

ANNUAL REPORT

OF THE

NEW MEXICO OIL & GAS ENGINEERING COMMITTEE

HOBBS, NEW MEXICO

505—393-3411

VOLUME I-B

Southeast New Mexico

1991

	JAN	FEB	MAR	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC 1991	PROD	PP	ACCUM
MARALD INC.															
BUTLER SPRINGS UNIT															
IP 21SS29E OIL															
WAT	ZONE ABANDONED														
EDDY UND GROUP 4	7M TO 8M														
CINDCO, INC.															
DEBBIE															
111120S24E OIL	PLUGGING APPROVED 1990														
GAS															
WAT															
DAMSON OIL CORPORATION															
DJZIER FEDERAL COM															
IK1419S31E OIL	RECOMPLETED TO EDDY UND GROUP 4														
DINERO OPERATING CO.															
MCNUTT															
1L1224S28E OIL	ZONE ABANDONED														
GAS															
NORTHERN NATURAL GAS															
1B3225S29E OIL	LAST PROD. DATE 07/83														
COMPANY TOTAL OIL															
GAS															
WAT															
EXXON CORPORATION															
BLACKMORE ESTATE FEDERAL															
1J2923S29E OIL	LAST PROD. DATE 12/83														
DAVID FASKEN															
ARCO 3 FEDERAL															
IK 319S29E OIL	PLUGGING APPROVED 1975														
WAT															
HCM EXPLORATION INC.															
CO-FEDERAL															
1M2622S28E OIL	PLUGGING APPROVED 1984														
MANZANO OIL CORP.															
PBTC FEDERAL															
IL 718S31E OIL	ZONE ABANDONED														
GAS															
WAT															
WAYNE MOORE															
AZTEC STATE															
1H 226S27E OIL	PLUGGING APPROVED 1987														
WAT															
MWJ PRODUCING COMPANY															
MWJ STATE															
Y 1M3024S29E OIL	49	108	36	94	49	44	13	149	39	39	30	65	715P	10062	2308
GAS															
WAT															
WOOD AND LOCKER INC															
MOORE STATE															
1G2325S27E OIL	PLUGGING APPROVED 1989														
GAS															
WAT															
YATES PETROLEUM CORPORATION															
COTTON DRAW AJT FED.															
1E2324S31E OIL															
WAT															
ENG TX FEDERAL															
2M2619S24E OIL	RECOMPLETED TO DAGGER DRAW UPPER PENN NORTH														
GAS															
WAT															
HILL VIEW AHE FEDERAL COM															
1D1220S24E OIL	ZONE ABANDONED														
GAS															
WAT															
MEDANO VA STATE															
3F1620S31E OIL															
WAT															
3F1623S31E OIL															
GAS															
WAT															
LEASE TOTAL															
GAS															
WAT															
COMPANY TOTAL															
GAS															
WAT															
HARVEY E. YATES CO.															
POWER DEEP 32 STATE															
1L3217S31E OIL	PLUGGING APPROVED 1985														
GAS															
WAT															
LEA UND GROUP 4	7M TO 8M														
AMOCO PRODUCTION CO															
OUNN FEDERAL B															
2F 919S33E OIL	PLUGGING APPROVED 1987														
WAT															
MORRIS R. ANTHELL															
IKE															
II 520S38E OIL	RECOMPLETED TO MADINE BLINEBRY, WEST														
GAS															
WAT															
GULF OIL CORPORATION															
EUNICE CIMG															
1B22021S37E OIL	ZONE ABANDONED														
WAT															
JFG ENTERPRISES															
TOMTO STATE															
1J3219S33E OIL	ZONE ABANDONED														
TEXACO EXPLORATION & PRODUCTION INC.															
FEDERAL SAND 18															
1MI823S32E OIL															
CHAVES JND GROUP 4-A	7M TO 8M														
BHP PET. (AMERIGAS, INC.)															
PUFFER STATE #1															
1O24 8S27E OIL															
GAS															
FRED POOL DRLG. INC.															
MESQUITE TANK															
1M2911S29E OIL															
WAT															
EDDY UND GROUP 4-A	7M TO 8M														
COQUINA OIL CORPORATION															
WATKINS FED															
1E 419S27E OIL	PLUGGING APPROVED 1975														
SNRON OIL & GAS CO.															
OWEN MESA 26 FED. COM.															
1G224S29E OIL	531	570	378	320	332	334	264	310	363	435	586	349	4772P	17301	21932
GAS	105	109	121	113	115	109	117	117	74	121	117	94	1312	21932	32268
WAT	1266	1266	1003	869	869	814	867	945	799	1271	1040	833	11842	32268	32268
HARVEY E. YATES CO.															
ANADARKO FEDERAL															
V IK3521S24E OIL	PLUGGING APPROVED 1979														
WAT															



STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

GARREY CARRUTHERS
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

November 19, 1990

BHP Petroleum (Americas), Inc.
c/o James Bruce
500 Marquette, NW
Suite 800
Albuquerque, NM 87102-2121

Administrative Order NSL-2942

Dear Mr. Bruce:

Reference is made to your application on behalf of BHP Petroleum, Inc. dated October 5, 1990 for a non-standard gas well location to be drilled 660 feet from the North line and 990 feet from the West line (Unit D) of Section 24, Township 8 South, Range 27 East, NMPM, to test the Ordovician formation, Chaves County, New Mexico. The N/2 of said Section 24 shall be dedicated to the well forming a standard 320-acre gas spacing and proration unit.

By the authority granted me under the provisions of General Rule 104F(II) the above-described unorthodox gas well location is hereby approved.

Sincerely,

A handwritten signature in black ink, appearing to read "William J. LeMay".

William J. LeMay
Director

WJL/MES/ag

cc: Oil Conservation Division - Artesia

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RECEIVED

APR - 6 1992

O. C. D.
REG. OFFICE

1000 Rio Brazos Rd., Aztec, NM 87410

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Operator BHP Petroleum (Americas), Inc. ✓	Well API No. 30-005-62813
Address 5847 San Felipe, Ste. 3600 Houston, TX 77057	
Reason(s) for Filing (Check proper box) New Well ☐ Change in Transporter of: ☐ Other (Please explain) Recompletion ☐ Oil ☐ Dry Gas ☐ Well completed as dry gas well, Change in Operator ☐ Casinghead Gas ☐ Condensate ☒ recently started making 30 bbls. condensate per day.	

If change of operator give name
and address of previous operator

II. DESCRIPTION OF WELL AND LEASE

Lease Name Puffer State	Well No. 1	Pool Name, Including Formation Wildcat	Kind of Lease State, Puffer State	Lease No. V-2824
Location Unit Letter <u>D</u> : <u>660</u> Feet From The <u>North</u> Line and <u>990</u> Feet From The <u>West</u> Line Section <u>24</u> Township <u>8S</u> Range <u>27E</u> , NMPM, Chaves County				

III. DESIGNATION OF TRANSPORTER OF OIL AND NATURAL GAS

Name of Authorized Transporter of Oil ☐ or Condensate ☒ Western Oil Transportation Company	Address (Give address to which approved copy of this form is to be sent) 3514 Lovington Hwy. Hobbs, NM 88240					
Name of Authorized Transporter of Casinghead Gas ☐ or Dry Gas ☐ Enron Gas Marketing	Address (Give address to which approved copy of this form is to be sent) Box 1188 Houston, TX 77251-1188					
If well produces oil or liquids, give location of tanks.	Unit D	Sec. 24	Twp. 8S	Rge. 27E	Is gas actually connected? yes	When? 7/15/91

If this production is commingled with that from any other lease or pool, give commingling order number:

IV. COMPLETION DATA

Designate Type of Completion - (X)	Oil Well	Gas Well	New Well	Workover	Deepen	Plug Back	Same Res'v	Diff Res'v
		X						
Date Spudded 1/15/91	Date Compl. Ready to Prod. 3/5/91	Total Depth 6810'		P.B.T.D. 6600'				
Elevations (DF, RKB, RT, GR, etc.) 3940.3 GR	Name of Producing Formation Montoya	Top Oil/Gas Pay 6371'/6452'		Tubing Depth 6260'				
Perforations 6371-77', 6386-88', 6408-16', 6423-32, 6440-52'				Depth Casing Shoe 6809'				

TUBING, CASING AND CEMENTING RECORD

HOLE SIZE	CASING & TUBING SIZE	DEPTH SET	SACKS CEMENT
12-1/4"	24# 8-3/8"	1600'	1000SX
7-7/8"	15.5# 5-1/2"	6809'	400SX C
	2-7/8" tbg.	6260'	

V. TEST DATA AND REQUEST FOR ALLOWABLE

OIL WELL (Test must be after recovery of total volume of load oil and must be equal to or exceed top allowable for this depth or be for full 24 hours.)

Date First New Oil Run To Tank	Date of Test	Producing Method (Flow, pump, gas lift, etc.)	
Length of Test	Tubing Pressure	Casing Pressure	Choke Size
Actual Prod. During Test	Oil - Bbls.	Water - Bbls.	Gas- MCF

GAS WELL

Actual Prod. Test - MCF/D 4.3 MMCF/D	Length of Test 24	Bbls. Condensate/MMCF 30	Gravity of Condensate
Testing Method (prior, back pr.) Flowing	Tubing Pressure (Shut-in) 1800 psi.	Casing Pressure (Shut-in) 0	Choke Size variable

VI. OPERATOR CERTIFICATE OF COMPLIANCE

I hereby certify that the rules and regulations of the Oil Conservation
Division have been complied with and that the information given above
is true and complete to the best of my knowledge and belief.

Carl Kolbe

Signature

Printed Name

4/3/92

Date

Regulatory Affairs Coordinator

(713) 780-5301

Telephone No.

OIL CONSERVATION DIVISION

Date Approved APR 8 1992

By Mike Williams

Title SUPERVISOR, DISTRICT II

INSTRUCTIONS: This form is to be filed in compliance with Rule 1104

- 1) Request for allowable for newly drilled or deepened well must be accompanied by tabulation of deviation tests taken in accordance with Rule 111.
- 2) All sections of this form must be filled out for allowable on new and recompleted wells.
- 3) Fill out only Sections I, II, III, and VI for changes of operator, well name or number, transporter, or other such changes.
- 4) Separate Form C-104 must be filed for each pool in multiply completed wells.

Submit to Appropriate
District Office
State Lease - 6 copies
Fee Lease - 5 copies
DISTRICT I

P.O. Box 1980, Hobbs, NM 88240
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

OIL CONSERVATION DIVISION
State of New Mexico
Energy, Minerals and Natural Resources Department
RECEIVED
OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-105
Revised 1-1-89

WELL API NO. 30-005-62813
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No. V-2824

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL WELL ☐ GAS WELL ☒ DRY ☐ OTHER <u>RECEIVED</u>		7. Lease Name or Unit Agreement Name Puffer State
b. Type of Completion: NEW WELL ☒ WORK OVER ☐ DEEPEN ☐ PLUG BACK ☐ DIFF RESVR ☐ OTHER <u>JUL 9 8 1991</u>		
2. Name of Operator BHP Petroleum (Americas) Inc.		8. Well No. 1
3. Address of Operator 5847 San Felipe Suite 3600 Houston, TX 77057		9. Pool name or Wildcat Wildcat <i>Montoya</i>
4. Well Location Unit Letter <u>D</u> : <u>660</u> Feet From The <u>North</u> Line and <u>990</u> Feet From The <u>West</u> Line Section <u>24</u> Township <u>8S</u> Range <u>27E</u> NMPM Chaves County		
10. Date Spudded 1-15-91	11. Date T.D. Reached 2-7-91	12. Date Compl. (Ready to Prod.) 3-5-91
13. Elevations (DF& RKB, RT, GR, etc.) 3940.3 GR		14. Elev. Casinghead
15. Total Depth 6810'	16. Plug Back T.D. 6600'	17. If Multiple Compl. How Many Zones?
18. Intervals Drilled By Rotary Tools 0 to TD		Cable Tools
19. Producing Interval(s), of this completion - Top, Bottom, Name 6371', 6452', Montoya		20. Was Directional Survey Made No
21. Type Electric and Other Logs Run LDT/CNL, DLL/MSFL, BHC		22. Was Well Cored No

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB/FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8-3/8"	24#	1600'	12-1/4	1000 sx ,circ to surf	0
5-1/2"	15.5#	6809'	7-7/8	400 sx "C" + 75% D-127	0
				+ 0.4% D-65	

24. LINER RECORD					25. TUBING RECORD		
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2-7/8	6260	6260

26. Perforation record (interval, size, and number)				27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.			
6371-77	.33"	28 holes	6423-32 .33"	40 holes	DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED	
6386-88	.33	12 holes	6440-52 .33"	52 holes	None		
6392-6402	.33	44 holes					
6408-16	.33	36 holes					

28. PRODUCTION							
Date First Production 2-22-91		Production Method (Flowing, gas lift, pumping - Size and type pump) Flowing				Well Status (Prod. or Shut-in) Shut-in	
Date of Test 2-26-91	Hours Tested 4	Choke Size various	Prod'n For Test Period	Oil - Bbl. 0	Gas - MCF 438.91	Water - Bbl. 0	Gas - Oil Ratio -
Flow Tubing Press. various	Casing Pressure pkr	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)	

29. Disposition of Gas (Sold, used for fuel, vented, etc.) Vented	Test Witnessed By
--	-------------------

30. List Attachments

31. I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature Sam Brandon Printed Name Sam Brandon Title Sr. Engineer Date 7/3/91

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

T. Anhy _____	T. Canyon _____
T. Salt _____	T. Strawn _____
B. Salt _____	T. Atoka _____
T. Yates _____	T. Miss 6338
T. 7 Rivers _____	T. Devonian _____
T. Queen _____	T. Silurian _____
T. Grayburg _____	T. Montoya 6366
T. San Andres 1564	T. Simpson _____
T. Glorieta 2762	T. McKee _____
T. Paddock _____	T. Ellenburger _____
T. Blinebry _____	T. Gr. Wash 6700
T. Tubb 4161	T. Delaware Sand _____
T. Drinkard _____	T. Bone Springs _____
T. Abo 4878	T. _____
T. Wolfcamp 5550	T. _____
T. Penn 6088	T. _____
T. Cisco (Bough C) _____	T. _____

Northwestern New Mexico

T. Ojo Alamo _____	T. Penn. "B" _____
T. Kirtland-Fruitland _____	T. Penn. "C" _____
T. Pictured Cliffs _____	T. Penn. "D" _____
T. Cliff House _____	T. Leadville _____
T. Menefee _____	T. Madison _____
T. Point Lookout _____	T. Elbert _____
T. Mancos _____	T. McCracken _____
T. Gallup _____	T. Ignacio Otzte _____
Base Greenhorn _____	T. Granite _____
T. Dakota _____	T. _____
T. Morrison _____	T. _____
T. Todilto _____	T. _____
T. Entrada _____	T. _____
T. Wingate _____	T. _____
T. Chinle _____	T. _____
T. Permian _____	T. _____
T. Penn "A" _____	T. _____

OIL OR GAS SANDS OR ZONES

No. 1, from.....6371.....to.....6452.....
No. 2, from.....to.....
No. 3, from.....to.....
No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....
 No. 2, from.....to.....feet.....
 No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness in Feet	Lithology	From	To	Thickness in Feet	Lithology
Surf	1600	1600	Anhy, sand, lime				
1600	2715	1115	Dol, lime and anhy				
2715	4875	2160	Sand, lime and shale				
4875	5550	675	Sand, red shale				
5550	5950	400	Lime				
5950	6338	388	Lime, sand, shale				
6338	6700	362	Dolomite				
6700	6800	100	Granite				

OIL CONSERVATION DIVISION

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTP. O. BOX 2088
SANTA FE, NEW MEXICO 87501Form C-122
Revised 10-1-78

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

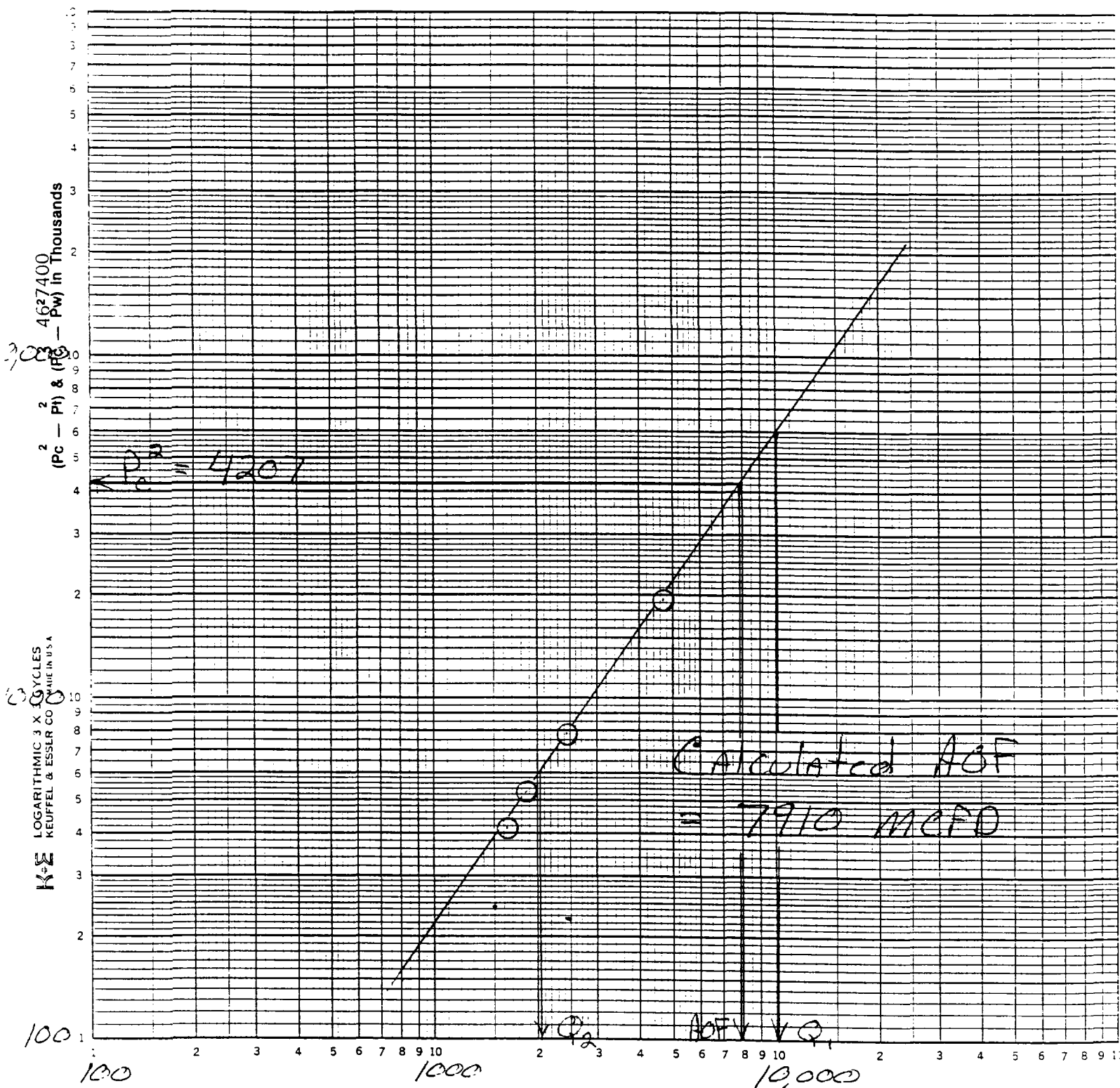
Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 2-26-91							
Company BHP PETROLEUM AMERICAS INC.				Connection FLARE							
Pool WILDCAT				Formation MONTOKA							
Completion Date 2-23-91		Total Depth 6810		Plug Back TD 6600							
				Elevation 3940							
Form or Lease Name PUFFER STATE											
Csg. Size 5.50		Wt. 15.5		Perforations From 6371 To 6452							
Thq. Size 2.875		Wt. 6.5		Perforations From - To -							
Type Well - Single - Drdthead - G.C. or G.O. Multiple SINGLE (GAS)				Packer Set At 6265							
Producing Thru TBG. (GAS)		Reservoir Temp. °F 128 @ 6412		Mean Annual Temp. °F 60.0							
				Baro. Press. - P _a 13.2							
L 6412		H 6412		G _g 0.660							
				% CO ₂ 1.70							
				% N ₂ 4.37							
				% H ₂ S 0.0							
				Prover 0							
				Meter Run 4.0							
				Taps FLG.							
FLOW DATA TUBING DATA BHP DATA											
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
51									2450	128	72.0
1.	4.00 x 1.500			520	26.0	72	0	0	2325	128	1.0
2.	4.00 x 1.500			520	34.0	72	0	0	2290	128	1.0
3.	4.00 x 1.500			520	58.0	68	0	0	2204	128	1.0
4.	4.00 x 2.000			520	61.0	62	0	0	1788	128	1.0
5.											
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mscf/d				
1	10.85	117.74	533.2	0.9887	1.2309	1.0458	1625				
2	10.85	134.64	533.2	0.9887	1.2309	1.0458	1858				
3	10.85	175.86	533.2	0.9924	1.2309	1.0471	2440				
4	19.83	180.35	533.2	0.9981	1.2309	1.0493	4611				
5											
NO.	R _t	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio _____ Mcl/bbl.						
1	0.80	532	1.47	0.914	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.						
2	0.80	532	1.47	0.914	Specific Gravity Separator Gas _____						
3	0.80	528	1.46	0.912	Specific Gravity Flowing Fluid _____						
4	0.80	522	1.44	0.908	Critical Pressure _____ P.S.I.A.						
5					Critical Temperature _____ R						
P _c 2051.0 P _c ² 4207											
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.1754$						
1	5468	1948	3794	412	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.7155$						
2	5303	1919	3681	525							
3	4916	1848	3417	790							
4	3243	1508	2273	1934	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 7910$						
5											
Absolute Open Flow _____ 7910 _____ Mscf @ 15.025					Angle of Slope @ _____ 55.2 _____		Slope, n _____ 0.694 _____				
Remarks: _____											
CHOKE SIZES 7.5/64 , 9/64 , 11/64 , 14.5/64											
Approved By Division		Conducted By: BENNETT-CATHEY		Calculated By: JIM SMITH		Checked By:					

C & W WIRELINE, INC. d/b/a BENNETT-CATHEY WELL TESTING

BACK PRESSURE CURVE

Operator BHP Petroleum Lease Puffer State Well No. #1
 County Chaves Field Wildest Location S24-T8S-R27E
 Date of Test 2-26-91 Slope "n" 0.694 Angle of Slope 55.2

Calc. Abs. Potential 7910 MCF/D



$$\Delta P_1^2 \quad P_c^2 - P_w^2 = 6000$$

$$\Delta P_2^2 \quad P_c^2 - P_w^2 = 600$$

$$Q_1 = 10,010$$

$$Q_2 = 2,025$$

$$\text{LOG } Q_1 = 4.000$$

$$\text{LOG } Q_2 = 3.306$$

$$n = 0.694$$



Laboratory Services

1331 Tasker Drive
Hobbs, New Mexico 88240

Telephone: (505) 397-3713

FOR: Bennett & Cathey
Attn. Monty Randolph
P.O. Box 787
Hobbs, New Mexico 88240

SAMPLE
IDENTIFICATION: Puffer St No. 1
COMPANY: BHP
LEASE:
PLANT:

SAMPLE DATA: DATE SAMPLED: 2/26/91 2:38PM GAS (XX) LIQUID ()
ANALYSIS DATE: 02-27-91 SAMPLED BY: Bennett & Cathey
PRESSURE - PSIG 520.00 ANALYSIS BY: Rolland Perry
SAMPLE TEMP. °F 51.00
ATMOS. TEMP. °F

REMARKS:

COMPONENT ANALYSIS

COMPONENT	MOL PERCENT	GPM	
Oxygen (O2)			
Hydrogen Sulfide (H2S)			
Nitrogen (N2)	4.37		
Carbon Dioxide (CO2)	1.70		
Methane (C1)	85.11		
Ethane (C2)	5.46	1.458	
Propane (C3)	1.86	0.512	
I-Butane (IC4)	0.28	0.091	
N-Butane (NC4)	0.54	0.169	
I-Pentane (IC5)	0.17	0.062	
N-Pentane (NC5)	0.17	0.061	
Hexane (C6)	0.34	0.139	
Heptanes Plus (C7+)	0.00	0.000	
	100.00	2.492	
BTU/CU.FT. - DRY	1059	MOLECULAR WT	19.0964
AT 14.650 DRY	1056		
AT 14.650 WET	1038	26# GASOLINE -	0.318
AT 15.025 DRY	1083		
AT 15.025 WET	1064		
SPECIFIC GRAVITY -			
CALCULATED	0.660		
MEASURED	0.000		

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OPERATOR	

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

DEC 10 '90

DEC 27 10 51

5A. Indicate Type of Lease STATE ☒ REC ☐
5. State Oil & Gas Lease No. V-2824
7. Unit Agreement Name --
8. Farm or Lease Name Puffer State
9. Well No. 1
10. Field and Pool, or Wildcat Wildcat <i>Ellenburger</i>
12. County Chaves
19. Proposed Depth 7000'
19A. Formation Ellenburger
20. Rotary or C.T. Rotary
21. Elevations (Show whether DF, KT, etc.) 3940.3 GL
21A. Kind & Status Plug. Bond Statewide
21B. Drilling Contractor Unknown
22. Approx. Date Work will start As Soon As Possible

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 ☐
2. Name of Operator BHP PETROLEUM (AMERICAS) INC. ✓
3. Address of Operator 1031 Andrews Hwy., Suite 420 Midland, Texas 79701-3805
4. Location of Well UNIT LETTER D LOCATED 660' FEET FROM THE North LINE AND 990' FEET FROM THE West LINE OF SEC. 24 TWP. 8S RGE. 27E NMPM
19. Proposed Depth 7000'
19A. Formation Ellenburger
20. Rotary or C.T. Rotary
21. Elevations (Show whether DF, KT, etc.) 3940.3 GL
21A. Kind & Status Plug. Bond Statewide
21B. Drilling Contractor Unknown
22. Approx. Date Work will start As Soon As Possible

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	8-5/8"	24.0# J-55	1200'± 4SC	635±	Circulate
7-7/8"	5-1/2"	15.5# J-55	6800'±	750±	3400'±

Propose to drill to about 7000' to test Ellenburger and intermediate formations.
The Montoya formation will be the prime objective.

If commercial production is indicated, the well will be completed in the deepest favorable formation, by cementing production casing, selectively perforating and stimulating. Run 2-7/8" tubing and test well.

See attached "Supplemental data".

The gas is not dedicated.

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. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed *Jerry W. Long* Title Permit Agent Date December 7, 1990
(This space for State Use)

APPROVED BY *Mark Williams* TITLE SUPERVISOR, DISTRICT II DATE DEC 14 1990
CONDITIONS OF APPROVAL, IF ANY:

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

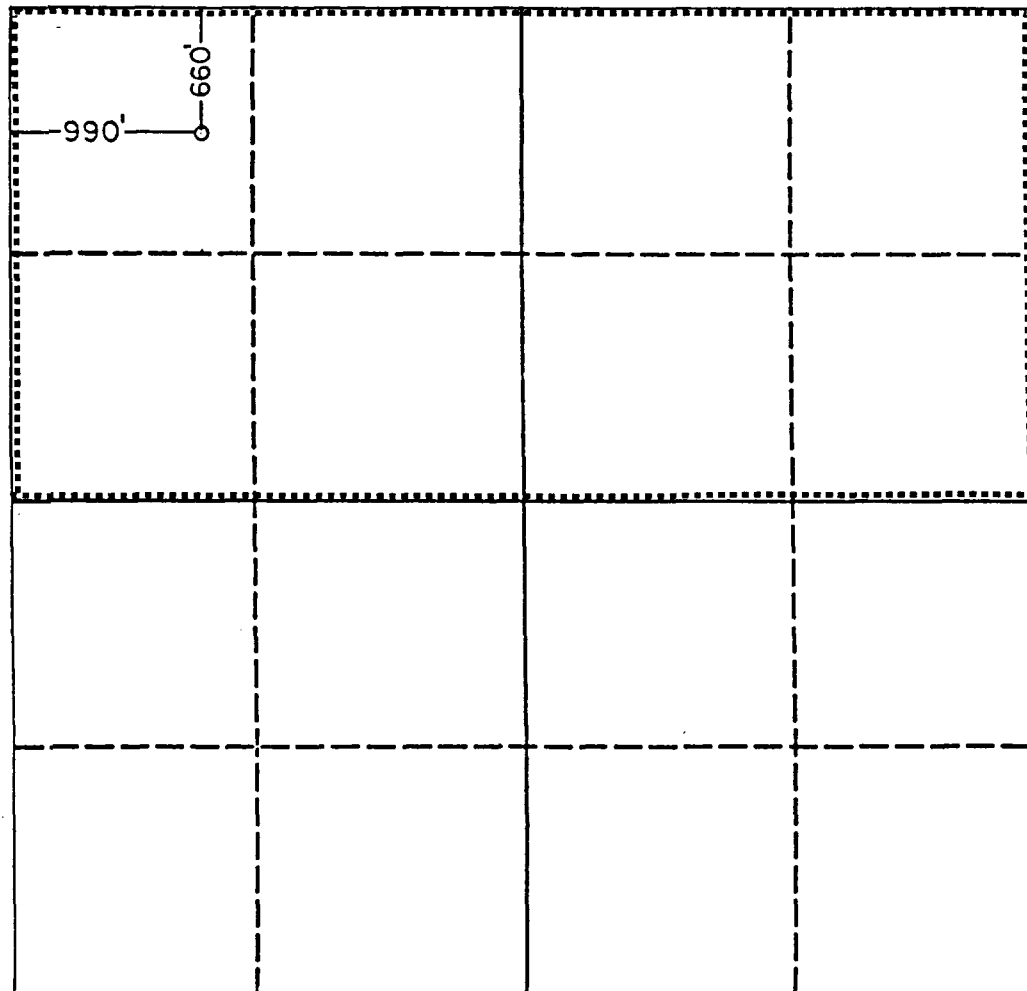
DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator BHP PETROLEUM (AMERICAS), INC.		Lease Puffer State		Well No. 1
Unit Letter D	Section 24	Township 8 South	Range 27 East	County Chaves
Actual Footage Location of Well: 660 feet from the North line and 990 feet from the West line				
Ground level Elev. 3940.3	Producing Formation Montoya	Pool Wildcat	Dedicated Acreage: 320 Acres	
1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. 2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). SINGLE LEASE 3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.? ☐ Yes ☐ No If answer is "yes" type of consolidation _____ If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____ No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.				



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Printed Name

JERRY W. LONG

Position

Permit Agent

Company

BHP PETROLEUM (AMERICAS) INC.

Date

December 7, 1990

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Signature & Seal of Professional Surveyor

Certificate No.

JOHN W. WEST, 676

RONALD J. EIDSON, 3239

3239

SUPPLEMENTAL DATA

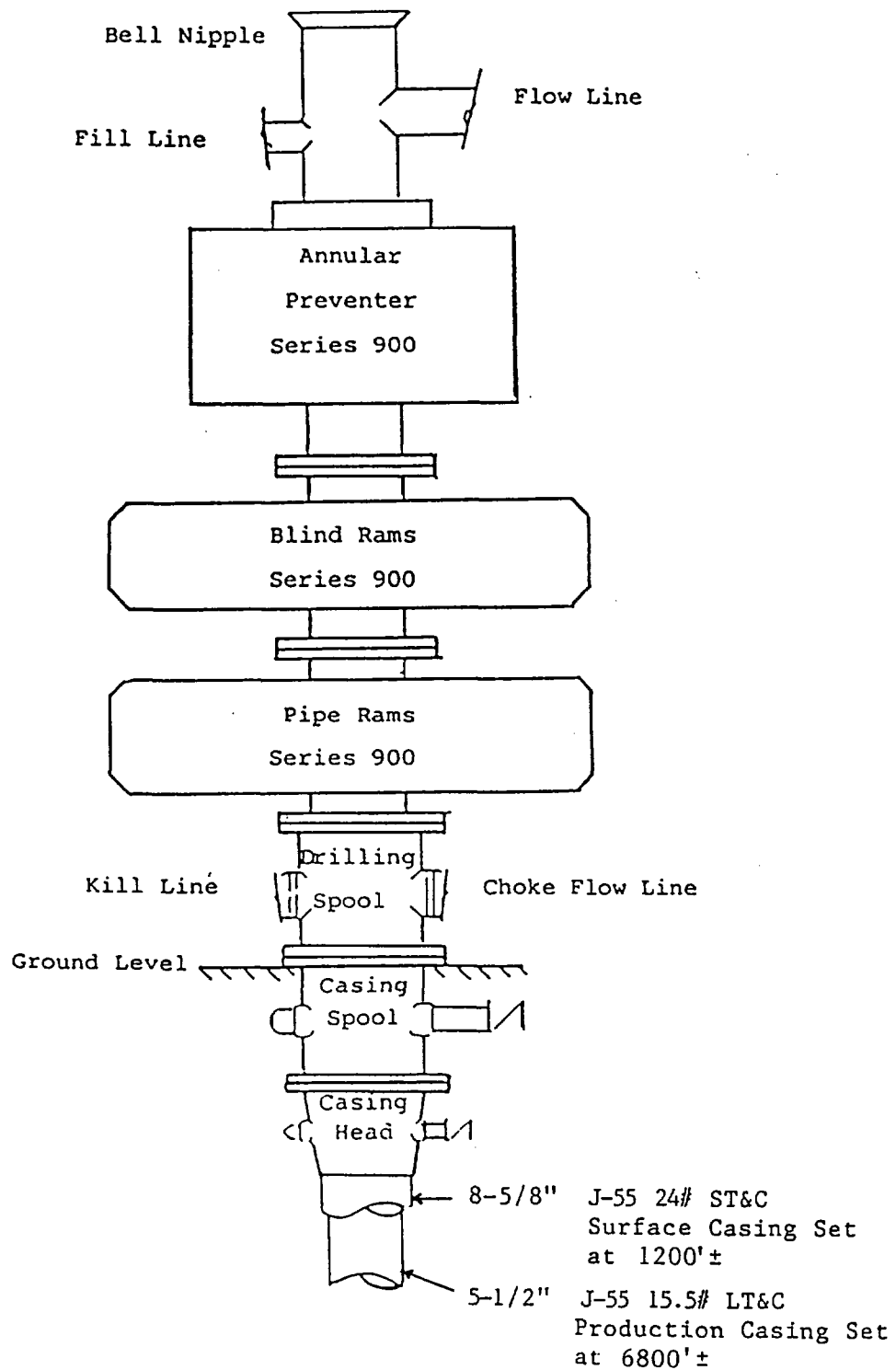
BHP PETROLEUM (AMERICAS) INC.
No.1 Puffer State
NWNW Sec.24-8S-27E
Chaves County, N.M.
State Lease V-2824

The following items supplement the information on Form C-101.

1. PRESSURE CONTROL EQUIPMENT: Pressure control equipment will include a 3000#WP blowout preventer stack with a Series 900 annular preventer and Series 900 blind and pipe rams. The BOP stack will include a kill line and choke manifold tested to 2000 psi. BOP hydraulic controls will be operated at least daily. Mud weight will be monitored to control bottom hole pressure. A kelly cock will be installed on the kelly joint and full opening safety valve will be available on the rig floor. A diagrammatic sketch of the BOP stack is attached.
2. SURFACE DAMAGES: The well and access road are located on State surface leased by L&L Cattle Company, Rt.1, Floyd, New Mexico 88118. A surface damage settlement will be negotiated with the surface lessee.
3. An Application for an unorthodox gas well location and N/2 dedication for a standard 320-acre gas spacing and proration unit has been approved by NSL-2942.
4. An Archaeological review by Eastern New Mexico University indicated that Cultural Resources will not be disturbed by the proposed drilling activity.

BHP PETROLEUM (AMERICAS) INC.
No.1 Puffer State
NWNW Sec.24-8S-27E
Chaves County, N.M.

State Lease V-2824



BLOWOUT PREVENTER STACK

3000#WP

Rams Operated Daily

WRS COMPLETION REPORTCOMPLETIONS SEC 24 TWP 8S RGE 27E
PI# 30-T-0001 09/13/91 30-005-62813-0000 PAGE 1NMEX CHAVES * 660FNL 990FWL SEC NW NW
STATE COUNTY FOOTAGE SPOT
BHP PET (AMERICAS) WD WDD
OPERATOR WELL CLASS INIT FIN1 PUFFER STATE
WELL NO. LEASE NAME
3952KB 3940GR UNNAMED
OPER ELEV FIELD/POOL/AREA
API 30-005-62813-0000LEASE NO. PERMIT OR WELL I.D. NO.
01/15/1991 02/26/1991 ROTARY VERT GAS
SPUD DATE COMP. DATE TYPE TOOL HOLE TYPE STATUS
7000 MONTOYA NORTON DRLG 2 RIG SUB 11
PROJ. DEPTH PROJ. FORM CONTRACTOR
DTD 6810 PB 6600 FM/TD GR WSH
DRILLERS T.D. LOG T.D. PLUG BACK TD OLD T.D. FORM T.D.**LOCATION DESCRIPTION**8 MI SW ELKINS, NM
1/4 MI SE/6327 (PSLV) GAS PROD IN PALMA MESA FLD**WELL IDENTIFICATION/CHANGES**LSE CHGD FROM PUSSEY STATE
PROJ FM CHGD FROM ELLENBURGER
FIELD CHGD FROM WILDCAT**CASING/LINER DATA**CSG 8 5/8 @ 1600 W/ 1000 SACKS
CSG 5 1/2 @ 6809 W/ 400 SACKS**TUBING DATA**

TBG 2 7/8 AT 6260

INITIAL POTENTIALIPF 2440 MCFD 11/64CK 1HRS
MONTOYA PERF W/ 212/IT 6371- 6452 GROSS
SITP 2450
@ 6412FT BHT 128F
1625MCFD TP 2325 BHFP 1948
9/64CK 1858MCFD TP 2290 BHFP 1919
11/64CK 2440MCFD TP 2204 BHFP 1848
4611MCFD TP 1788 BHFP 1508
BH 2051 FPCAOF 7910MCFD

CONTINUED IC# 300057007690

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Corporation**PI-WRS-GET
Form No 187

COMPLETIONS SEC 24 TWP 8S RGE 27E
 PI# 30-T-0001 09/13/91 30-005-62813-0000 PAGE 2

BHP PET (AMERICAS) WD WDD
 1 PUFFER STATE

INITIAL POTENTIAL

GOR DRY

GAS GTY .660
 P/L CON NONE
 FIELD

/RESERVOIR
 /MONTOKA

1ST PT TEST IN 60 MINS THRU 7.5/64 CK
 2ND & 3RD PT TEST IN 60 MINS
 4TH PT TEST IN 60 MINS THRU 14.5/64 CK

TYPE	FORMATION	LTH	TOP	DEPTH/SUB	BSE	DEPTH/SUB
LOG	SN ANDRS		1564	2388		
LOG	SN ADR L		2546	1406		
LOG	GLORIETA		2762	1190		
LOG	TUBB		4161	-209		
LOG	ABO		4878	-926		
LOG	WOLFCAMP		5550	-1598		
LOG	PENN LIM		6088	-2136		
LOG	MSSP		6338	-2386		
LOG	MONTOKA		6366	-2414		
LOG	GR WSH		6700	-2748		
SUBSEA MEASUREMENTS FROM KB						

PRODUCTION TEST DATA

PTS 28BW 1HRS
 ELLNBRGR PERF 6634- 6648 6652- 6656 6664- 6668 6672- 6676
 PERF 6684- 6688 6696- 6699
 BRPG @ 6600 6634- 6699

PTF 439 MCFD 4HRS
 MONTOKA PERF W/ 212/IT 6371- 6452 GROSS
 PERF 6371- 6377 6386- 6388 6392- 6402 6408- 6416
 PERF 6423- 6432 6440- 6452
 NATURAL

LOGS AND SURVEYS /INTERVAL,TYPE/

LOGS	GR	NEUT	DENL
LOGS	SONL	DLL	CBL
LOGS	LDT	CNL	MSFL

CONTINUED

COMPLETIONS SEC 24 TWP 8S RGE 27E
PI# 30-T-0001 09/13/91 30-005-62813-0000 PAGE 3

BHP PET (AMERICAS) WD WDD
1 PUFFER STATE

LOGS AND SURVEYS /INTERVAL,TYPE/

LOGS

BHC

DRILLING PROGRESS DETAILS

BHP PET (AMERICAS)
5847 SAN FELIPE STE 3600
HOUSTON, TX 77057
713-780-5005
12/18 LOC/1990/
01/15 DRLG 77
01/22 DRLG 2410
01/29 DRLG 5227
02/06 DRLG 6425
02/15 6810 TD, WOCT
02/20 6810 TD, WOCT
07/12 6810 TD, PB 6600, WOPT
08/29 6810 TD, PB 6600, WO STATE FORMS
08/29 ATTEMPTED TO RUN DST @ 6400, COULD NOT DUE TO
HOLE CONDITIONS
RIG REL 02/08/91
09/12 6810 TD, PB 6600
COMP 2/26/91, IPCAOF 7910 MCFGPD, GOR DRY,
GTY (GAS) .660, SIWHP 2450,
SIBHP 2051
PROD ZONE - MONTOYA 6371-6452
NO CORES OR DSTS RPTD
09/12 MONTOYA DISCOVERY - DEEPER POOL