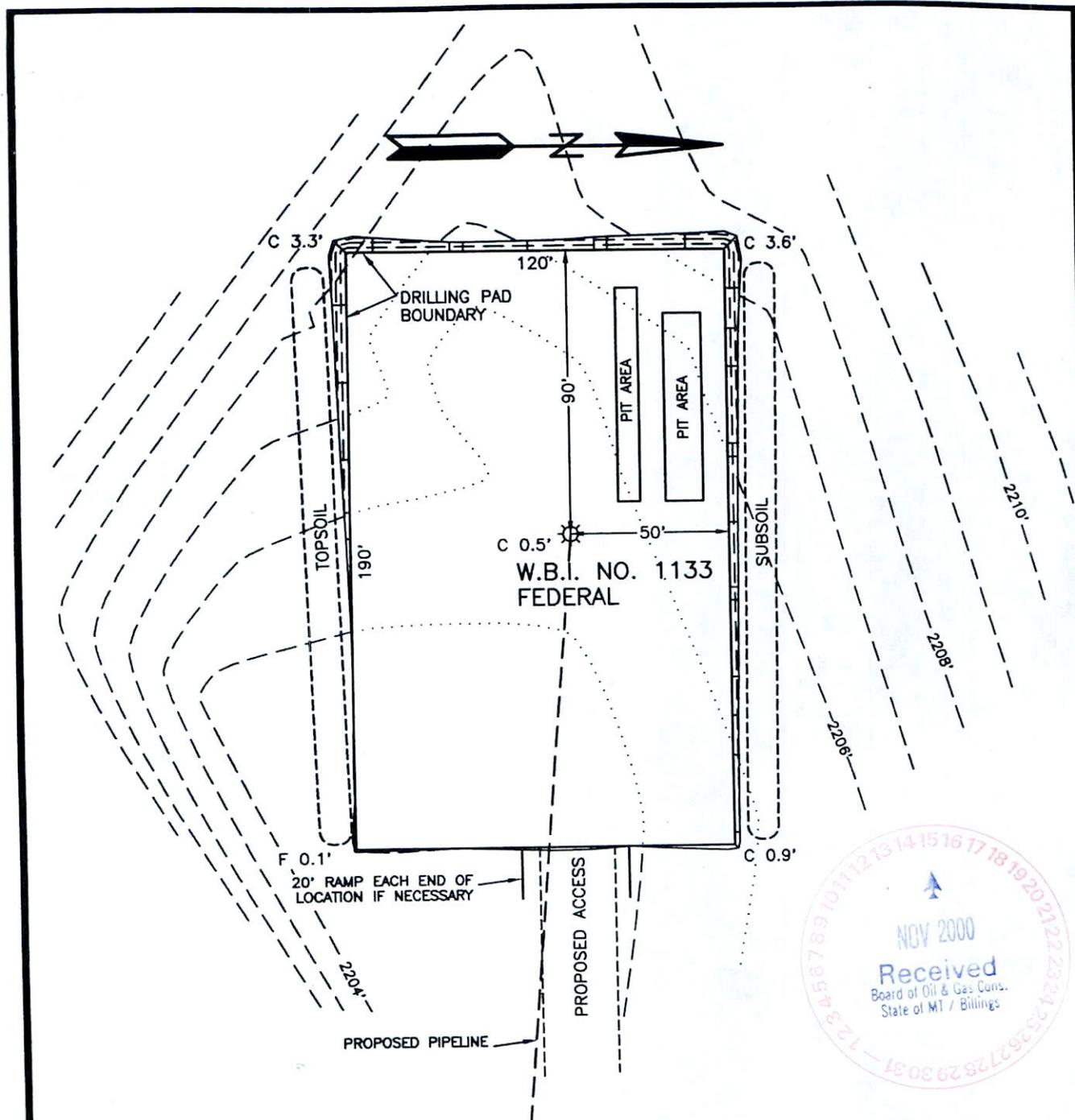


EXHIBIT NO. 2

ESTIMATED EARTHWORK

TOPSOIL (6" DEPTH).....	422 C.Y.
EXCAVATION.....	459 C.Y.
FILL (W/10% SHRINKAGE).....	36 C.Y.
WASTE MATERIAL.....	423 C.Y.
TOTAL EXCAVATION.....	*882 C.Y.
ACCESS ROAD - APPROX. 0.5 MILE SOUTH EAST	

* PIT EXCAVATION NOT INCLUDED
 FILL 3:1 SLOPES
 CUT 1.5:1 SLOPES

EXISTING WELL ELEV. 2204.4'
 GRADED WELL ELEV. 2203.9'

CONTOUR INTERVAL 1.0'

NO	DATE	BY	REVISION	
 WBI PRODUCTION INC. <i>A Subsidiary of WBI Holdings, Inc.</i>				
W.B.I. NO. 1133 FEDERAL WELL DRILLING SITE LAYOUT				
DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
10-10-00	M.P.S.	1" = 50'	1133DSL	A-9-2752

NOTE: PIPELINE IS ENTIRELY IN PASTURE



EXHIBIT NO. 3

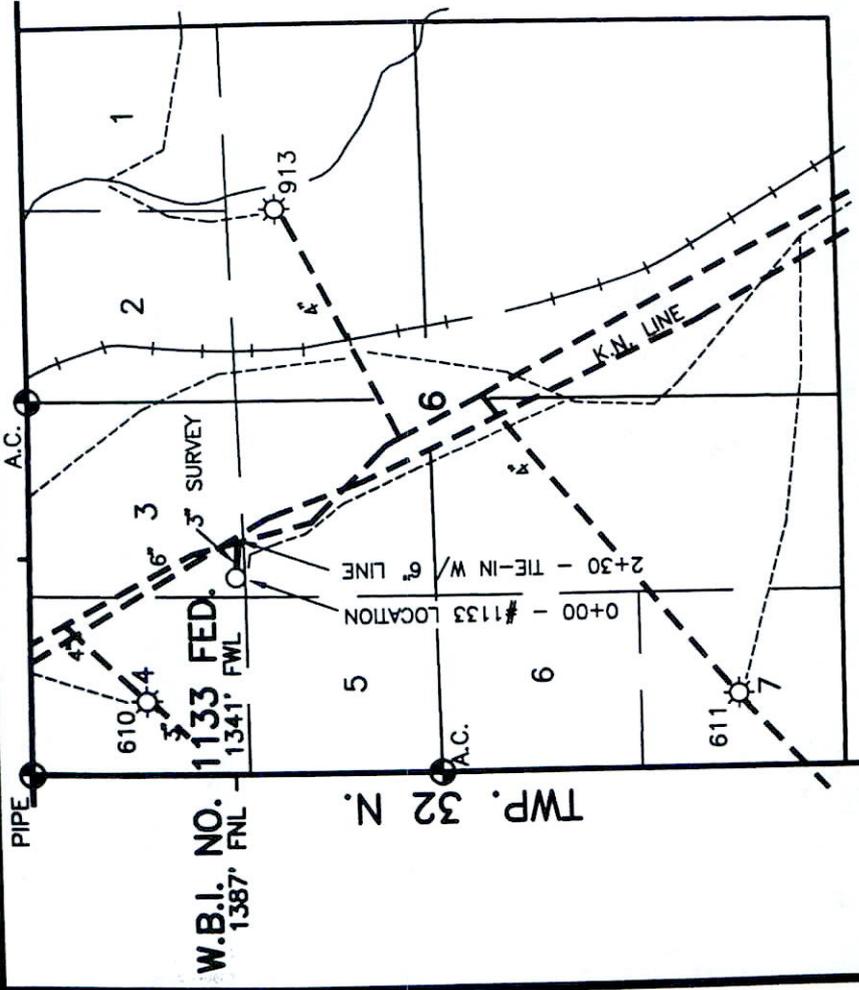
REVISION

NO DATE BY

WILLISTON BASIN
INTERSTATE PIPELINE COMPANY
 A Subsidiary of MDU Resources Group, Inc.

W.B.I. NO. 1133 FEDERAL
3" WELL LINE SURVEY
BOWDOIN FIELD

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
10-11-00	M.P.S.	1" = 1320'	1133WL	A-7-2753



- = WELL LOCATION
- ⊗ = GAS WELL
- ⊕ = PLUGGED & ABANDONED WELL

PHILLIPS COUNTY, MONTANA



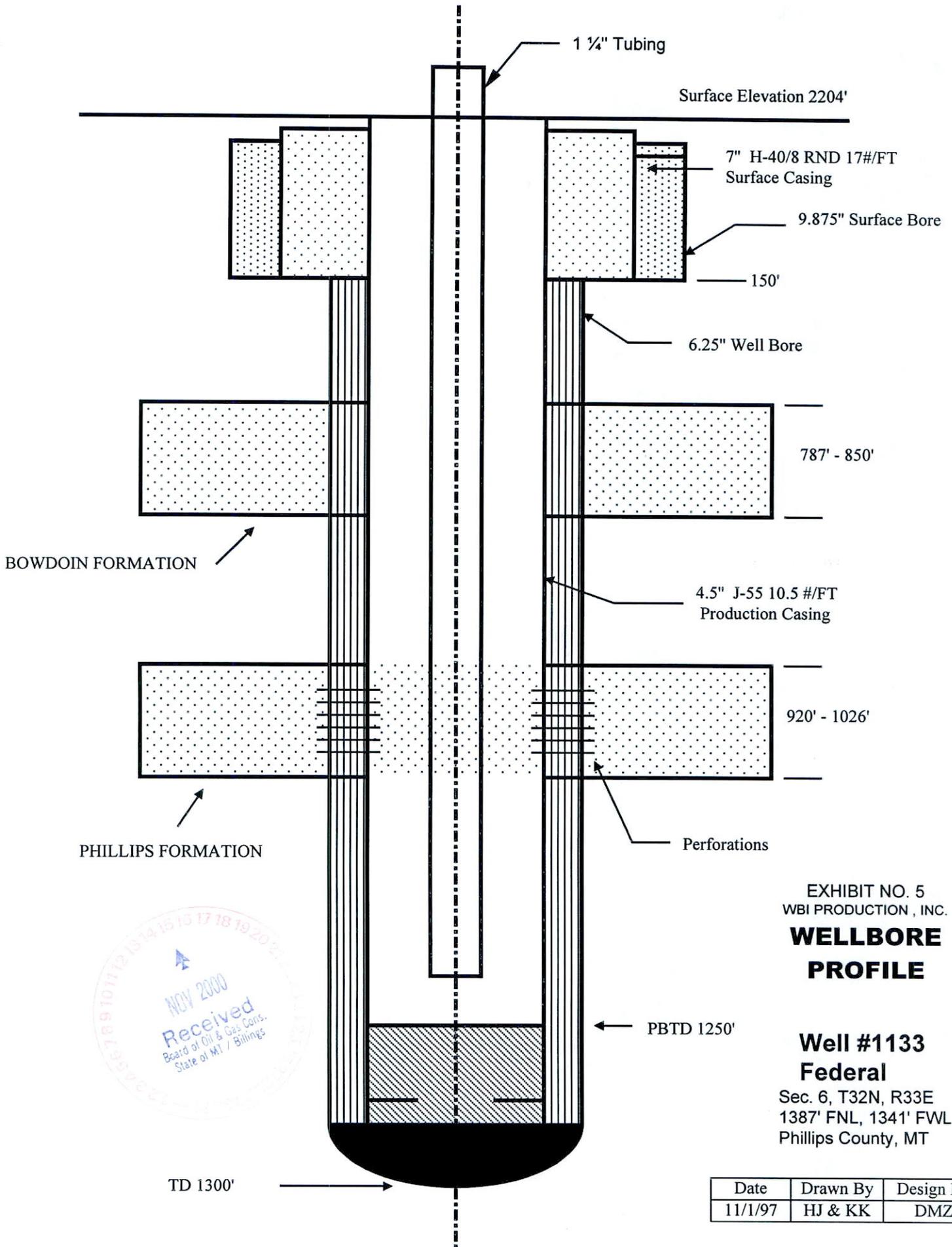


EXHIBIT NO. 5
WBI PRODUCTION, INC.

**WELLBORE
PROFILE**

**Well #1133
Federal**

Sec. 6, T32N, R33E
1387' FNL, 1341' FWL
Phillips County, MT



Date	Drawn By	Design By
11/1/97	HJ & KK	DMZ

NOV 2000
 Received
 Board of Oil & Gas Cons.
 State of MT / Billings

GROUP ONE CONSISTS OF:
 1110 FEDERAL
 1132 FEDERAL
 1133 FEDERAL
 1134 FEDERAL

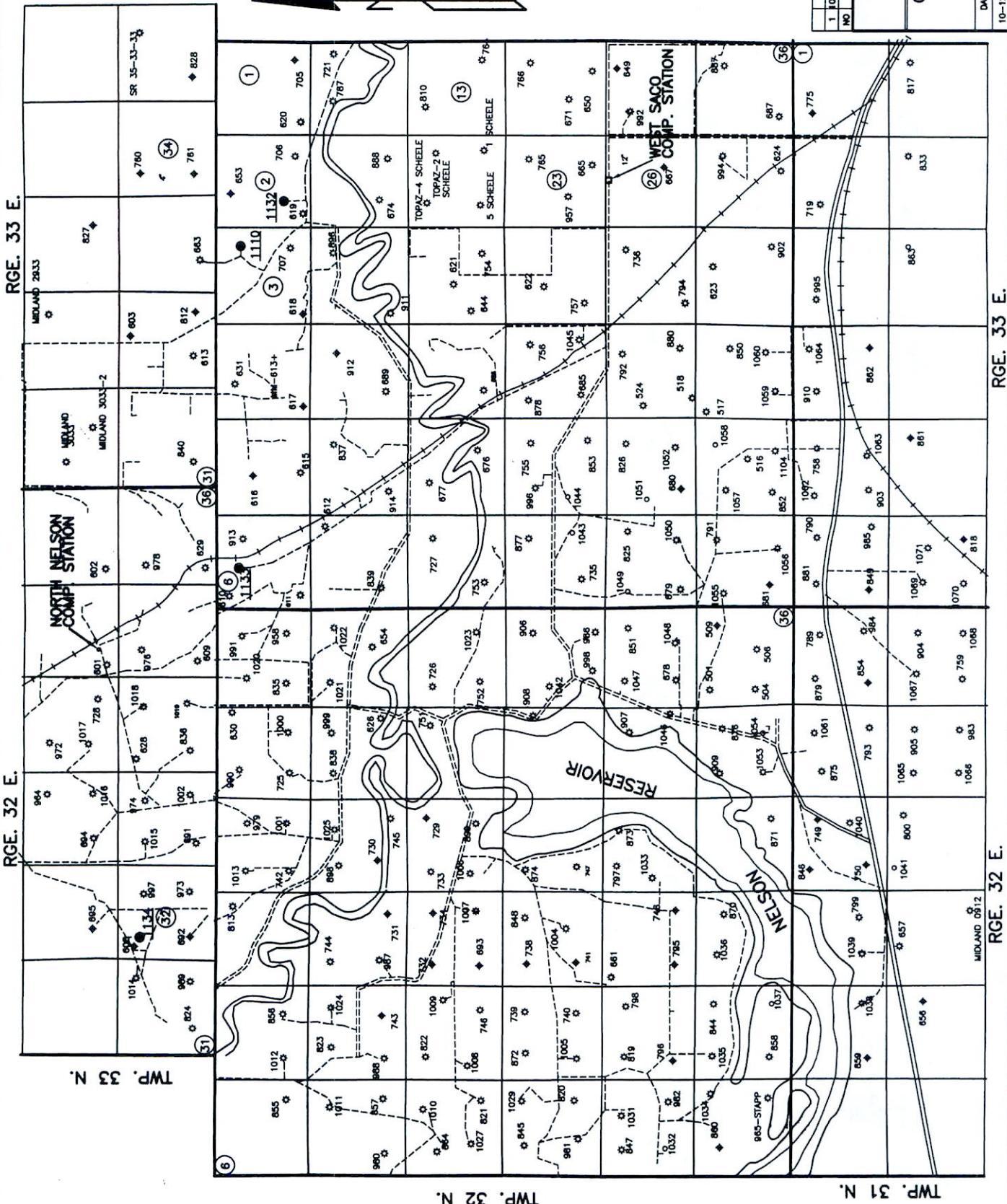
PHILLIPS COUNTY, MONTANA

NO	DATE	BY	T.A.S.	TEXT	REVISION
1	10-27-00	T.A.S.	TEXT	SIZE	

WILLISTON BASIN
 INTERSTATE PIPELINE COMPANY
 A subsidiary of IPI Petroleum Group, Inc.

ORIENTATION MAP - GROUP 1
2001 DRILLING PROGRAM
BOWDOIN FIELD

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
10-12-00	T.A.S.	1" = 1 MILE	BOF01	B-7-2772-1



RGE. 33 E.

RGE. 32 E.

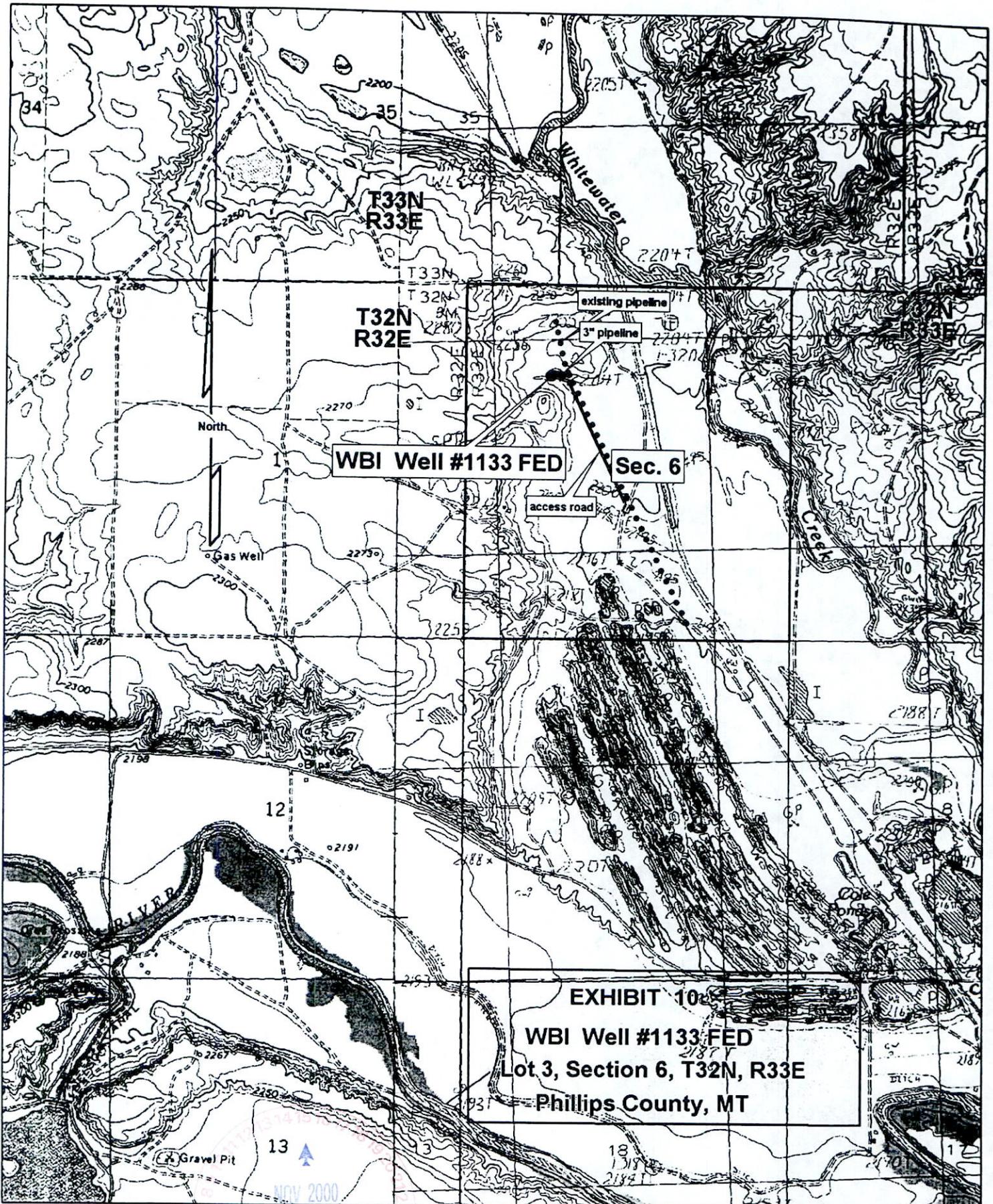
RGE. 33 E.

RGE. 32 E.

TWP. 33 N.

TWP. 32 N.

TWP. 31 N.



Received
Board of Oil & Gas Cons.
State of MT / Billings

2000 ft

Submit In Quadruplicate To:
MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102



SUNDRY NOTICES AND REPORT OF WELLS

Operator Fidelity Exploration & Production Company		Lease Name: MTGF057386
Address P.O. Box 1010		Lease Type (Private/State/Federal): Federal
City Glendive State MT Zip Code 59330-1010	Well Number: 1133	
Telephone Number (406) 359-7360 Fax Number (406) 359-7273	Unit Agreement Name: Bowdoin, NE Nelson	
Location of well (1/4-1/4 section and footage measurements): Lot 3 - , 1387' FNL, 1341' FWL NEW	Field Name or Wildcat: Bowdoin Dome	
If directionally or horizontally drilled, show both surface and bottom hole locations	Section, Township, and Range: Sec. 6, T32N, R33E	
API Number	Well Type (oil, gas, injection, other): Gas	County: Phillips
25 <input type="checkbox"/> 0 <input type="checkbox"/> 7 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 2 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 3 <input type="checkbox"/>		
State County Well		

Indicate below with an X the nature of this notice, report, or other data:

Notice of Intention to Change Plans	<input type="checkbox"/>	Subsequent Report of Mechanical Integrity Test	<input type="checkbox"/>
Notice of Intention to Run Mechanical Integrity Test	<input type="checkbox"/>	Subsequent Report of Stimulation or Chemical Treatment	<input checked="" type="checkbox"/>
Notice of Intention to Stimulate or to Chemically Treat	<input type="checkbox"/>	Subsequent Report of Perforation or Cementing	<input checked="" type="checkbox"/>
Notice of Intention to Perforate or to Cement	<input type="checkbox"/>	Subsequent Report of Well Abandonment	<input type="checkbox"/>
Notice of Intention to Abandon Well	<input type="checkbox"/>	Subsequent Report of Pulled or Altered Casing	<input type="checkbox"/>
Notice of Intention to Pull or Alter Casing	<input type="checkbox"/>	Subsequent Report of Drilling Waste Disposal	<input type="checkbox"/>
Notice of Intention to Change Well Status	<input type="checkbox"/>	Subsequent Report of Production Waste Disposal	<input type="checkbox"/>
Supplemental Well History	<input type="checkbox"/>	Subsequent Report of Change in Well Status	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	Subsequent Report of Gas Analysis (ARM 36.22.1222)	<input type="checkbox"/>

Describe Proposed or Completed Operations:
Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

The well was perforated and frac'd.

Perf Date	Perforations	Zone	Frac Date	Frac Data
5/16/2003	764' - 774', 4 SPF	Bowdoin	5/22/2003	39500#, 12/20 sand, N2, Coil
5/16/2003	532' - 542', 4 SPF	Lower Niobrara	5/22/2003	39300#, 12/20 sand, N2, Coil
5/16/2003	476' - 486', 4 SPF	Upper Niobrara	5/22/2003	39000#, 12/20 sand, N2, Coil

The well was put back into production 5/29/2003 and has averaged to present 137 Mcfd @ 103 psig. The Phillips, Bowdoin & Niobrara formations are now commingled.

BOARD USE ONLY		The undersigned hereby certifies that the information contained on this application is true and correct:	
Approved <u>JUL 28 2003</u>	Date	<u>July 25, 2003</u>	Signed (Agent)
Accepted for record purposes only			
_____	Title	Harlan Jirges, Associate Operations Engineer	
Name		Print Name & Title	

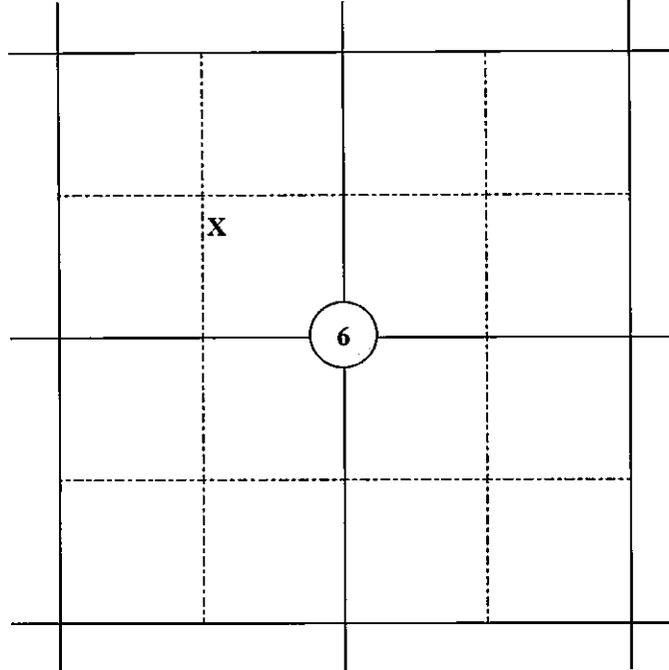
SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Range R33E

Township T32N



BOARD USE ONLY

CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Submit In Quadruplicate To:
MONTANA BOARD OF OIL AND GAS CONSERVATION
2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102



SUNDRY NOTICES AND REPORT OF WELLS

Operator **FIDELITY EXPLORATION & PRODUCTION COMPANY**
Address **P.O. Box 1010**
City **Glendive** State **MT** Zip Code **59330-1010**
Telephone Number **(406) 359-7360** Fax Number **(406) 359-7273**

Lease Name: **MTGF057386**

Lease Type(Private/State/Federal):
Federal

Well Number: **1133**

Location of well (1/4-1/4 section and footage measurements):
Lot 3, 1387' FNL, 1341' FWL

Unit Agreement Name:
Bowdoin, NE Nelson

Field Name or Wildcat:
Bowdoin Dome

If directionally or horizontally drilled, show both surface and bottom hole locations

Section, Township, and Range:
Sec. 6, T32N, R33E

API Number
25 **07122673**
State County Well

Well Type (oil, gas, injection, other):
Gas

County:
Phillips

Indicate below with an X the nature of this notice, report, or other data:

- | | | | |
|---|-------------------------------------|--|--------------------------|
| Notice of Intention to Change Plans | <input type="checkbox"/> | Subsequent Report of Mechanical Integrity Test | <input type="checkbox"/> |
| Notice of Intention to Run Mechanical Integrity Test | <input type="checkbox"/> | Subsequent Report of Stimulation or Chemical Treatment | <input type="checkbox"/> |
| Notice of Intention to Stimulate or to Chemically Treat | <input checked="" type="checkbox"/> | Subsequent Report of Perforation or Cementing | <input type="checkbox"/> |
| Notice of Intention to Perforate or to Cement | <input checked="" type="checkbox"/> | Subsequent Report of Well Abandonment | <input type="checkbox"/> |
| Notice of Intention to Abandon Well | <input type="checkbox"/> | Subsequent Report of Pulled or Altered Casing | <input type="checkbox"/> |
| Notice of Intention to Pull or Alter Casing | <input type="checkbox"/> | Subsequent Report of Drilling Waste Disposal | <input type="checkbox"/> |
| Notice of Intention to Change Well Status | <input type="checkbox"/> | Subsequent Report of Production Waste Disposal | <input type="checkbox"/> |
| Supplemental Well History | <input type="checkbox"/> | Subsequent Report of Change in Well Status | <input type="checkbox"/> |
| Other (specify) _____ | <input type="checkbox"/> | Subsequent Report of Gas Analysis (ARM 36.22.1222) | <input type="checkbox"/> |
| | <input type="checkbox"/> | | <input type="checkbox"/> |

Describe Proposed or Completed Operations:

Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary. Indicate the intended starting date for proposed operations or the completion date for completed operations.

May 6th, 2003 – Plan to perforate the following 10' sections at 4 SPF:
Bowdoin 764' - 774'
Niobrara 532' - 542', 476' - 486'

Each new zone of interest will be N2 foam coil frac'd with 40,000# of 12/20 sand.

Well is an existing producing Phillips formation well. Will commingle the Bowdoin and Niobrara production with the Phillips production.

BOARD USE ONLY

Approved APR 09 2003
Date

Accepted for record purposes only

Name Title

The undersigned hereby certifies that the information contained on this application is true and correct:

April 7, 2003

Date Signed (Agent)

Harlan Jirges, Associate Operations Engineer

Print Name & Title

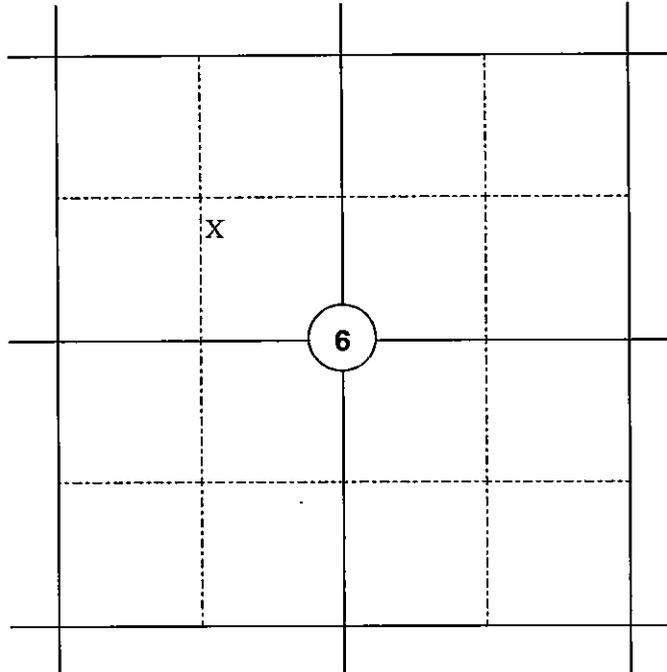
SUPPLEMENTAL INFORMATION

NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Range R33E

Township T32N



BOARD USE ONLY

CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

SUPPLEMENTAL INFORMATION

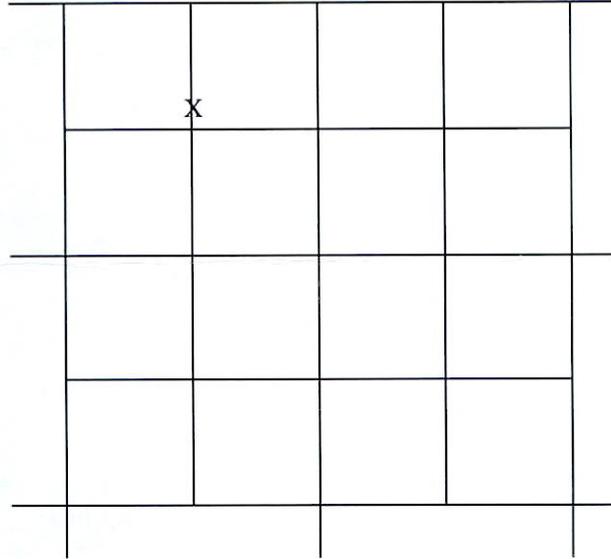
NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Section 6

Range R33E

Township T32N



Scale: 1 inch = 2,000 feet

BOARD USE ONLY

CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

Submit In Quadruplicate To:
Montana Board of Oil and Gas Conservation
 Billings or Shelby Office

Sundry Notices and Report of Wells

FIDELITY EXPLORATION & PRODUCTION COMPANY

Lease Name: MTGF057386

Address **P.O. Box 131**

Lease Type(Private/State/Federal):
Federal

City **Glendive** State **MT** Zip Code **59330-0131**

Well Number: 1133

Telephone Number **406-359-7200** Telefax Number **406-359-7273**

Unit Agreement Name:
Bowdoin

Location of well (1/4-1/4 section and footage measurements):

Lot 3 , SEC 6 , T32N , R33E , 1387' FNL, 1341' FWL

Field Name or Wildcat:
Bowdoin Dome

If directionally or horizontally drilled, show both surface and bottom hole locations)

Section, Township, and Range:
Sec 6, T32N, R33E

API Number:
25-071-22673
State County Well

Well Type (oil, gas, injection, other):
Gas

County: Phillips

Indicate below with an X the nature of this notice, report, or other data:

- | | |
|--|---|
| Notice of Intention to Change Plans <input type="checkbox"/> | Subsequent Report of Mechanical Integrity <input type="checkbox"/> |
| Notice of Intention to Run Mechanical Integrity Test <input type="checkbox"/> | Subsequent Report of Stimulation or Chemical Treatment <input type="checkbox"/> |
| Notice of Intention to Stimulate or to Chemically Treat <input type="checkbox"/> | Subsequent Report of Perforation <input type="checkbox"/> |
| Notice of Intention to Perforate or to Cement <input type="checkbox"/> | Subsequent Report of Well Abandonment <input type="checkbox"/> |
| Notice of Intention to Abandon Well <input type="checkbox"/> | Subsequent Report of Pulled or Altered Casing <input type="checkbox"/> |
| Notice of Intention to Pull or Alter Casing <input type="checkbox"/> | Subsequent Report of Drilling Waste Disposal <input type="checkbox"/> |
| Notice of Intention to Change Well Status <input type="checkbox"/> | Subsequent Report of Change in Well Status <input type="checkbox"/> |
| Supplemental Well History <input type="checkbox"/> | Subsequent Report of Gas Analysis (ARM 36.22.1222) <input type="checkbox"/> |
| Other (specify) Surface Owner Change <input checked="" type="checkbox"/> | Subsequent Report of Fracture Treatment or Production Status <input type="checkbox"/> |

Describe Proposed or Completed Operations:

Describe planned or completed work in detail. Attach maps, well-bore configuration diagrams, analyses, or other information as necessary.
 Indicate the intended starting date for proposed operations or the completion date for completed operations.

Enclosed is the revised exhibit #1 to show the correct surface owner Siewing Ranch

BOARD USE ONLY

Approved MAY 07 2001
Date

Accepted for record purposes only

Name

Title

The undersigned hereby certifies that the information contained on this application is true and correct:

April 30, 2001
Date

Judy Schmitt
Signed (Agent)

Judy Schmitt

Gas Production Engineering Aide
Print Name & Title



SUPPLEMENTAL INFORMATION

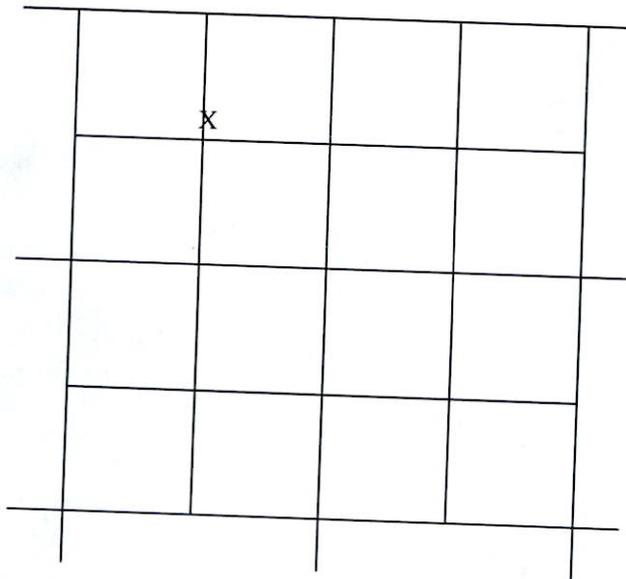
NOTE: Additional information or attachments may be required by Rule or by special request.

Plot the location of the well or site that is the subject of this notice or report.

Section 6

Range R33E

Township T32N



Scale: 1 inch = 2,000 feet

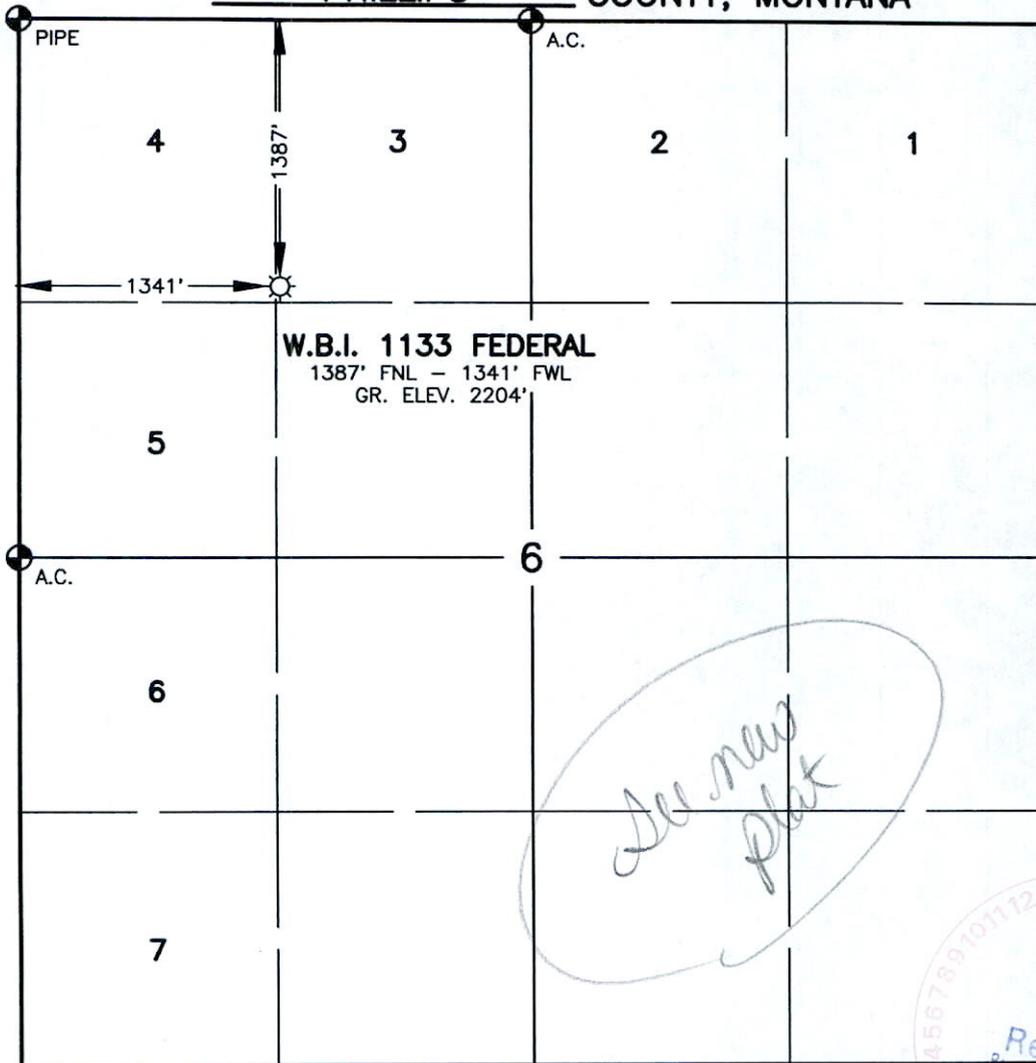
BOARD USE ONLY

CONDITIONS OF APPROVAL

The operator must comply with the following condition(s) of approval:

Failure to comply with the conditions of approval may void this permit.

WELL LOCATION PLAT
WILLISTON BASIN INTERSTATE PIPELINE COMPANY
 LOT 3, SECTION 6, TWP. 32 N. - RGE. 33 E., P.M.M.
PHILLIPS COUNTY, MONTANA



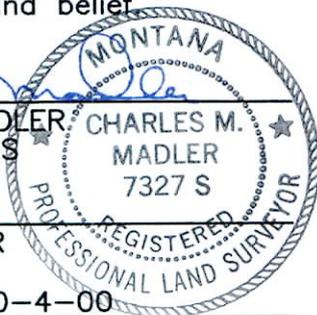
I, Charles M. Madler certify that this plat correctly represents work performed by me or under my responsible charge, and is true and correct to the best of my knowledge and belief.

EXHIBIT NO. 1

Charles M. Madler
 CHARLES M. MADLER
 P.L.S. NO. 7327S

SEWING RANCH
 SURFACE OWNER

DATE STAKED 10-4-00



BASIS OF VERTICAL
 DATUM: U.S.G.S. QUAD. MAP



WBI
PRODUCTION INC.
 A Subsidiary of WBI Holdings, Inc.

W.B.I. NO. 1133 FEDERAL
WELL LOCATION
BOWDOIN FIELD

DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
10-10-00	M.P.S.	1" = 1000'	1133LOC	A-5-2751



SPUD INFORMATION



WELL NAME: 1133

API #: 071-22673

LOCATION: Lot 3 - 6-32N-33E

SPUD TIME: 8:00 pm Tentative

DATE: 9-25-01 Actual

DRILLING COMPANY: Elenburg

RIG #: 10

CALLER'S NAME: Jeff Markel

COMPANY NAME: Fidelity

OTHER: _____



DEPARTMENT OF NATURAL
RESOURCES AND CONSERVATION
OIL AND GAS CONSERVATION DIVISION

STATE OF MONTANA

2535 ST. JOHNS AVENUE
BILLINGS, MONTANA 59102-4693

RECEIPT

Well Cuttings & Core Samples

COMPANY Fidelity Exploration & Production Co.

WELL NAME Federal 1133

LOCATION 32N-33E-6: Lot 3

SAMPLE INTERVAL
DITCH

CORE

875 to 904

RECEIVED FROM TerraTek, Inc.

BY H. Maddaus

DATE 2-22-02

**Core Analysis Program
Fidelity #11-33 Well
Phillips County, Montana**



32N-33E-6- Lot 3

Prepared for:

**Fidelity Exploration & Production Company
1700 Lincoln, Suite 4600
Denver, Colorado 80203**

Attn: Mr. Barron Gimza

Prepared by:

**TerraTek, Inc.
University Research Park
400 Wakara Way
Salt Lake City, Utah 84108**

**TR01-500252
May 2002**

071-22673

UNCONVENTIONAL CORE ANALYSIS

1 INTRODUCTION

This report presents the results of unconventional and advanced rock properties tests performed on plug samples taken from the Phillips Formation from the #11-33 well in Phillips County, Montana. TerraTek personnel were at the wellsite to receive the core. The single coring run was successful with an actual core recovery of 97%. At the TerraTek laboratories, bulk density, grain density, total (altered) porosity, and fluid saturation were measured on 29 plug samples.

Pulse decay permeability measurements were conducted on permeability samples 1 through 10, in order to determine matrix representative permeability at "as received" saturation conditions at or near net overburden conditions. These tests were conducted on selected samples covering both reservoir and non-reservoir intervals. After careful examination of the core, a breakdown of the core-represented lithofacies was developed with the idea in mind that these facies should also be distinguishable on the wireline logs. Plug sample data (1 through 29) were used to represent the porosity and fluid saturations, whereas ten samples were selected to represent the mineralogical characteristics (XRD) and matrix permeability of the core. Samples used for porosity and saturation data were plugged, weighed, and immersed bulk volumes determined prior to analysis. The gas-filled porosity values were determined from the measured water saturation and total (altered) porosity.

2 PROCEDURES

2.1 Wellsite

TerraTek personnel were at the wellsite to receive the single Phillips core, and overall recovery of the conventional core was 97%. Best-fit depths were marked and reported.

2.2 Core Processing

The inner core barrel tubes were initially laid out in depth order on the core rack. The core was then extracted from the inner core barrel and fitted together piece by piece. The core was then marked for orientation (red and black strips, red on right for uphole).

Plug sample sites were drilled based on depths selected by the client (Tables C1 and C2). One-inch diameter plug samples were drilled using tap water. The plugs were then surface dried with a dry soft rag and wrapped circumferentially with Teflon tape prior to trimming to $\frac{3}{4}$ to 1 inch lengths. Once the samples were trimmed, they were washed of fines on the end surfaces, dried with a soft rag, and wrapped with Mylar film prior to placing in marked Ziploc bags. Plug endtrims were preserved in Ziploc bags for XRD analysis. Whole core sections were then wrapped in 3-4 layers of Mylar film and marked for depth and orientation.



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After plugging and wrapping, the cores were slabbed, marked again on the surface of the slabs for depth, and boxed. The butt sections were re-wrapped with Mylar and re-marked, as necessary, prior to boxing. Cores were approximately 1/3 slabbed (1 inch slab thickness) and as a permanent record, the slabs were digitally imaged. Results of XRD analysis are presented in another report section, and digital images are included on the Report CD-R.

2.3 Testing

Bulk volume determinations were made on client-specified plug samples by de-ionized water immersion; Teflon tape insured sample integrity during bulk volume testing. The plug samples were then placed in a humidity oven in order to dry the samples without damaging the clays. We dried the samples at 140° F and 45% relative humidity—conditions traditionally used for shaly samples—until stable weight conditions were attained.

Water saturations were determined gravimetrically using the initial weights and the final humidity dried weights. Dry weights with and without the Teflon wrap were recorded. Initial and final weights were corrected for Teflon weight. Initial Bulk Volumes were also corrected for Teflon volume. Grain Volumes were then measured using a Boyle's Law gas pycnometer on the humidity-dried plugs. Final saturation and (altered) porosity data are reported in Table C3.

2.4 Advanced Testing

The ten pulse-decay permeability plugs selected to represent the non-reservoir and reservoir intervals were each prepared for pulse-decay measurements by adding pre-weighed 18 mesh screens for gas distribution over the endfaces of the samples. The samples were then weighed with Teflon and screens. After loading each sample in a hydrostatic coreholder, the samples were then allowed to reach net overburden and pore pressure equilibrium. Equilibrium conditions initially required 5-15 minutes prior to each test. Sample permeabilities were then measured by the pulse-decay method. After the initial saturation tests were complete, the samples were re-weighed, placed in small Ziploc bags and placed where they could receive low level heating (approximately 100-120° F) for approximately 24 hours. The samples were then removed carefully and re-weighed prior to testing again. Each sample was tested three times at successively lower water saturations, in order to calculate the matrix permeability at "as received" water saturations¹. Permeability to nitrogen gas (Kg) was measured at a net overburden pressure of 700 psi (the minimum system overburden necessary to assure no bypass).

Visual indications of fracture development in the plugs were also noted. Based on the four lithologic zones interpreted in this well, all zones were represented by plug samples. Table C5 presents general facies descriptions and depth intervals.

3 RESULTS

¹The pulse-decay permeability method is described in a paper, SPE 28450.



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The unconventional rock properties measurements are summarized in Table C3. The gas-filled porosities (reported as a percentage of bulk volume [BV]) were adjusted to account for the coring-induced microfracture volumes by subtracting 1% from the total measured porosities. Typical induced microfracture volumes are between 0.5% and 1.0% of the total porosity. Measured pulse-decay permeabilities on the partially dried, altered plugs typically reflected the presence of stress-release microfractures, as well as the altered porosity matrix. Data presented in Tables C3 and C4 allowed is to easily subdivide the Phillips reservoir into similar petrologic/lithologic facies.

Figure C1 presents a plot of gas-filled porosity, a function of bulk volume, versus water saturation. The data indicates a good correlation between the gas-filled porosity and water saturation in the reservoir rock.

Figure C2 is a plot of the gas-filled porosity versus pulse-decay permeability data reported in Table C4. It is apparent from the plot that the non-reservoir and reservoir samples acted differently as the water saturation was altered. The exponential growth in permeability to gas for the reservoir samples suggests matrix structure or composition (likely increasing sand content) not present in the non-reservoir samples.

In Table C3, the total porosity is presented as a value representing the current sample conditions (i.e., humidity dried). A schematic diagram of the porosity system of the Phillips Formation is offered in Figure C3. The total measured porosity value is only a slightly altered value and, according to corresponding XRD data, the samples contain 0-16.7% expandable mixed layer illite/smectite clay with a 20%-50% hydrous expandability. These expandable clays do de-water during the humidity drying process. For example, if a sample contains 16.7% expandable mixed clay with a hydrous expandability of 50%, then 8.35% of the clay bulk volume could contain water that would likely be removed during the humidity drying process. This amounts to 5.68% of the total rock volume, which could contain expandable clays with a maximum of 2.84% possible water expandability. Also important is the matrix permeability, which likely controls how much water is introduced to the expandable clays in the drilling/coring process.

It is important to understand that the "total" porosity is not the same as effective porosity (or porosity present downhole in the reservoir), although for this formation they are nearly identical. Because of the presence of the expandable clays, the "total" porosity should be viewed as a slightly **dilated** porosity where 10-44% of the clay-sized material in the rock contains expandable clay that could alter the measured total porosity. In addition, these expandable clays could contain bound water after drilling/coring. Shrinkage in bulk volume between 0.06% and 0.73% was measured from the samples after the humidity drying process. *These volume changes are much lower than either the Eagle or Bowdoin Formations and may reflect an increase in thermal maturity of the clays (perhaps due to increasing depth).*

The effective *in situ* porosity can be approximated for the reservoir and non-reservoir rock where the alteration to the bulk volume is entirely due to the addition of free water on the expandable clays. It is likely that the expandable clays collected some free water during the drilling/coring operations. Figure C4 is a histogram depicting the slight volume changes inferred from porosity, saturation, XRD data, and shrinkage data to account for the possible drilling/coring induced volume changes. Changes in bulk volume, ostensibly related to



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expandable clay volume, are presented in Table C6, along with the predicted effective porosities based on bulk volume changes.

For this well, the reservoir and non-reservoir rock could be easily separated by lithologic facies, gas-filled porosity, water saturation (not as clear), and grain density (not as clear). In an analytical sense, the Phillips Formation behaved more like a conventional gas reservoir than either the Eagle or Bowdoin Formations², likely because of the increased clay maturity.



² See Separate Core Analysis Reports, TerraTek Projects 500250, 500195, 500196, and 500197.

Table C1. Core Inventory

Core Number	Cored Interval (ft)	Recovered Interval (ft)	Recovery (%)
1	30	875-905	97

Table C2. Sample Inventory

Sample Number	Sample Depth (ft)	Number and Depth of Pulse Decay Samples (ft)
1	875.4	
2	876.4	
3	877.4	
4	878.5	
5	879.3	
6	880.4	
7	881.5	
8	882.7	
9	883.3	
10	884.5	
11	885.4	
12	886.7	
13	887.7	(1) 887.7
14	888.4	(2) 888.3
15	889.2	(3) 888.4
16	890.9	
17	891.2	(4) 891.2
18	892.2	(5) 891.7
19	893.4	(6) 892.1
20	894.4	(7) 892.2
21	895.6	
22	896.2	
23	897.5	(8) 897.5
24	898.2	
25	899.7	(9) 899.7
26	900.3	
27	901.9	
28	902.3	(10) 902.3
29	903.1	



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Table C3. Unconventional Core Analysis Test Results

Sample Number	Sample Depth (ft)	Total Porosity (%)	Dry Bulk Density (g/cc)	As Received Bulk Density (g/cc)	Grain Density (g/cc)	Saturation Water (%)	Gas-Filled Porosity (%)	Lithology
1	875.40	25.65	1.907	2.159	2.565	98.34	0.43	Sh Blk
2	876.40	25.94	1.904	2.156	2.571	97.07	0.76	Sh Blk
3	877.40	25.42	1.918	2.157	2.572	93.76	1.59	Sh Blk
4	878.50	25.28	1.930	2.167	2.583	93.70	1.59	Sh Blk
5	879.30	26.40	1.883	2.133	2.559	94.69	1.40	Sh Blk
6	880.40	29.12	1.826	2.112	2.574	98.32	0.49	Sh Blk
7	881.50	25.64	1.919	2.161	2.581	94.58	1.39	Sh Blk
8	882.70	24.49	1.927	2.163	2.552	96.58	0.84	Sh Blk
9	883.30	25.71	1.892	2.134	2.547	93.97	1.55	Sh Blk
10	884.50	26.31	1.858	2.103	2.521	93.33	1.76	Sh Blk
11	885.40	29.85	1.717	1.972	2.447	92.56	2.22	Sh Blk
12	886.70	10.16	2.402	2.489	2.673	85.89	1.43	Ls/Shly
13	887.70	4.18	2.575	2.601	2.687	62.50	1.57	Ls w/Sh lam
14	888.40	14.16	2.320	2.430	2.702	77.75	3.15	SSt/Siltst w/Sh
15	889.20	18.66	2.166	2.329	2.663	86.99	2.43	SSt/Siltst w/Sh lam
16	890.90	26.23	1.921	2.165	2.604	93.08	1.81	SSt/Siltst
17	891.20	26.66	1.908	2.133	2.602	84.44	4.15	SSt/Siltst w/Sh
18	892.20	24.01	1.980	2.188	2.606	86.44	3.26	SSt/Siltst w/Sh
19	893.40	13.39	2.343	2.452	2.705	81.28	2.51	SSt/Siltst w/Sh
20	894.40	25.78	1.948	2.170	2.624	86.24	3.55	SSt/Siltst w/Sh
21	895.60	27.49	1.884	2.136	2.598	91.82	2.25	SSt/Siltst/Sh
22	896.20	22.60	2.038	2.248	2.631	92.96	1.59	SSt/Siltst/Sh
23	897.50	24.24	1.965	2.184	2.594	90.06	2.41	SSt/Siltst w/Sh

012263

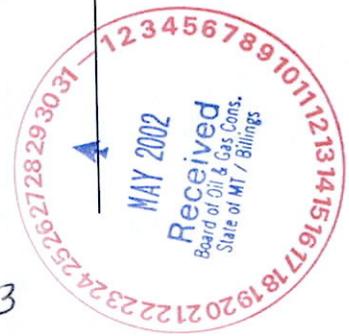


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Table C3. Unconventional Core Analysis Test Results

Sample Number	Sample Depth (ft)	Total Porosity (%)	Dry Bulk Density (g/cc)	As Received Bulk Density (g/cc)	Grain Density (g/cc)	Saturation Water (%)	Gas-Filled Porosity (%)	Lithology
24	898.20	27.03	1.870	2.126	2.563	94.59	1.46	SSt/Sltst/Sh
25	899.70	28.14	1.852	2.108	2.578	90.74	2.60	SSt/Sltst w/Sh
26	900.30	26.72	1.912	2.139	2.609	84.91	4.03	SSt/Sltst/Sh
27	901.90	26.79	1.908	2.151	2.606	90.54	2.53	SSt/Sltst/Sh
28	902.30	26.07	1.924	2.151	2.603	87.19	3.34	Sltst/Mudst
29	903.10	35.47	1.775	2.042	2.750	75.27	8.77	Sltst/Sh

0792-110

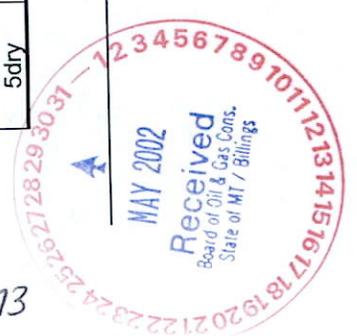


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Table C4. Advanced Unconventional Core Analysis Test Results

Sample ID	Sample Depth (ft)	NOB Pressure (psi)	Sample Length (in)	Sample Diameter (in)	Gas-Filled Porosity (%)	Bulk Density (g/cc)	Grain Density (g/cc)	Pulse Decay Permeability (md)	Saturation Water (%)
1orig	887.7		0.806	0.996	1.39	2.593	2.669		62.50
1.0		700			3.50	2.572		0.002925	5.31
1.1		700			3.61	2.571		0.005105	2.39
1.2		700			3.69	2.570		0.005498	0.27
2orig	888.3		0.933	0.996	3.35	2.376	2.657		77.75
2.0		700			4.79	2.362		0.003331	68.21
2.1		700			9.02	2.320		0.010679	40.08
2.2		700			10.80	2.302		0.017633	28.25
2dry			0.931	0.993	15.06	2.259			0.00
3orig	888.4		0.875	0.996	3.12	2.416	2.682		77.75
3.0		700			11.12	2.336		0.483254	20.71
3.1		700			11.95	2.328		0.530011	14.84
3.2		700			12.65	2.321		0.555076	9.81
31dry			0.875	0.993	14.03	2.307			0.00
4orig	891.2		0.755	0.964	4.20	2.138	2.610		84.44
4.0		700			15.44	2.026		12.178596	42.79
4.1		700			20.24	1.978		13.295847	24.97
4.2		700			21.58	1.964		13.431534	20.02
4dry					26.98	1.910			0.00
5orig	891.7		0.878	0.994	3.34	2.190	2.579		85.44
5.0		700			3.88	2.184		0.000097	83.09
5.1		700			10.09	2.122		0.003662	55.96
5.2		700			13.03	2.093		0.012371	43.13
5dry			0.869	0.966	22.91	1.994			0.00

51922-110



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Table C4. Advanced Unconventional Core Analysis Test Results

Sample ID	Sample Depth (ft)	NOB Pressure (psi)	Sample Length (in)	Sample Diameter (in)	Gas-Filled Porosity (%)	Bulk Density (g/cc)	Grain Density (g/cc)	Pulse Decay Permeability (md)	Saturation Water (%)
6orig	892.1		0.796	0.957	3.55	2.147	2.593		86.44
6.0		700			7.06	2.112		0.099374	73.04
6.1		700			14.22	2.041		3.219694	45.69
6.2		700			17.17	2.011		3.607871	34.41
6dry			0.778	0.938	26.18	1.921			0.00
7orig	892.2		0.764	0.989	3.10	2.200	2.592		86.44
7.0		700			11.51	2.116		1.427964	49.65
7.1		700			15.54	2.075		1.939801	32.04
7.2		700			16.87	2.062		2.102319	26.23
7dry			0.758	0.980	22.87	2.002			0.00
8orig	897.5		0.944	1.009	2.70	2.137	2.591		90.06
8.0		700			15.72	2.007		12.395975	42.05
8.1		700			18.92	1.975		13.861798	30.27
8.2		700			20.31	1.961		14.648369	25.13
8dry			0.938	0.990	27.13	1.892			0.00
9orig	899.7		0.739	1.003	2.72	2.089	2.574		90.74
9.0		700			17.89	1.938		11.442384	39.17
9.1		700			20.49	1.912		11.849696	30.30
9.2		700			21.21	1.904		11.871877	27.85
9dry			0.731	0.969	29.40	1.822			0.00
10orig	902.3		0.814	0.981	2.96	2.957	2.530		87.19
10.0		700			8.18	8.184		1.732576	64.54
10.1		700			11.13	11.132		1.799279	51.77
10.2		700			12.42	12.419		1.850429	46.20
10dry			0.811	0.969	23.08	23.083			0.00

0192-110



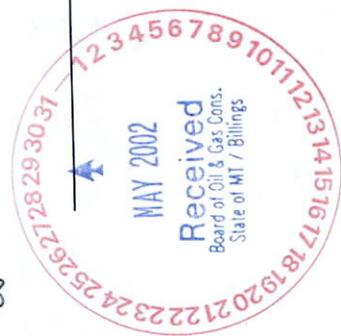
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Table C5. Phillips Formation - Facies Identification

Facies No.	Description
1	Shale/Mudstone
2	Shale/Mudstone interbedded with thin siltstone/sandstone laminae
3	Interbedded Sandstone/Siltstone/Shale/Mudstone. Generally less distinct bedding and more sandy in character. Homogenized in places, likely bioturbated.
4	Interbedded Shale/Mudstone with thinly bedded light gray Sandstone/Siltstone. Well cemented.
#11-33 Well	
Lithology / Facies	Depth Interval (ft)
Facies 1	875.0-885.6
Facies 2	892.0-896.3 / 896.7-900.3 / 901.8-903.1
Facies 3	890.0-892.0 / 900.3-901.8 / 903.0-904.1
Facies 4	885.6-890.0 / 896.3-896.7
Other Bed Types	Calcite-rich bed at 888.0-888.1

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Table C6. Drilling/Coring induced Bulk Volume Changes

Sample Number	Sample Depth (ft)	Total Porosity (%)	Smectite Content (%)	Smectite Expandability (%)	Illite/Smectite Content (%)	Illite/Smectite Expandability (%)	Expandable Clay Volume (%)	Change in Bulk Volume (%)	Corrected Effective Porosity (%)	Facies
1	887.7	3.7	0.0	100	0.0	0	0.00	0.06	3.6	Ls
2	888.3	15.1	0.0	100	0.0	0	0.00	0.08	15.0	Dol-SSst
3	888.4	14.0	0.0	100	4.2	20	0.84	0.06	14.0	Dol-SSst
4	891.2	27.0	0.0	100	11.0	20	2.20	0.33	26.7	3
5	891.7	22.9	0.0	100	13.1	50	6.55	0.73	22.2	1/2
6	892.1	26.2	0.0	100	16.7	50	8.35	0.58	25.6	2
7	892.2	22.9	0.0	100	10.7	50	5.35	0.24	22.6	2
8	897.5	27.1	0.0	100	14.5	30	4.35	0.52	26.6	2
9	899.7	29.4	0.0	100	12.4	30	3.72	0.73	28.7	2
10	902.3	23.1	0.0	100	12.2	30	3.66	0.40	22.7	2

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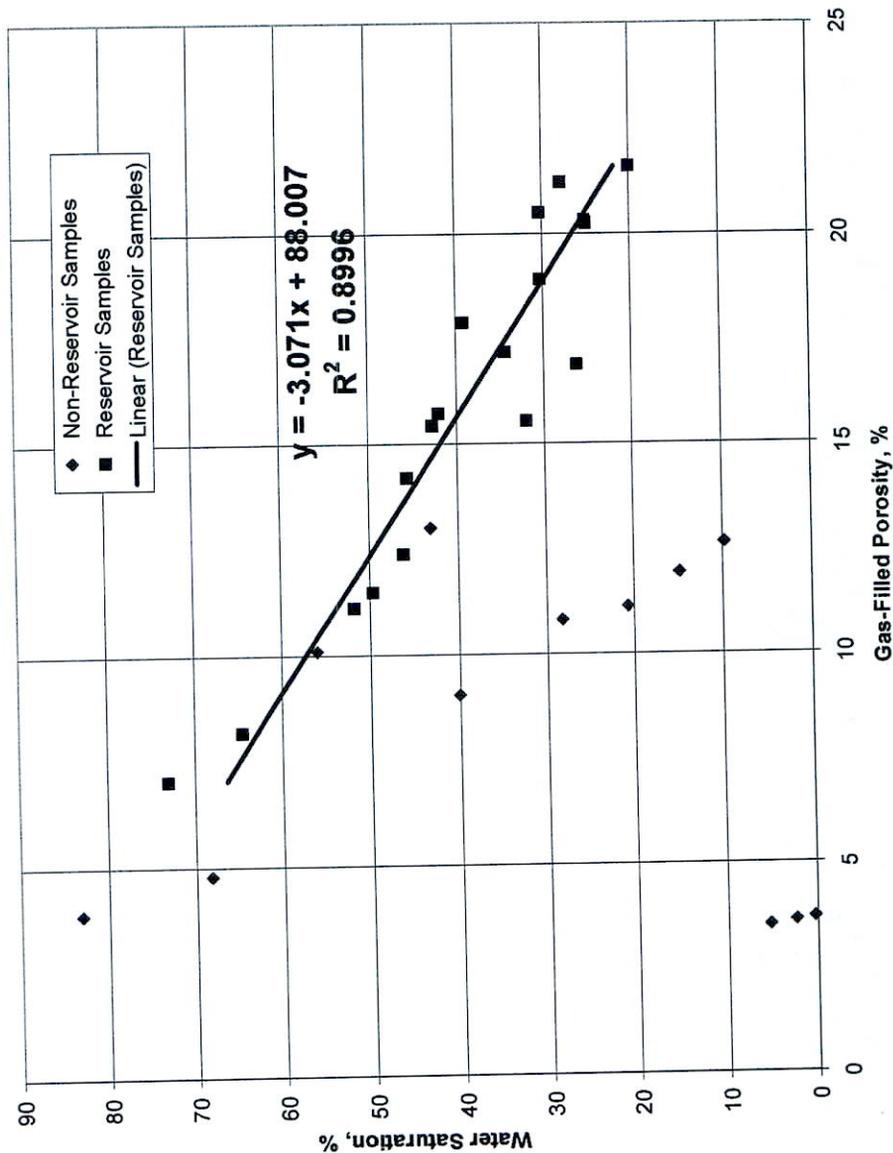


Figure C1. Plot of Gas-Filled Porosity versus Total Porosity

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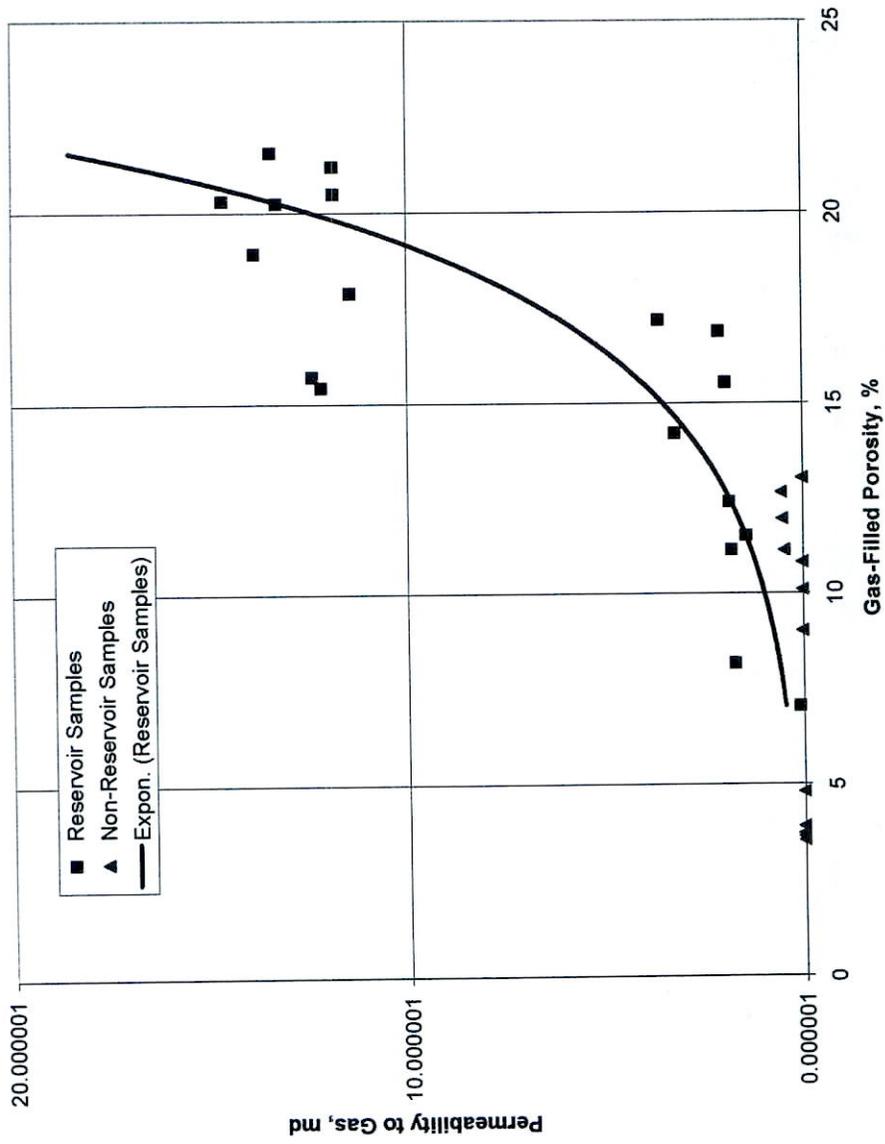


Figure C2. Plot of Gas-Filled Porosity versus Pulse Decay Permeability

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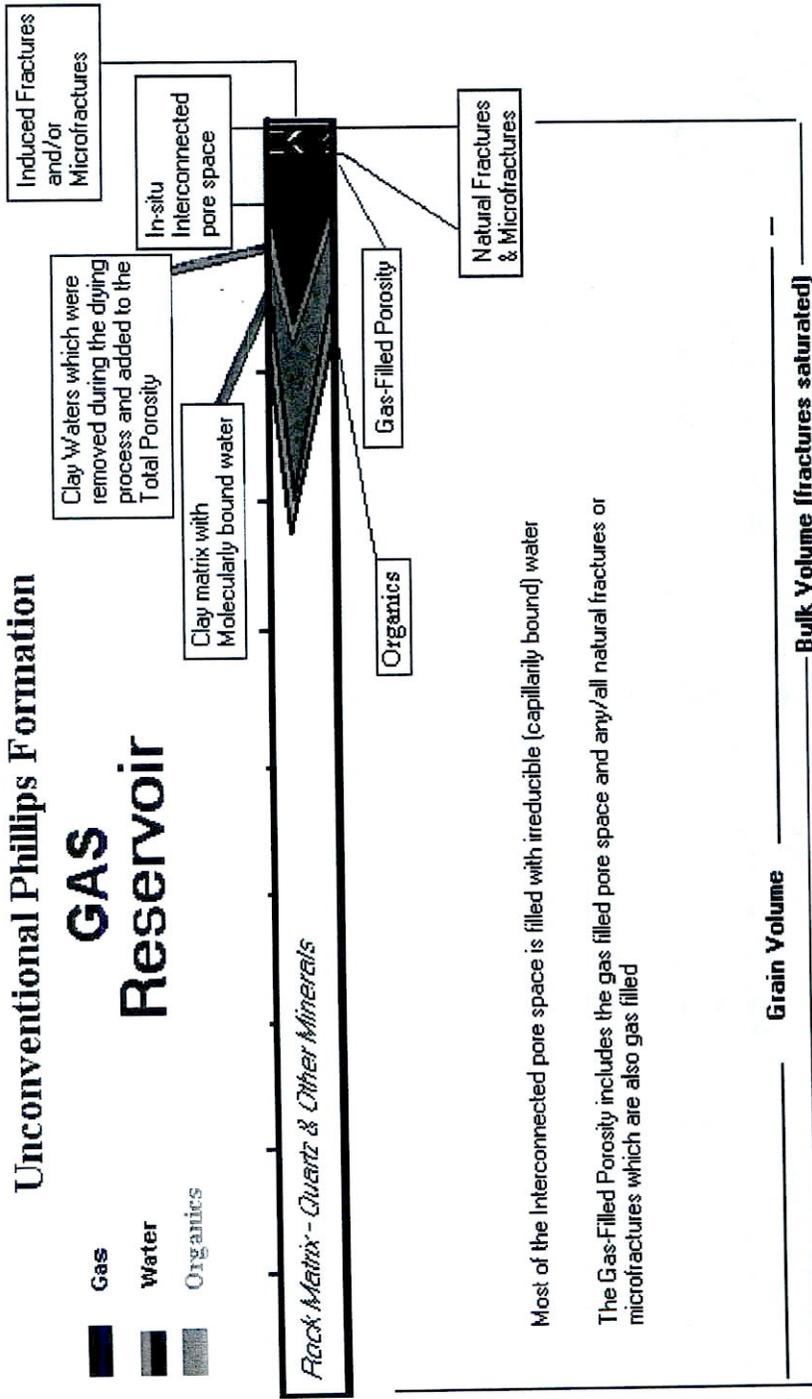


Figure C3. Schematic of Phillips Porosity System

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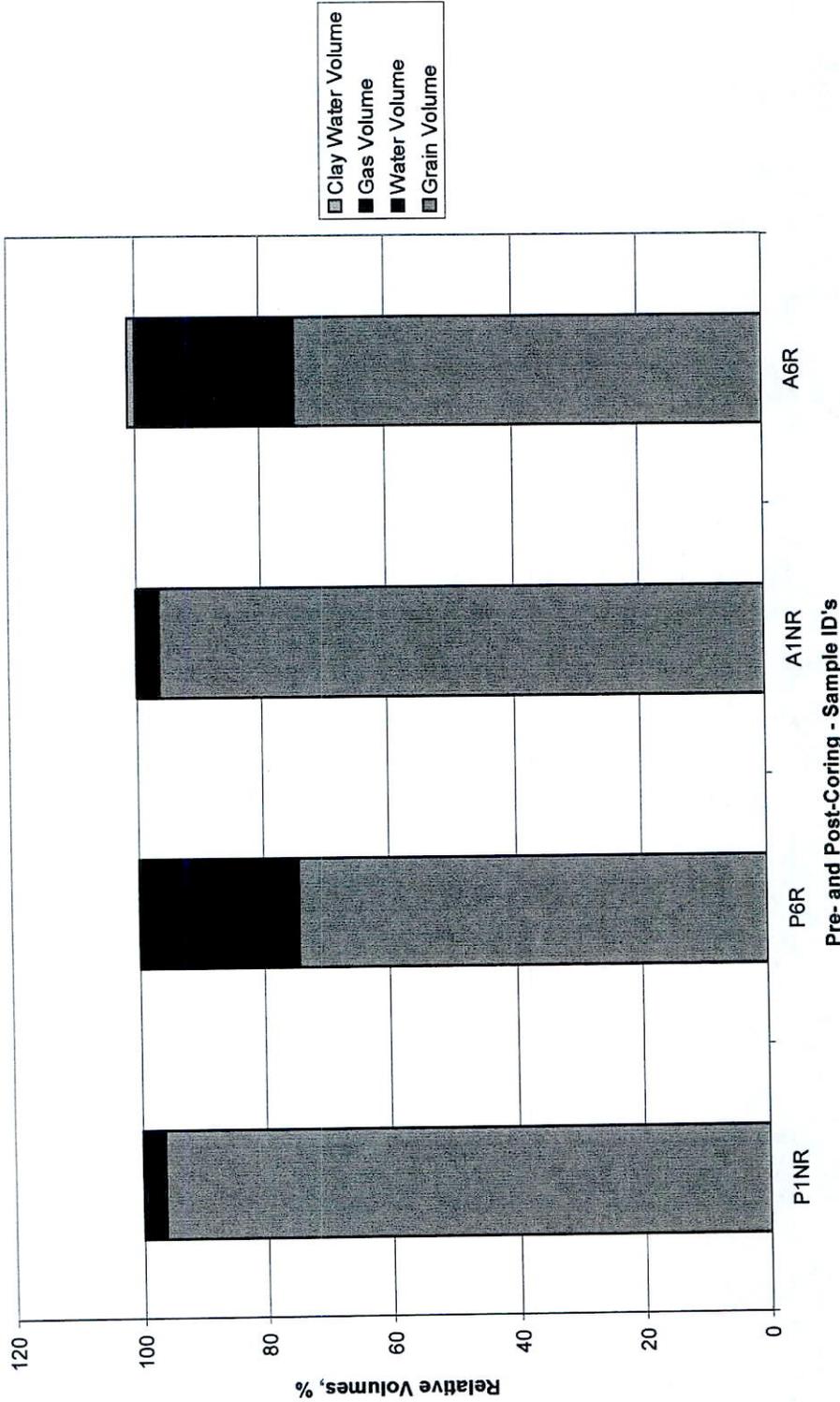


Figure C4. Histogram of Drilling/Coring-Induced Volume Change

071-2273



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CANISTER DESORPTION STUDY

1 INTRODUCTION

At the request of Barron Gimza with Fidelity Exploration & Production Company, a shale gas analysis program was attempted on shale samples recovered from the #11-33 well located in Phillips Co., Montana.

The testing program consisted of canister desorption measurements on selected samples at wellsite and in the laboratory.

2 TEST PROCEDURES

Five whole core samples were placed in desorption canisters at wellsite. The canisters were maintained at a reservoir temperature of approximately 30° C. Desorption data were collected from the samples for a period of time on location. The canisters, containing the samples were then transported to TerraTek, Inc. in Salt Lake City for continued desorption.

Upon arrival at TerraTek, the canisters were brought to temperature and underwent continued long-term desorption.

3 RESULTS

Unfortunately it was determined that the formation was not suitable for canister desorption techniques. Once the samples were placed in the canisters, most "evolved" gas measurements were negative values, thus, no desorption data were obtained. Table D1 summarizes the desorption sample depths.

4 REFERENCES

Diamond, W.P. and Levine, J.R.: *USBM*, RI 8515, "Direct Method Determination of the Gas Content of Coal," (1981) 36.

McLennan, J.D., Schafer, P.S., and Pratt, T.J.: *A Guide to Determining Coalbed Gas Content*, Gas Research Institute, Chicago, IL, (1995).

Mavor, M.J., "Measurement and Evaluation of Coal Sorption Isotherm Data", Society of Petroleum Engineers, SPE 20728, pp.157-169.



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Table D1. Summary of Attempted Desorption Samples

Canistered Sample No.	Depth (feet)
1	880-881
2	885-886
3	890-891
4	895-896
5	900-901



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WHOLE ROCK MINERALOGY

SAMPLE DEPTH (ft)	887.7	888.3	888.4	891.2	891.7	892.1	892.2	897.5	899.7	902.3
QUARTZ	3.3%	53.5%	51.8%	58.0%	55.3%	56.0%	58.9%	59.2%	44.7%	43.0%
POTASSIUM FELDSPAR	0.5%	2.3%	1.7%	1.7%	1.5%	1.6%	1.9%	2.0%	2.0%	1.3%
PLAGIOCLASE	0.0%	0.9%	0.8%	1.1%	0.9%	1.2%	1.2%	1.9%	2.2%	1.8%
CALCITE	93.1%	8.9%	8.0%	0.6%	2.5%	3.1%	2.6%	4.5%	6.3%	9.9%
ANKERITE/Fe-DOLOMITE	0.6%	13.7%	20.3%	1.1%	0.0%	0.0%	0.2%	0.7%	0.0%	0.0%
DOLOMITE	0.0%	7.1%	6.7%	4.5%	5.5%	5.2%	5.7%	5.6%	4.9%	3.9%
SIDERITE	0.1%	0.6%	0.3%	0.6%	0.4%	0.4%	0.4%	0.3%	0.8%	0.6%
PYRITE	0.3%	2.3%	2.0%	1.9%	1.5%	1.1%	1.4%	2.8%	4.1%	5.1%
TOTAL NON-CLAY	97.8%	89.4%	91.6%	69.3%	67.5%	68.7%	72.3%	77.1%	65.0%	65.5%

ILLITE/SMECTITE (I/S)	0.0%	0.0%	0.6%	3.9%	5.3%	6.0%	3.3%	4.0%	5.3%	5.3%
ILLITE	0.7%	3.9%	2.8%	9.6%	12.3%	12.0%	11.3%	8.3%	13.3%	13.0%
KAOLINITE	1.2%	5.5%	4.0%	13.1%	10.4%	9.5%	10.1%	7.4%	11.6%	11.1%
CHLORITE	0.2%	1.3%	1.0%	4.0%	4.6%	3.7%	3.1%	3.3%	4.9%	5.0%
TOTAL CLAY	2.2%	10.6%	8.4%	30.7%	32.5%	31.3%	27.7%	22.9%	35.0%	34.5%
GRAND TOTAL	100.0%									

RELATIVE CLAY ABUNDANCE

I/S % Expandability	20	20-25	50	50	50	30	30
ILLITE/SMECTITE (I/S)	0%	8%	13%	16%	19%	12%	17%
ILLITE/MICA	35%	33%	31%	38%	38%	41%	36%
KAOLINITE	56%	48%	43%	32%	30%	36%	33%
CHLORITE	10%	12%	11%	14%	12%	11%	14%
TOTAL	100%						



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CLAYS/MINERALS < 4 MICRONS

SAMPLE DEPTH (ft)	887.7	888.3	888.4	891.2	891.7	892.1	892.2	892.5	899.7	902.3
WEIGHT PERCENT	10	25	15	36	36	34	28	27	42	44
I/S % Expandability			20	20-25	50	50	50	30	30	30
ILLITE/SMECTITE (I/S)	0.0%	0.0%	4.2%	11.0%	13.1%	16.7%	10.7%	14.5%	12.4%	12.2%
ILLITE/MICA	1.5%	12.0%	13.0%	23.2%	28.5%	30.4%	34.2%	21.0%	24.4%	24.0%
KAOLINITE	6.5%	16.0%	15.1%	31.9%	23.0%	21.6%	25.6%	17.9%	17.3%	18.7%
CHLORITE	0.0%	3.1%	3.5%	8.6%	9.4%	8.2%	7.3%	8.1%	8.1%	7.1%
QUARTZ	1.6%	23.0%	9.9%	15.7%	15.4%	11.7%	11.7%	17.6%	17.2%	16.5%
POTASSIUM FELDSPAR	0.0%	3.8%	1.3%	1.3%	0.8%	0.8%	1.1%	1.3%	1.6%	0.9%
PLAGIOCLASE	0.0%	1.3%	0.5%	0.7%	0.5%	0.6%	0.6%	1.1%	1.7%	1.2%
CALCITE	87.7%	23.6%	30.3%	1.1%	5.8%	6.9%	6.1%	14.7%	10.8%	15.6%
ANKERITE/Fe-DOLOMITE	1.1%	9.6%	16.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DOLOMITE	0.0%	3.9%	3.7%	2.4%	2.3%	1.6%	1.6%	1.9%	2.9%	1.2%
SIDERITE	0.3%	1.4%	0.8%	1.0%	0.5%	0.6%	0.7%	0.6%	1.4%	0.9%
PYRITE	1.4%	2.3%	1.6%	1.5%	0.7%	1.0%	0.4%	1.1%	2.4%	1.7%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

MINERALS > 4 MICRONS

WEIGHT PERCENT	90	75	85	64	64	66	72	73	58	56
QUARTZ	3.5%	63.6%	59.2%	81.3%	77.8%	78.5%	77.1%	74.8%	65.0%	63.6%
POTASSIUM FELDSPAR	0.5%	1.8%	1.8%	1.9%	1.9%	2.1%	2.2%	2.3%	2.3%	1.5%
PLAGIOCLASE	0.0%	0.7%	0.8%	1.3%	1.1%	1.6%	1.5%	2.2%	2.5%	2.3%
CALCITE	93.7%	4.0%	4.1%	0.3%	0.7%	1.2%	1.3%	0.7%	3.0%	5.5%
ANKERITE/Fe-DOLOMITE	0.5%	15.1%	21.0%	0.7%	0.0%	0.0%	0.3%	1.0%	0.0%	0.0%
DOLOMITE	0.0%	8.2%	7.2%	5.7%	7.3%	7.0%	7.2%	7.0%	6.5%	6.0%
SIDERITE	0.1%	0.3%	0.2%	0.4%	0.3%	0.3%	0.3%	0.2%	0.3%	0.3%
PYRITE	0.2%	2.3%	2.1%	2.1%	1.9%	1.2%	1.8%	3.4%	5.4%	7.7%
ILLITE/SMECTITE (I/S)	0.0%	0.0%	0.0%	0.0%	0.8%	0.6%	0.4%	0.0%	0.0%	0.0%
ILLITE/MICA	0.7%	1.2%	1.0%	2.1%	3.1%	2.7%	2.4%	3.5%	5.1%	4.5%
KAOLINITE	0.6%	2.0%	2.0%	2.8%	3.2%	3.4%	4.0%	3.4%	7.4%	5.2%
CHLORITE	0.2%	0.6%	0.5%	1.5%	1.9%	1.5%	1.4%	1.5%	2.6%	3.3%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

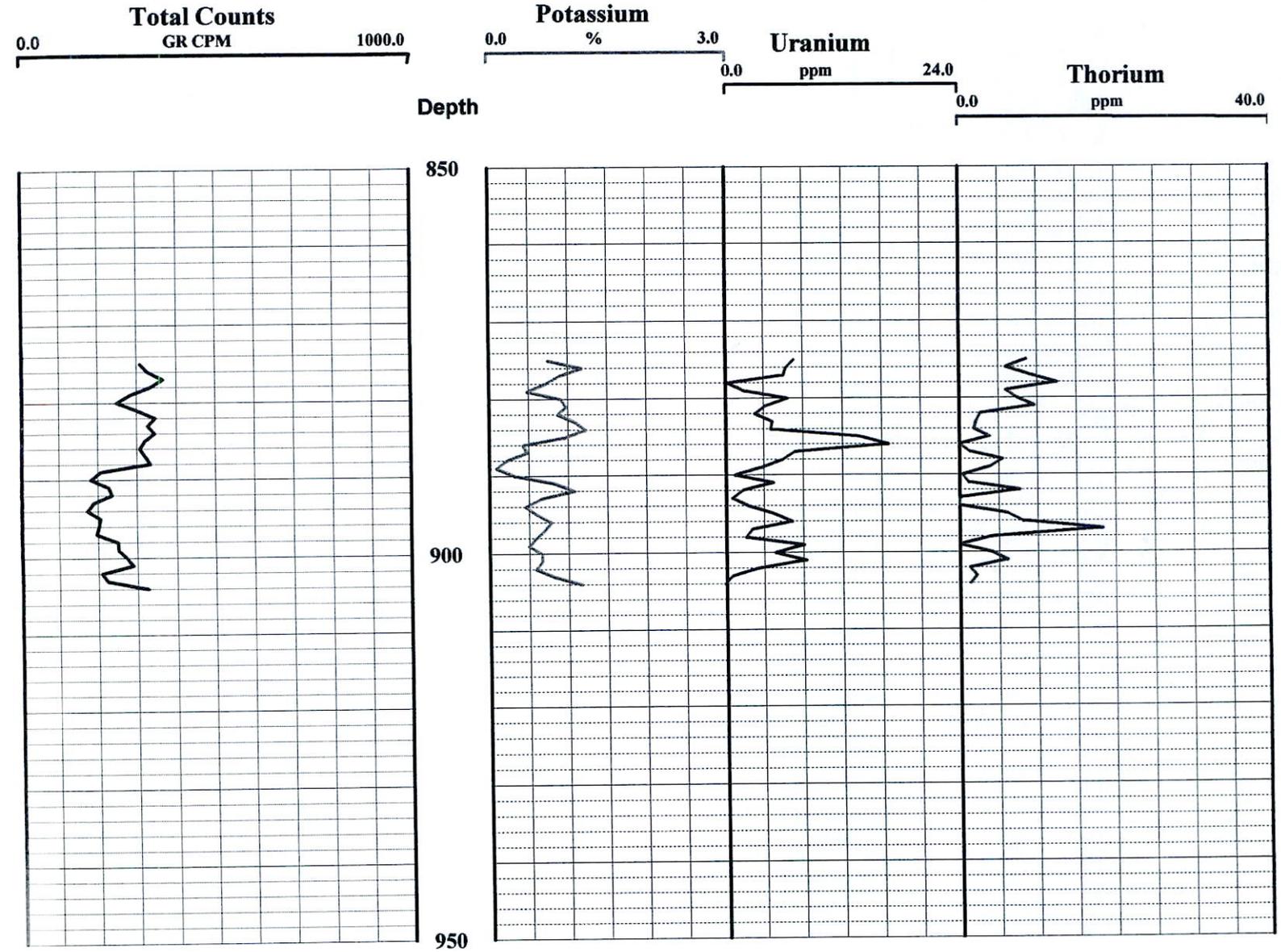
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COMPONENT CORE GAMMA LOG



071-22673

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on
reverse side)

Form approved
Budget Bureau No. 1004-0136
Expires August 31, 1985

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK
 DRILL DEEPEN PLUG BACK
 b. TYPE OF WELL
 OIL WELL GAS WELL OTHER SINGLE ZONE MULTIPLE ZONE

5. LEASE DESIGNATION AND SERIAL NO.
MTGF057386

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
NA

7. UNIT AGREEMENT NAME
Bowdoin NE Nelson PA

8. FARM OR LEASE NAME
Federal

9. WELL NO. API #
1133

10. FIELD AND POOL, OR WILDCAT
Bowdoin Dome

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 6. T32N, R33E

2. Name of Operator
WBI Production, Inc.

3. Address and Telephone No.
P.O. Box 131, Glendive, Montana 59330-0131 (406) 359-7200

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
 At Surface **Lot 3, Sec. 6, T32N, R33E, 1387' FNL, 1341' FWL**
 At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE
7 miles northwest

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. Unit line, if any)
1387' FNL
1341' FWL

16. NO. OF ACRES IN LEASE
1009.40

17. NO. OF ACRES ASSIGNED TO THIS WELL
160

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
See attached map

19. PROPOSED DEPTH
1300'

20. ROTARY OR CABLE TOOLS
Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
2204'

22. APPROX. DATE WORK WILL START
April 2001

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	GRADE	SETTING DEPTH	QUANTITY OF CEMENT
9.875"	7"	17#/ft	H-40/8 RND	150'	80 sacks
6.25"	4.5"	10.5#/ft	J-55/8 RND	1275'	115 sacks

Plan to drill a 9-7/8" hole to a depth of 160', set and cement to surface 150' of 7", 17 lb/ft surface casing. Install and test BOP equipment. Then drill with fresh water mud system a 6-1/4" hole to TD and test the Phillips formation. Open hole logs may be run, with no drill stem test or coring planned. New 4-1/2" 10.5 lb/ft production casing will be set and cemented back to surface. The casing will then be perforated and, upon testing may require a fracture stimulation to increase production. Drilling mud will be hauled to a private reservoir or left to dry in the pits. Unlined pits will be used with fresh water mud.

NOTE: Bond coverage for this application for Williston Basin Interstate Pipeline Company will be covered by BLM Bond #MT0996.

Well to be drilled in accordance with the Master APD dated February 1998

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depth. Give blowout preventer program, if any.

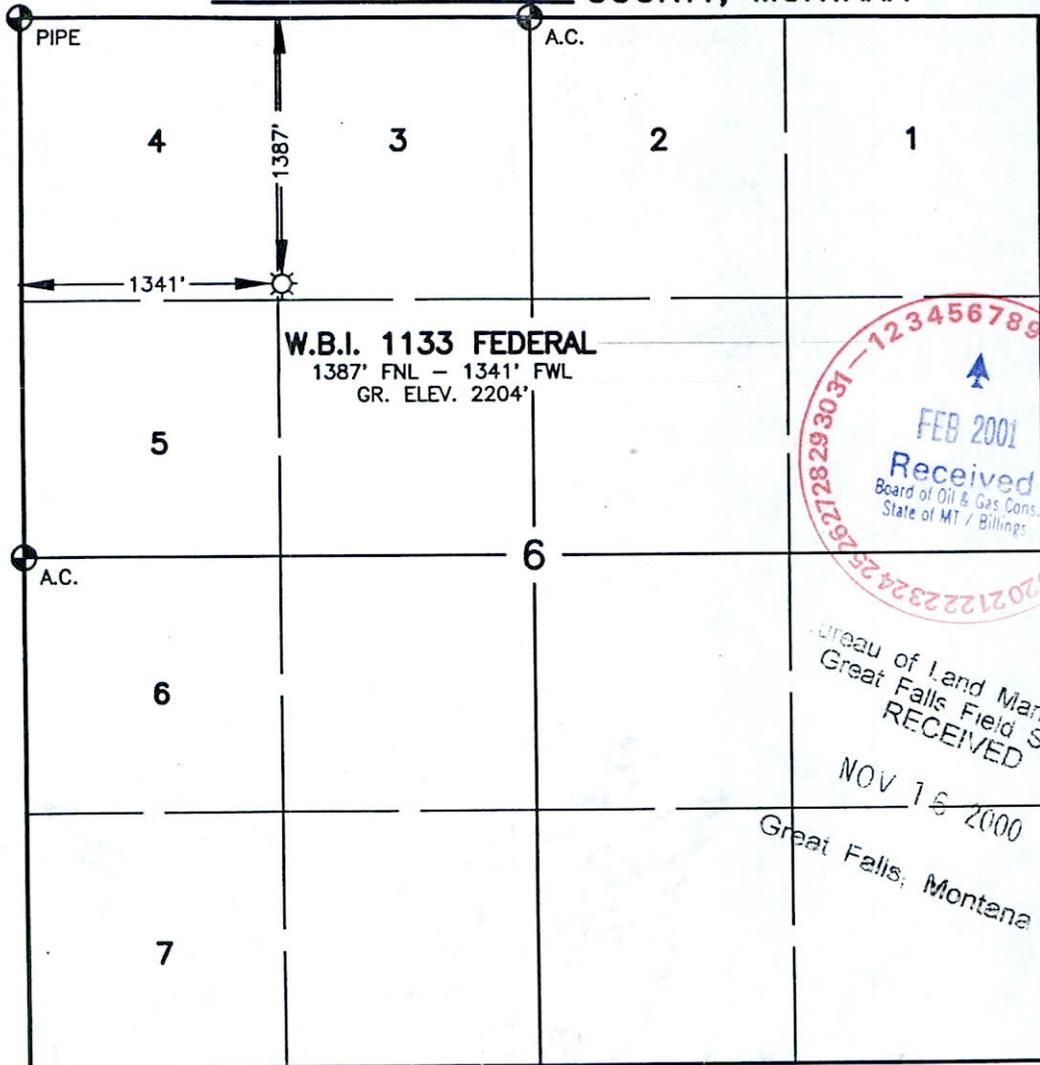
24. SIGNED Don Brutlag TITLE Gas Production & Storage Superintendent DATE November 13, 2000

PERMIT NO. _____ APPROVAL DATE _____
 APPROVED BY Is/ Donato J. Judice TITLE Field Station Supervisor DATE FEB 6 2001
 Conditions of Approval, if any: * See Instruction on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency or the United States any false, fictitious, or fraudulent statements or representations as to any matter within its jurisdiction.

INSTRUCTIONS

WELL LOCATION PLAT
WILLISTON BASIN INTERSTATE PIPELINE COMPANY
LOT 3, SECTION 6, TWP. 32 N. - RGE. 33 E., P.M.M.
PHILLIPS COUNTY, MONTANA



Bureau of Land Management
 Great Falls Field Station
 RECEIVED
 NOV 16 2000
 Great Falls, Montana

I, Charles M. Madler certify that this plat correctly represents work performed by me or under my responsible charge, and is true and correct to the best of my knowledge and belief.

Charles M. Madler
 CHARLES M. MADLER
 P.L.S. NO. 7327
 REGISTERED PROFESSIONAL LAND SURVEYOR

SEWING RANCH
 SURFACE OWNER

DATE STAKED 10-4-00

BASIS OF VERTICAL DATUM: U.S.G.S. QUAD. MAP

EXHIBIT NO. 1

 WBI PRODUCTION INC. <small>A Subsidiary of WBI Holdings, Inc.</small>				
W.B.I. NO. 1133 FEDERAL WELL LOCATION BOWDOIN FIELD				
DATE	DRAWN BY	SCALE	COMP. NO.	DRAWING NO.
10-10-00	M.P.S.	1" = 1000'	1133LOC	A-5-2751

Sanjel (USA) Inc.
 500, 622 5th Avenue SW
 Calgary, Alberta, T2P 0M6
 Telephone: (403) 269-1420



SERVICE TICKET
 9111913

This service ticket is not an invoice; pricing is subject to review and change without notice.

Client Name: Fidelity E&P Co			Well Name: 1133			Job Date: 9-10-04		
Address: P.O. Box 1010			Location: Sec 6 T32N R33E			Service Point: Chinook		
City: Glendive			Client Representative: MR. Harlan Sieges			Pricing Area: 1		State: MT
Province/State: MT	Postal/Zip Code: 59330		Job Type: 9/6 Poly	State: MT	County: Phillips		AFE/PO #	
District	Service, Equipment & Material Type	Code	Quantity	Unit Price	Amount			
42	MPCTU Field per hr	2000	2	315	630.00			
	Poly trailer	2162	1	100.00	100.00			
	Subsistence	1402	1	240.00	240.00			
	Poly plug	26037	1	25.00	25.00			
					FIELD ESTIMATE		995.00	

Well Data:												
Multipurpose Coiled Tubing Service Report	Casing		Tubing		Fluid Pumped (bbl)	Fluid Returns (bbl)	Sand Returns (bbl)	Coil Cycled (ft)	Soap (gal)	Unit Travel Hours	Unit Location Hours	Crew Travel Hours
	Size (in)	Pressure (psi)	Size (in)	Pressure (psi)								
	4.5	?	-	-	-	2	.07	1417	6	-	2	-

Tool and Treatment Summary: **Rig in MPCTU perform clean out to 1417ft**
so work parts soap to top hole, load and
land 850ft of 1.75" x 1.15" poly rig down
more to next lease.

Personnel and Equipment:			
Employees	Bryan Shackelford	Dusty Geist	Units: 2251
	Bob Fox		710

Service Comments:

Arrival Time: **1600** Departure Time: **1800**

Attn: Harlan	FIELD ESTIMATE		
	<input type="checkbox"/> Cementing - Prim.	<input type="checkbox"/> Cementing - Rem.	
	<input type="checkbox"/> Coiled Tubing	<input type="checkbox"/> Nitrogen	
	<input type="checkbox"/> Stimulation	<input type="checkbox"/> Fracturing	
	<input checked="" type="checkbox"/> MPCTU	<input type="checkbox"/> Other	
This space is reserved for the Client Coding Stamp.		Field: 28	Sales 1: Sales 2: 89
Comments:		This signature confirms that I have read and comply with the terms and conditions as noted on the reverse of this document. X [Signature]	

OCT 1 2004

USA) Inc.
 - 5th Avenue SW
 Alberta, T2P 0M6
 Phone: (403) 269-1420

Sanjel

SERVICE TICKET
 9107339

This service ticket is not an invoice; pricing is subject to review and change without notice.

Client Name Fidelity E&P			Well Name well # 1133			Job Date 5-17-03		
Address P.O. Box 131			Location Lot 3 sec. 6-T32N-R32E			Service Point Williston		
City Blendive			Province/State mt.			Postal/Zip Code 59350		
Client Representative HARLAN JIRGES			Job Type B/S e/o			State mt.		
County Phillips			Pricing Area 1			State N.D.		
District 41			Service, Equipment & Material Type MPCTU Operating Time			Code 17		
Quantity 1.5			Unit Price 315⁰⁰			Amount 472 50		
FIELD ESTIMATE						472 50		

Well Data:

Size (in)	Pressure (psi)	Casing		Tubing		Fluid Pumped (bbl)	Fluid Returns (bbl)	Sand Returns (bbl)	Coil Cycled (ft)	Soap (gal)	Unit Travel Hours	Unit Location Hours	Crew Travel Hours
		Size (in)	Pressure (psi)	Size (in)	Pressure (psi)								
4 1/2									1100	5		1.5	

Multipurpose Coiled Tubing Service Report

Tool and Treatment Summary: Drive to location, rig-up, m/u B/S Run in hole working perforations, work down to 1100 clean out soap clean, POH, rig down, drive to next location.

Personnel and Equipment:

Employees	DAVID NICKOLOFF	Units	2251
	CHRIS PERDUE		7710

Service Comments:

Arrival Time: **1:30** Departure Time: **3:00**

Attention!
HARLAN JIRGES

FIELD ESTIMATE			
<input type="checkbox"/> Cementing - Prim.	<input type="checkbox"/> Cementing - Rem.		
<input type="checkbox"/> Coiled Tubing	<input type="checkbox"/> Nitrogen		
<input type="checkbox"/> Stimulation	<input type="checkbox"/> Fracturing		
<input checked="" type="checkbox"/> MPCTU	<input type="checkbox"/> Other		
Field	Sales 1	Sales 2	

This space is reserved for the Client Coding Stamp.

Comments: **x TS. K** **OS**

This signature confirms that I have read and comply with the terms and conditions as noted on the reverse of this document.
x Harlan Jirges



2002 5 0 JUN 5 2003
 2002 2 0 JUN 2 2003
 2002 3 2 MAY 2 2003

JOB SUMMARY

		SAP #/TICKET # 1267031	TICKET DATE Sept. 27, 01
REGION NORTH AMERICA LAND		NWA / COUNTRY WESTERN	BDA / STATE Montana
MBU ID / EMPL # 122102		PSL DEPARTMENT Cementing Services	
LOCATION Williston		CUSTOMER REP / PHONE Jeff Merkel 406-350-1257	
TICKET AMOUNT \$4,432.99		API/UMI # 25-071-22673	
WELL LOCATION Bowdoin Dome		SAP BOMB NUMBER 35	
LEASE NAME Federal		Description Production Casing	
Well No. 1133		DEPARTMENT CEMENTING SERVICES 10003	
SEC / TWP / RNG 6-32N-33E			

H.E.S. EMP NAME / EMP # / (EXPOSURE HOURS)	HR	HR	HR
D. Kessel / 122102	6.5		
C. Marottek / 233390	6.5		
W. Summers / 233094	6.5		
J. Schaubel / 233092	6.5		

H.E.S. UNIT #S / (R / T MILES)	R / T MILES	R / T MILES	R / T MILES
Pickup / 421908	20		
Persicion / 10251389	20		
Tractor / 52809	100		
660 / 7500	100		

Form. Name _____ Type: _____
 Form. Thickness _____ From _____ To _____
 Packer Type _____ Set At _____
 Bottom Hole Temp. #REF! Pressure _____
 Retainer Depth _____ Total Depth _____

Date	Called Out	On Location	Job Started	Job Completed
	09-27-01	09-27-01	09/28/2001	09/28/2001
Time	21:15	22:20	02:10	3:44

Tools and Accessories

Type and Size	Qty	Make
Float Shoe SSII 4.5in.	1	Halliburton
Float Collar LD 4.5in.	1	Halliburton
Centralizers 4.5x6.25	10	Halliburton
Limit Clamp 4.5in.	1	Halliburton
Top Plug LD 4.5in.	1	Halliburton
Bottom Plug		
Weld - A	1 lb.	Halliburton
DV Tool		
Other Cement Head	1	A2971

Well Data

New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing New	10.5	4.5	J-55	Surface	1434.8ft.	
Casing						
Liner						
Tubing						
Drill Pipe Used						
Drill Pipe Used						
Open Hole		6.25		BOS	1,450	Shots/Ft.

Materials

Mud: Type _____ Density #REF! lb/gal

Spacers / Flushs Ahead:

10	bbl	Fresh Water
10	bbl	Mud Flush
	bbl	Super Flush
	bbl	Mod Dual Spacer
	bbl	Other _____

Density: 8.33 lb/gal Water Req: 66.1 gal/bbl

Hours On Location

Date	Hours
9/27	1.5
9/28	5.0
Total	6.5

Operating Hours

Date	Hours
9/28	1.0
Total	1.0

Description of Job

See Job Log

Displacement:

Type Fresh Water Density 8.33 lb/gal

Equipment Ordered

Ordered	Avail.	Used
Lead Slurry	Average Rates in BPM	Displacement
Feet 27.99	Tail Slurry	Shoe Joint
	Cement Left in Pipe	
	Reason	

Cement Data

Stage	Sacks	Cement	Bulk/Sks	Additives	W/Rq.	Yield	Lbs/Gal
1	35	Halco Lite	BULK	6% Gel, 3% Calcium Chloride, .125#/sk Poly-E-Flake	11.20	2.04	12.5
2	120	Premium G	BULK	3% Calcium Chloride, .125#/sk. Poly-E-Flake	4.97	1.16	15.8
			BULK				
			BULK				

Summary

Calculated Pressure to land Plug _____ Actual Pressure to Land Plug _____ Cement Returned _____ Yes <input type="checkbox"/> Lost Returns <input checked="" type="checkbox"/> No Calculated Top of Cement _____ Actual Top of Cement _____	1200 1/2 bbl. _____ bbl Away Surface Surface	Spacer / Flush (bbl) 10 bbls. Mud Flush 10 bbls. Fresh Water Calculated Displacement (bbl) 22.6 bbls. Actual Displacement (bbl) 22.6 bbls. Cement Slurry: 37.5 bbls. Total Volume: 80.1 bbls.
---	--	--

Thank You, Doug Kessel Halliburton Energy Services - Williston Cementing Services

THE INFORMATION STATED HEREIN IS CORRECT
 CUSTOMER REPRESENTATIVE _____ SIGNATURE *Jeff Merkel*

071-22673

JOB SUMMARY

		SAP #/TICKET # 1267011	TICKET DATE Sept. 25, 01
REGION NORTH AMERICA LAND	NWA / COUNTRY WESTERN	BDA / STATE Montana	COUNTY Phillips
STU ID / EMP # 122102	H.E.S. EMPLOYEE NAME Doug Kessel	PSL DEPARTMENT Cementing Services	
LOCATION Williston, N.D.	COMPANY Fidelity E&P	CUSTOMER REP / PHONE Jeff Merkel 406-350-1257	
TICKET AMOUNT \$3,815.66	WELL TYPE 02	API/UWI # 25-071-22673	
WELL LOCATION Bowdoin Dome	DEPARTMENT CEMENTING SERVICES 10003	SAP BOMB NUMBER 10	Description Surface Casing
LEASE NAME Federal	Well No. 1133	SEC / TWP / RNG 6-32N-33E	

H.E.S. EMP NAME / EMP # / (EXPOSURE HOURS)	HR	HR	HR	HR
D. Kessel / 122102	12.5			
J. Jones / 213675	12.5			
C. Marottek / 233390	12.5			

H.E.S. UNIT #S / (R / T MILES)	R / T MILES			
Pickup / 421908	20			
Tractor / 10251389	20			
Tractor / 52809	100			
660 / 7500	100			

Form. Name _____ Type: _____
 Form. Thickness _____ From _____ To _____
 Packer Type _____ Set At _____
 Bottom Hole Temp. _____ Pressure _____
 Retainer Depth _____ Total Depth _____

Date	Called Out	On Location	Job Started	Job Completed
	09-25-01	09-25-01	09/26/2001	09/26/2001
Time	19:00	21:00	08:10	08:31

Tools and Accessories

Type and Size	Qty	Make
Float Shoe Reg. 7	1	Halliburton
Float Collar		
Centralizers 7x9.875	3	Halliburton
Limit Clamp		
Top Plug 7	1	Halliburton
Bottom Plug		
Weld - A	1 lb.	Halliburton
DV Tool		
Other Cement Head	1	A2360

Well Data

New/Used	Weight	Size	Grade	From	To	Max. Allow
Casing New	17.0	7	H-40	Surface	156.69 ft.	
Casing						
Liner						
Tubing						
Drill Pipe						
Drill Pipe						
Open Hole		9.875		Surface	175	Shots/Ft.
Perforations						

Materials

Mud: Type _____ Density _____ lb/gal

Spacers / Flushs Ahead:

5	bbl	Fresh Water
	bbl	Mud Flush
	bbl	Super Flush
	bbl	Mod Dual Spacer
	bbl	Other _____

Density: 8.33 lb/gal Water Req: 26.6 gal/bbl

Hours On Location

Date	Hours
09-25-01	3.0
9/26	9.5
Total	12.5

Operating Hours

Date	Hours
9/26	0.5
Total	0.5

Description of Job

See Job Log

Displacement:

Type Fresh Water Density 8.33 lb/gal

Equipment Ordered

Ordered	Avail.	Used
Lead Slurry	Average Rates in BPM	Displacement
Feet 30.00	Cement Left in Pipe	Shoe Joint
	Reason	

Cement Data

Stage	Sacks	Cement	Bulk/Sks	Additives	W/Rq.	Yield	Lbs/Gal
1	130	Premium G	Bulk	3% Calcium Chloride, .125#/sk. Poly-E-Flake	4.97	1.16	15.8
			BULK				
			BULK				
			BULK				
			BULK				

Summary

Calculated Pressure to land Plug _____	Spacer / Flush (bbl) _____	5 bbls. Fresh Water
Actual Pressure to Land Plug _____	Calculated Displacement (bbl) _____	6.2 bbls.
Cement Returned _____	Actual Displacement (bbl) _____	6.2 bbls.
Yes <input type="checkbox"/> Lost Returns <input checked="" type="checkbox"/> No	Cement Slurry: _____	26.9 bbls.
Calculated Top of Cement _____	Total Volume: _____	38.1 bbls.
Actual Top of Cement _____		

Thank You, _____ **Doug Kessel**

THE INFORMATION STATED HEREIN IS CORRECT
CUSTOMER REPRESENTATIVE

SIGNATURE

071-22673

Customer: Fidelity
 Well Desc: Federal 1133
 Formation: Bowdoin

Date: 16-Oct-
 Ticket #: 1571413
 Job Type: Foam Frac

OPERATOR LOG

Chart	Time	FoamSf Rate (bpm)	Clean Stage Volume (gal)	Casing Press. (psi)	Remark
Event #1	12:00:21	0.00	0	0	START JOB
Event #2	12:00:27	0.00	0	212	SAFETY MEETING
Event #3	12:00:31	0.00	0	212	TEST LINES
Event #4	12:01:42	0.00	0	191	ISIP Casing Press 191 (psi)
Stage #1	12:01:49	0.00	963	192	1200 Gal Pad with Slug
Event #5	12:03:10	25.16	0	1128	BREAK FORMATION Casing Press 1128 (psi) Foam Rate/Surf 92.1
Stage #2	12:05:07	29.72	1002	762	1000 Gal 5.2-11.7# 65%
Stage #3	12:08:01	26.90	2419	706	2250 Gal 11.7-15.2#
Stage #4	12:14:16	20.12	643	480	START FLUSH
Stage #5	12:15:11	0.23	0	357	ISIP Casing Press 357 (psi)
Event #6	12:20:37	0.00	0	327	5 MIN SHUTIN PRES. Casing Pr ess 327 (psi)
Event #7	12:20:46	0.00	0	327	END JOB



Executive Summary

Treatment Summary Stage 2

Well: Federal 1133		Average	Maximum	Available
Formation: Niobrara		Surface Press. (psi): 1682	1849	
Date: Thursday, May 22, 2003		Rate, (Bpm): 10.4	13.9	
S.O.#(s) 2430227 2430228		HHP: 206.1	226.6	1000
		Prop Conc. (ppg) 8	14.8	
Pad Fluid Type: Purgel III LT		Max Conc. @ perms (ppg)	10.2	
Prop Fluid Type: Purgel III LT				
Proppant Type: 12/20 Brady		ISIP: 410	Hydrostatic: 340	
Avg Foam Quality: 66.7%		5 Min Shutin:	10 Min Shutin:	15 Min Shutin:
		Decline:		
Line Test Pressure, (psi):			Quantities	
Breakdown Pressure, (psi):		Wellbore Capacity (gal):	535	
Avg BHTP, (psi): 932		Flush Volume (gal):		
BH Treating Temp (deg F): 60		N2 Flush Vol if Applicable (scf):		
Perf Mid-Point TVD (ft): 537		Clean Volume (gal): 4589	Gals	109.2619
Frac Gradient, (psi/ft): 1.40		Proppant Pumped (lbs): 39500		Bbls
		Proppant in Formation (lbs): 393		
Pad Percentage (%): 17.3		Proppant Placed, % of Design (lb) 98%		
Pad Volume (gal):		N2 Total Volume (scf): 99200		
Job Net Press. Increase (psi):		Annular Capacity (gal): 180		

Treating Schedule Stage 2 Note: Volume for flush is represented by Stage Slurry Volume (gal)

Time	Stage/Event	Ave Foam Rate (Bpm)	Ave Treating Press.	Stage Clean Volume	Proppant Conc.	Proppant Volume Lbs	Proppant Type	Fluid Type	Stage Foam Volume	Gel Conc.	Ave Stage Foam Quality (%)
14:53:20	Start Pad	12.5	1582	794			12/20 Brady	Purgel III LT	3054	25	74.0%
14:59:45	Start 1st S	11.1	1716	982	2.7-12#	5880	12/20 Brady	Purgel III LT	3273	25	70.0%
15:08:00	Start 2nd S	9.7	1802	992	12-15#	13500	12/20 Brady	Purgel III LT	3100	25	68.0%
15:14:08	Start 15# S	9	1729	1329	15#	20120	12/20 Brady	Purgel III LT	3323	25	60.0%
15:23:27	Start Flush	6.5	1074	492			12/20 Brady	Waterfrac CM	1074	25	0.0%
15:25:00	ISIP										

Notes:

Treat Niobrara zone with 39500 lbs of sand. 39300 lbs in perms.



DATE 10/5/01 SALES / STN NO. 20647/3321
 SERVICE ORDER NUMBER 49767
 PAGE 1 OF 1
 SERVICES ORDERED:
PND / CBL / GR
03

COMPUTALOG

Wellbore knowledge and solutions
 COMPUTALOG WIRELINE SERVICES
 HOME OFFICE: 500 WINSCOTT RD.
 FT. WORTH, TEXAS 76126
 PHONE 817-249-7200 FAX 817-249-7275

ENGINEER Karin Hane 20646
 CREW Murray Gummer 21168
 CREW
 CREW
 SALESMAN Martin O'Neil
 PRICE SCHEDULE Land

The undersigned, hereinafter referred to as "Customer", agrees to pay to Computalog Wireline Services ("Computalog") for the service(s) specified below (including leased equipment) and any additional service(s) requested, in the currency of the United States of America, at the offices of Computalog at 500 Winscott Rd., Ft. Worth, Texas 76126, in accordance with the applicable provisions of Computalog's current price schedule. In consideration of the prices set out in Computalog's current price schedule, Customer elects to be bound by the terms and conditions set out on the reverse side hereof, including the assumption by Customer of the liabilities and responsibilities contained in the Indemnity, hold harmless and exculpatory clauses, rather than enter into a separate contract and furnish Computalog with insurance coverage against the liabilities herein assumed by customer. If this document is executed by an agent on behalf of customer, said agent represents that he has full authority from his principal, the Customer, to execute the same. In the absence of such authority, the party executing this document agrees that he shall be obligated hereunder as Customer. All amounts are subject to final Accounts Receivable Computer System verification.

CUSTOMER AUTHORIZATION _____
 COMPANY Fidelity E&P CUSTOMER # 20277
 BILL TO (IF OTHER THAN ABOVE) _____
 ADDRESS _____
 CITY Gretna STATE Montana ZIP CODE 59330
 P.O. # 1010 AFE # _____ CONTRACT # _____

WELL INFORMATION
 WELL NAME WBI 1133 Sec 6-32A1-33E FIELD Bowden Dome
 COUNTY/PARISH Phillips STATE Montana RIG NAME Test unit PRICE ZONE Land
 LOG MEASURED FROM Holly Bushing 10.0' FEET ABOVE PERMANENT DATUM

UNIT NUMBER 4841 STATION NAME/NO Billings MT/3321 ACTUAL ROUND TRIP DISTANCE FROM STATION 35 MILES DISTANCE CHARGED MILES FROM _____

RUN NO.	DATE	TIME	TIME ELAPSED	LOST TIME / GROUP	SERVICE	CODE	DESCRIPTION	QTY	BOOK UNIT PRICE	FIELD AMOUNT
						1000.10	Service Charge	1400'		
						1021.10	Test unit	1		
		6:00				1021.21	PND Bulk Inelastic Depth	min		
						1021.22	Operation	1200'		
		6:45	3/4			1021.23	Flat Charge	1		
		6:45				1022.20	License Fee	1		
		7:00	1/4			1302.11	PND Priority Computations set-up	1		
1		7:00			PND	1302.12	Operation	1		
		9:45	2 3/4			1040.11	Cement Bond Log w/VAL Depth	min		
2		9:45			CBL	1040.12	Operation	1400'		
		10:45	1			1038.11	S. Gamma Ray w/KLL Depth	min		
3						1038.12	Operation	1400'		
4						19999				
5						1003.02	Mileage	35		
6										
7										
8										
9										
		10:45								
		11:00	1/4							
		11:00								
		11:30	1/2							

COPY



TYPE OF WELL NEW WORKOVER PRODUCTION
 SUB TC
 STATE TAX _____ COUNTY / PARISH TAX _____
 TOTAL ESTIMATED CHARGE _____
 ADDITIONAL CHARGES MAY APPLY

TOTAL FIELD HRS./CREW	<u>5 1/2 hrs</u>	TOTAL STANDBY HRS.		WITNESSED BY (PRINT)	<u>Tim Lee</u>
TOTAL FIELD HRS./EQUIP.	<u>5 1/2 hrs</u>	TOTAL LOST TIME		DISTRICT MANAGER (INITIALS)	
TOTAL OPR. HRS.	<u>4 1/4 hrs</u>	TOTAL TRAVEL TIME	<u>1 1/4 hrs</u>	ACCT. (INITIALS)	
PRINTS		FILM		TAPES	
FIELD PRINTS	<u>10</u>	RECEIVED AT WELL	<u>10</u>	PRINTS	
TOTAL TIME		OPER. TIME		ALLOW. TIME	
EQUIP				CHG. TIME	
CREW					

THE SERVICE(S) AND/OR EQUIPMENT COVERED BY THIS SERVICE ORDER HAVE BEEN PERFORMED OR RECEIVED

Signature of Customer of Authorized Representative _____ Signature of Computalog Engineer _____