Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

JAN 2004

5. Lease Serial No.
NMSF - 080424

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
VAN HOOK LS 1M

2. Name of Operator
BP AMERICA PRODUCTION COMPANY

Contact: MARY CORLEY
E-Mail: corleyml@bp.com

9. API Well No.
30-045-31895

3a. Address
P.O. BOX 3092
HOUSTON, TX 77079

3b. Phone No. (include area code)
Ph: 281.366.4491
Fx: 281.366.0700

10. Field and Pool, or Exploratory
BASIN DAKOTA/BLANCO MESAVERI

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*

Sec 27 T32N R11W NESW 1935FSL 1800FEL
36.57200 N Lat, 107.58500 W Lon

11. County or Parish, and State

SAN JUAN COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Original APD submitted on 09/15/2003 and approved on 11/13/2003.

BP America request permission to amend the surface location for the subject well as follows:
From: 1820' FSL & 2490' FWL Section 27 T32N R11W
To: 1935' FSL & 1800' FEL Section 27 T32N R11W

Additionally, it is our intent to directionally drill the well from the above stated surface location to BHL of 1880' ~~FWL~~ FSL & 2140' FEL Section 27 T32N R11W.

Attached in support of our request are amended drilling and completion program, amended cementing report, directional drilling plot and profile, amended Form C-102 and related surface location plats.

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #26608 verified by the BLM Well Information System
For BP AMERICA PRODUCTION COMPANY, sent to the Farmington

Name *(Printed/Typed)* MARY CORLEY — Title AUTHORIZED REPRESENTATIVE

Signature (Electronic Submission) — Date 01/07/2004

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By **Original Signed: Stephen Mason** — Title — Date JAN 22 2004

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

NMOCD

Cementing Program

Well Name:	Van Hook LS 1M	Field:	Blanco Mesaverde / Basin Dakota
Location:	27-32N-11W, 1935 FSL, 1800 FEL	API No.	
County:	San Juan	Well Flac	
State:	New Mexico	Formation:	Blanco Mesaverde/Basin Dakota
		KB Elev (est)	6374
		GL Elev. (est)	6360

Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)	Cmt Cir. Out (bbl.)
Surface	120	13.5	9.625	ST&C	Surface	NA	
Intermediate	3403	8.75	7	ST&C	Surface	NA	
Production -	7770	6.25	4.5	ST&C	3303	NA	

Casing Properties: (No Safety Factor Included)

Casing String	Size (in.)	Weight (lb/ft)	Grade	Burst (psi.)	Collapse (psi.)	Joint St. (1000 lbs.)	Capacity (bbl/ft.)	Drift (in.)
Surface	9.625	32	H-40	2270 ~~3370~~	1400	254	0.0787	8.845
Intermediate	7	20	K-55	3740	2270	234 ~~234~~	0.0405	6.456
Production -	4.5	11.6	J-55	5350	4960	154	0.0155	3.875

Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight
0 - SCP	Water/Spud	8.6-9.2
SCP - ICP	Water/LSND	8.6-9.2
ICP - ICP2	Gas/Air Mist	NA
ICP2 - TD	LSND	8.6 - 9.2

Recommended Mud Properties Prio Cementing:

PV	<20
YP	<10
Fluid Loss	<15

Cementing Program:

	Surface	Intermediate	Production
Excess %, Lead	100	75	40
Excess %, Tail	NA	0	40
BHST (est deg. F)	75	120	183
Special Instructions	1,6,7	1,6,8	2,4,6

1. Do not wash pumps and lines.
2. Wash pumps and lines.
3. Reverse out
4. Run Blend Test on Cement
5. Record Rate, Pressure, and Density on 3.5" disk
6. Confirm densitometer with pressurized mud scales
7. 1" cement to surface if cement is not circulated.
8. If cement is not circulated to surface, run temp. survey 10-12 hr. after landing plug.

Notes:

*Do not wash up on top of plug. Wash lines before displacing production cement job to minmize drillout.

Surface:

Preflush	20 bbl.	FreshWater	
Slurry 1	110 sx Class G Cement		117 cuft
TOC@Surface	+ 3% CaCl2 (accelerator)		
	+ 0.25 #/sk Cellophane Flake (lost circulation additive)		0.4887 cuft/ft OH

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	15.8	1.16	4.95

Casing Equipment:

9-5/8", 8R, ST&C
1 Guide Shoe
1 Top Wooden Plug
1 Autofill insert float valve
Centralizers, 1 per joint except top joint
1 Stop Ring
1 Thread Lock Compound

Intermediate:

Cementing Program

	Fresh Water	20 bbl	fresh water	
	Lead	290 sx	Class "G" Cement	753 cuft
	Slurry 1		+ 3% D79 extender	
	TOC@Surface		+1/4 #/sk. Cellophane Flake	
			+ 5 lb/sk Gilsonite	
	Tail	60 sx	50/50 Class "G"/Poz	75 cuft
	Slurry 2		+ 2% gel (extender)	
	500 ft fill		+1/4 #/sk. Cellophane Flake	0.1503 cuft/ft OH
			+ 2% CaCl2 (accelerator)	0.1746 cuft/ft csg ann
			+ 5 lb/sk Gilsonite	

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	11.4	2.63	15.8
Slurry 2	13.5	1.27	5.72

Casing Equipment: 7", 8R, ST&C

1 Float Shoe (autofill with minimal LCM in mud)
1 Float Collar (autofill with minimal LCM in mud)
1 Stop Ring
Centralizers one in middle of first joint, then every third collar
1 Top Rubber Plug
1 Thread Lock Compound

Production:

	Fresh Water	10 bbl	CW100	
	Lead	190	LiteCrete D961 / D124 / D154	472 cuft
	Slurry 1		+ 0.03 gps D47 antifoam	
	TOC, 400' above 7" shoe		+ 0.5% D112 fluid loss	
			+ 0.11% D65 TIC	
	Tail	160 sx	50/50 Class "G"/Poz	221 cuft
	Slurry 2		+ 5% D20 gel (extender)	
	1537 ft fill		+ 0.1% D46 antifoam	
			+ 1/4 #/sk. Cellophane Flake	
			+ 0.25% D167 Fluid Loss	
			+ 5 lb/sk Gilsonite	
			+0.1% d800, retarder	
			+0.15% D65, dispersant	
				0.1026 cuft/ft OH
				0.1169 cuft/ft csg ann
				Top of Mancos
				5733

Slurry Properties:	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	9.5	2.52	6.38
Slurry 2	13	1.44	6.5

Casing Equipment: 4-1/2", 8R, ST&C

1 Float Shoe (autofill with minimal LCM in mud)
1 Float Collar (autofill with minimal LCM in mud)
1 Stop Ring
Centralizers, every 4th joint in mud drilled holes, none in air drilled holes.
1 Top Rubber Plug
1 Thread Lock Compound

BP AMERICA PRODUCTION COMPANY
DRILLING AND COMPLETION PROGRAM

Prospect Name: **Van Hook LS**
Lease: Van Hook LS
Well No: **1M**
Surface Location: 27-32N-11W, 1935 FSL, 1800 FEL
Bottom Hole Loc.: 27-32N-11W, 1880 FSL, 2140 FEL
County: San Juan
State: New Mexico
Field: Blanco Mesaverde/Basin Dakota
Date: December 19, 2003

OBJECTIVE: Drill 210' below the top of the Upper Two Wells (DKOT), set 41/2" production casing, Stimulate CH, MF, PL and DK intervals

METHOD OF DRILLING

TYPE OF TOOLS	DEPTH OF DRILLING
Rotary	0 - TD

LOG PROGRAM

TYPE	DEPTH INVERAL
OPEN HOLE	
none	
CASED HOLE	
GR-CCL-TDT	TDT – TD to 7" shoe
CBL	Identify 4 ½" cement top

REMARKS:
- Please report any flares (magnitude & duration).

APPROXIMATE DEPTHS OF GEOLOGICAL MARKER

Estimated GL: 6360 Estimated KB: 6374

MARKER		TVD	MD
Ojo Alamo		2152	2162
Kirkland		2241	2252
Fruitland		2462	2474
Fruitland Coal	*	2681	2694
Pictured Cliffs	*	3110	3126
Lewis Shale	#	3285	3302
Cliff House	#	4621	4639
Menefee Shale	#	5019	5037
Point Lookout	#	5373	5391
Mancos		5715	5733
Greenhorn		7425	7443
Bentonite Marker		7475	7493
Two Wells	#	7542	7560
Paguate	#	7617	7635
Cubero Upper	#	7648	7666
Cubero Lower	#	7685	7703
TOTAL DEPTH		7752	7770

Probable completion interval * Possible Pay

SPECIAL TESTS

TYPE
None

REMARKS:

DRILL CUTTING SAMPLES

FREQUENCY	DEPTH
10'	3385'-TD

DRILLING TIME

FREQUENCY	DEPTH
Geolograph	0-TD

MUD PROGRAM:

Approx. Interval			Type Mud	Weight, #/ga	Vis, sec/qt	W/L cc's/30 min	Other Specification
0	- 120		Spud	8.6-9.2			
120	- 3403	(1)	Water/LSND	8.6-9.2		<6	
3403	- 7770		Gas/Air/N2/Mist	Volume sufficient to maintain a stable and clean wellbore			

REMARKS:
(1) The hole will require sweeps to keep unloaded while fresh water drilling. Let hole conditions dictate frequency.

CASING PROGRAM: (Normally, tubular goods allocation letter specifies casing sizes to be used. Hole sizes will be governed by Contract)

Casing String	Estimated Depth	Casing Size	Grade	Weight	Hole Size	Landing Pt, Cmt, Etc.
Surface/Conductor	120	9 5/8"	H-40 ST&C	32#	13.5"	1
Intermediate 1	3403	7"	J/K-55 ST&C	20#	8.75"	1,2
Production	7770	4 1/2"	J-55	11.6#	6.25"	3

REMARKS:
(1) Circulate Cement to Surface
(2) Set casing 100' into Lewis Shale
(3) Bring cement 100' above 7" shoe

CORING PROGRAM:
None

COMPLETION PROGRAM:
Rigless, 4-6 Stage Limited Entry Hydraulic Frac

GENERAL REMARKS:
Notify BLM/NMOCD 24 hours prior to Spud; BOP testing, and Casing and Cementing.

Form 46 Reviewed by: Logging program reviewed by: N/A

PREPARED BY:	APPROVED:	DATE:	
HGJ/MNP/JMP		December 19, 2003 Version 5.0	

BP America Production Company
BOP Pressure Testing Requirements

Well Name: **Van Hook LS** **1M**
County: **San Juan** **State:** **New Mexico**

Formation	TVD	Anticipated Bottom Hole Pressure	Maximum Anticipated Surface Pressure **
Ojo Alamo	2152		
Fruitland Coal	2681		
PC	3110		
Lewis Shale	3285		
Cliff House	4621	500	0
Menefee Shale	5019		
Point Lookout	5373	600	0
Mancos	5715		
Dakota	7542	2600	1002

** Note: Determined using the following formula: ABHP – (.22*TVD) = ASP

Requested BOP Pressure Test Exception: ~~750 psi~~ 1500 psi

Schlumberger

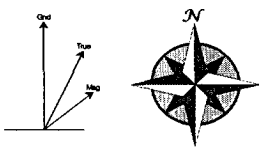
Rev 0 BP America Inc.

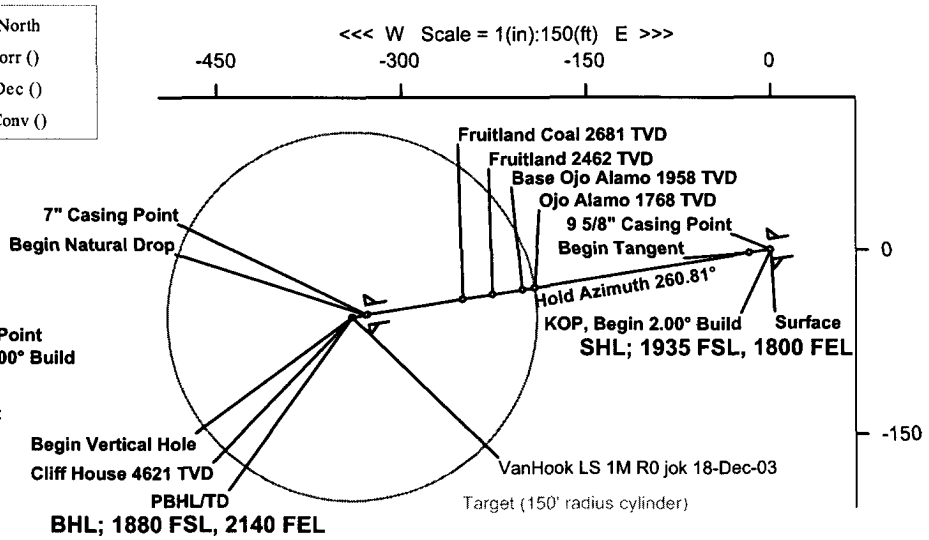
bp

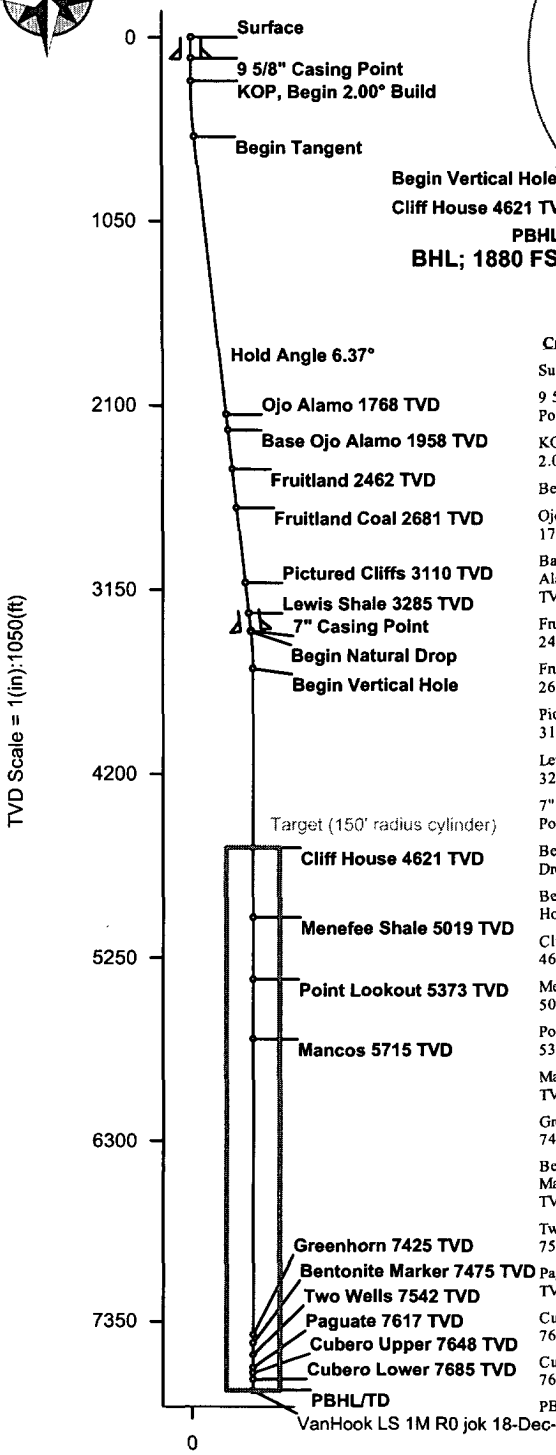
Well	Field	Structure
VanHook LS 1M	San Juan County, NM	BP 27-32N-11W

Quality Control
Date Drawn: Thu 02:23 PM December 18, 2003
Drawn by: Dana Crossland
Checked by: John O'Keefe
Client OK:

Grid North
Tot Corr ()
Mag Dec ()
Grid Conv ()







Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
Surface	0.00	0.00	260.81	0.00	0.00	0.00	0.00	0.00
9 5/8" Casing Point	120.00	0.00	260.81	120.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00° Build	250.00	0.00	260.81	250.00	0.00	0.00	0.00	0.00
Begin Tangent	568.37	6.37	260.81	567.72	17.67	-2.82	-17.45	2.00
Ojo Alamo 1768 TVD	2162.49	6.37	260.81	2152.00	194.47	-31.05	-191.97	0.00
Base Ojo Alamo 1958 TVD	2252.04	6.37	260.81	2241.00	204.40	-32.64	-201.77	0.00
Fruitland 2462 TVD	2474.41	6.37	260.81	2462.00	229.06	-36.58	-226.12	0.00
Fruitland Coal 2681 TVD	2694.77	6.37	260.81	2681.00	253.50	-40.48	-250.25	0.00
Pictured Cliffs 3110 TVD	3126.44	6.37	260.81	3110.00	301.37	-48.13	-297.50	0.00
Lewis Shale 3285 TVD	3302.52	6.37	260.81	3285.00	320.90	-51.24	-316.78	0.00
7" Casing Point	3403.14	6.37	260.81	3385.00	332.06	-53.03	-327.80	0.00
Begin Natural Drop	3408.36	6.37	260.81	3390.19	332.64	-53.12	-328.37	0.00
Begin Vertical Hole	3620.61	0.00	260.81	3602.00	344.42	-55.00	-340.00	3.00
Cliff House 4621 TVD	4639.61	0.00	260.81	4621.00	344.42	-55.00	-340.00	0.00
Menefee Shale 5019 TVD	5037.61	0.00	260.81	5019.00	344.42	-55.00	-340.00	0.00
Point Lookout 5373 TVD	5391.61	0.00	260.81	5373.00	344.42	-55.00	-340.00	0.00
Mancos 5715 TVD	5733.61	0.00	260.81	5715.00	344.42	-55.00	-340.00	0.00
Greenhorn 7425 TVD	7443.61	0.00	260.81	7425.00	344.42	-55.00	-340.00	0.00
Bentonite Marker 7475 TVD	7493.61	0.00	260.81	7475.00	344.42	-55.00	-340.00	0.00
Two Wells 7542 TVD	7560.61	0.00	260.81	7542.00	344.42	-55.00	-340.00	0.00
Paguate 7617 TVD	7635.61	0.00	260.81	7617.00	344.42	-55.00	-340.00	0.00
Cubero Upper 7648 TVD	7666.61	0.00	260.81	7648.00	344.42	-55.00	-340.00	0.00
Cubero Lower 7685 TVD	7703.61	0.00	260.81	7685.00	344.42	-55.00	-340.00	0.00
PBHL/TD	7770.61	0.00	260.81	7752.00	344.42	-55.00	-340.00	0.00

Vertical Section (ft) Azim = 260.81°, Scale = 1(in):1050(ft) Origin = 0 N/-S, 0 E/-W

Proposal Draft Only

District I
PO Box 1980, Hobbs NM 88241-1980
District II
PO Drawer KK, Artesia, NM 87211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
	71599 / 72319	BASIN DAKOTA / BLANCO MESAVERDE

4 Property Code	5 Property Name	6 Well Number
001199	Van Hook LS	# 1M

7 OGRID No.	8 Operator Name	9 Elevation
000778	BP AMERICA PRODUCTION COMPANY	6360

10 Surface Location

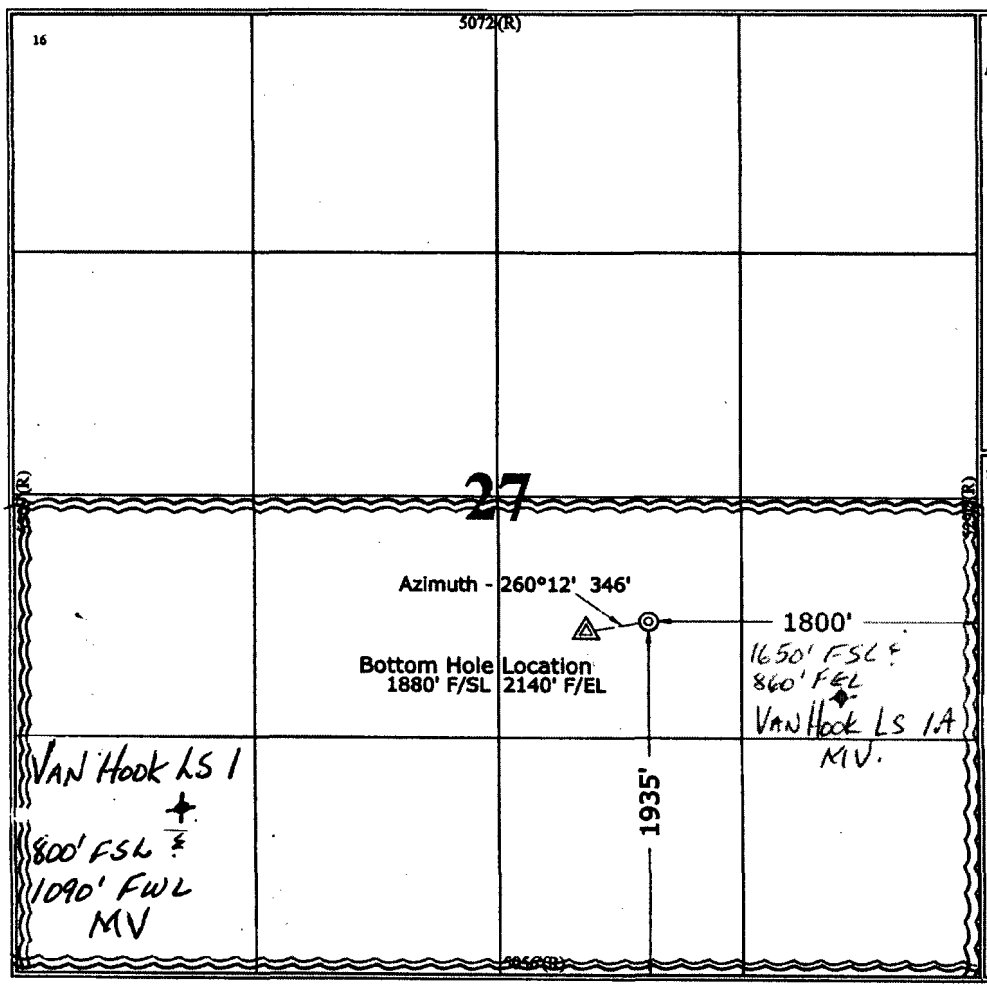
UL or Lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	27	32 N	11 W		1935	SOUTH	1800	EAST	SAN JUAN

11 Bottom Hole Location If Different From Surface

7 UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	27	32 N	11 W		1880	SOUTH	2140	EAST	SAN JUAN

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
320			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



17 OPERATOR CERTIFICATION

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

Mary Corley
Signature

Mary Corley
Printed Name

Sr Regulatory Analyst
Title

01-06-2004
Date

18 SURVEYOR CERTIFICATION

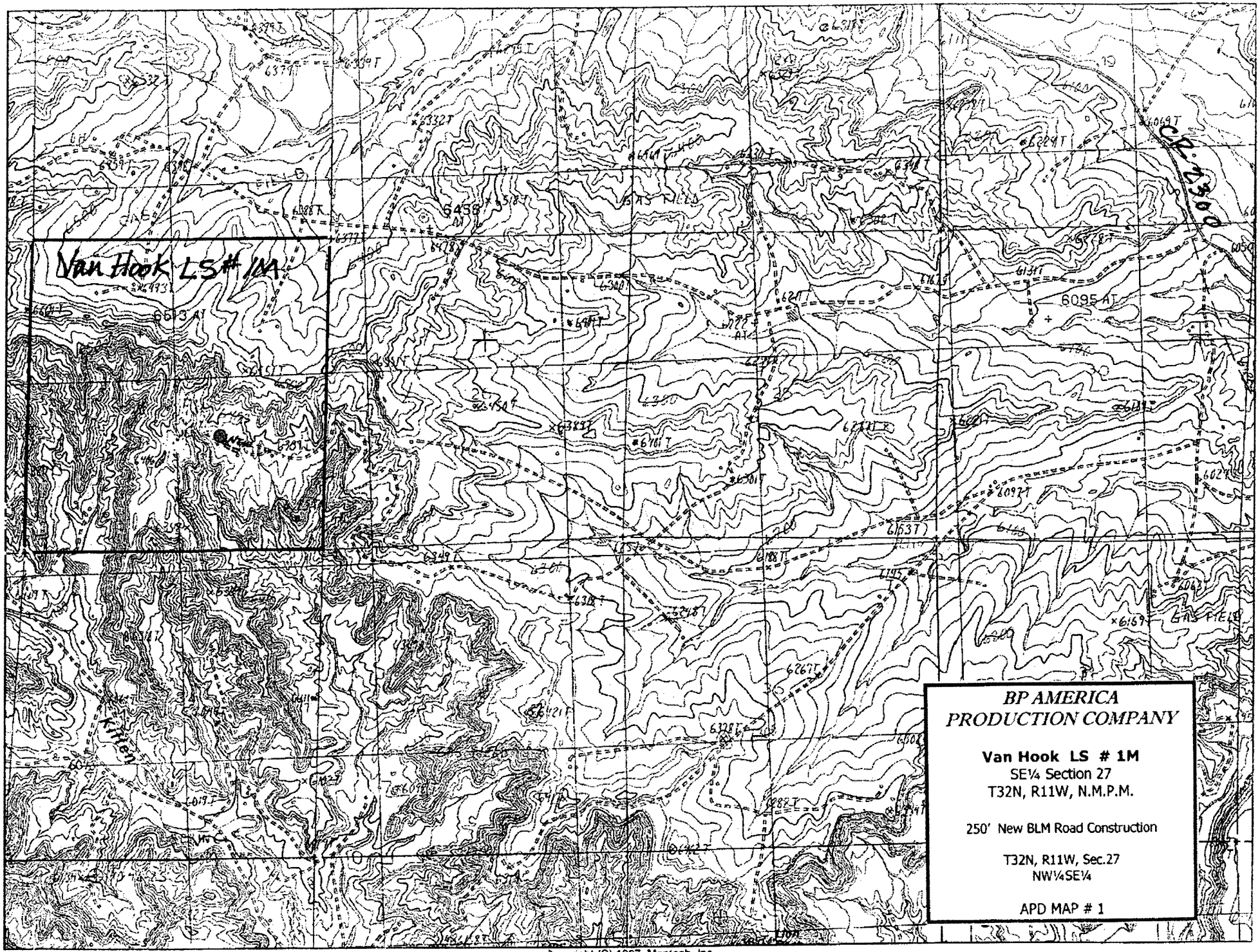
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Revised: December 3, 2003
August 26, 2003
Date of Survey

Signature and Seal of Professional Surveyor

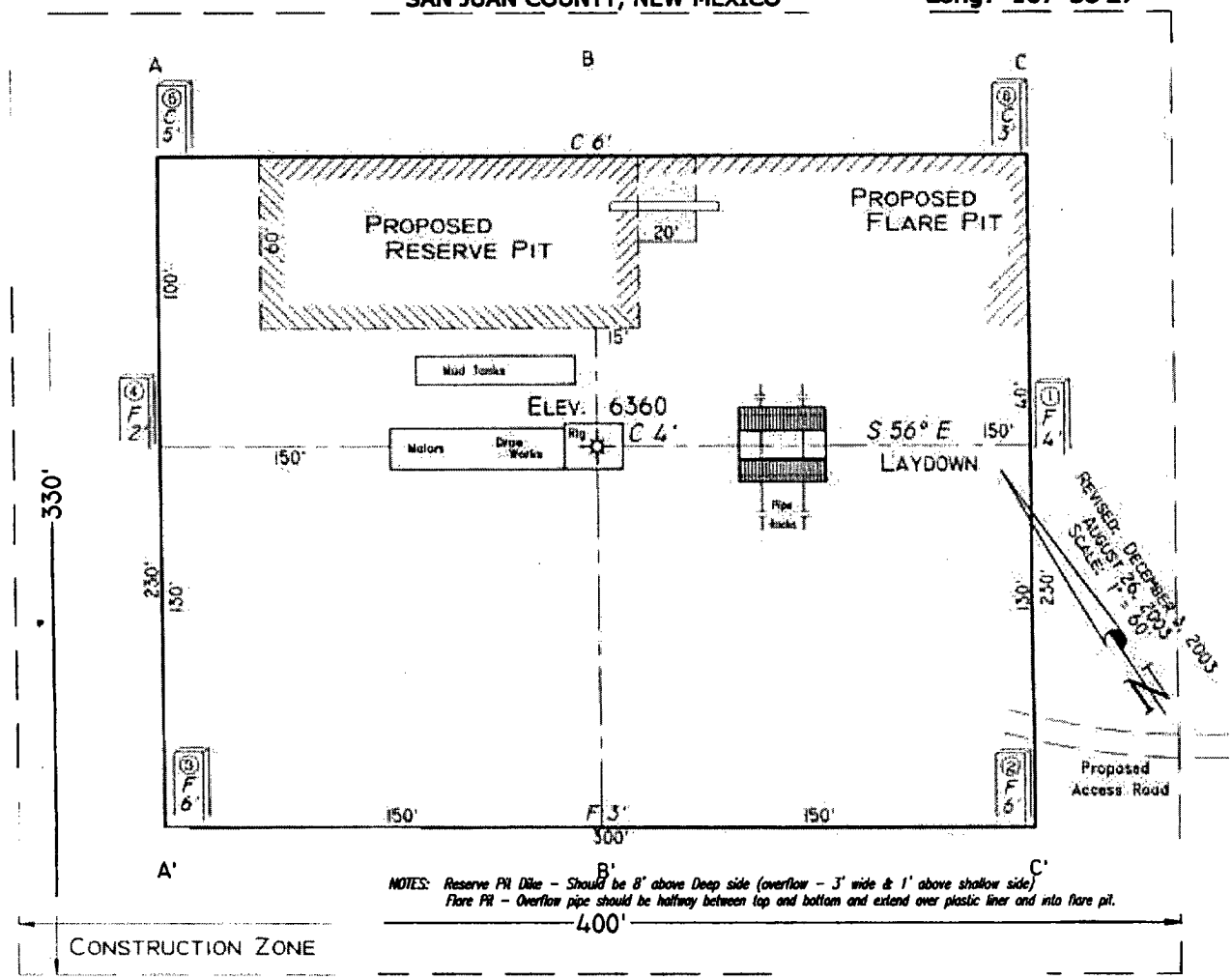
GARY D. VANN
NEW MEXICO
10276
REGISTERED PROFESSIONAL LAND SURVEYOR

7016
Certificate Number



PAD LAYOUT PLAN & PROFILE
BP AMERICA PRODUCTION COMPANY
Van Hook LS # 1M
1935' F/SL 1800' F/EL
SEC. 27, T32N, R11W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO

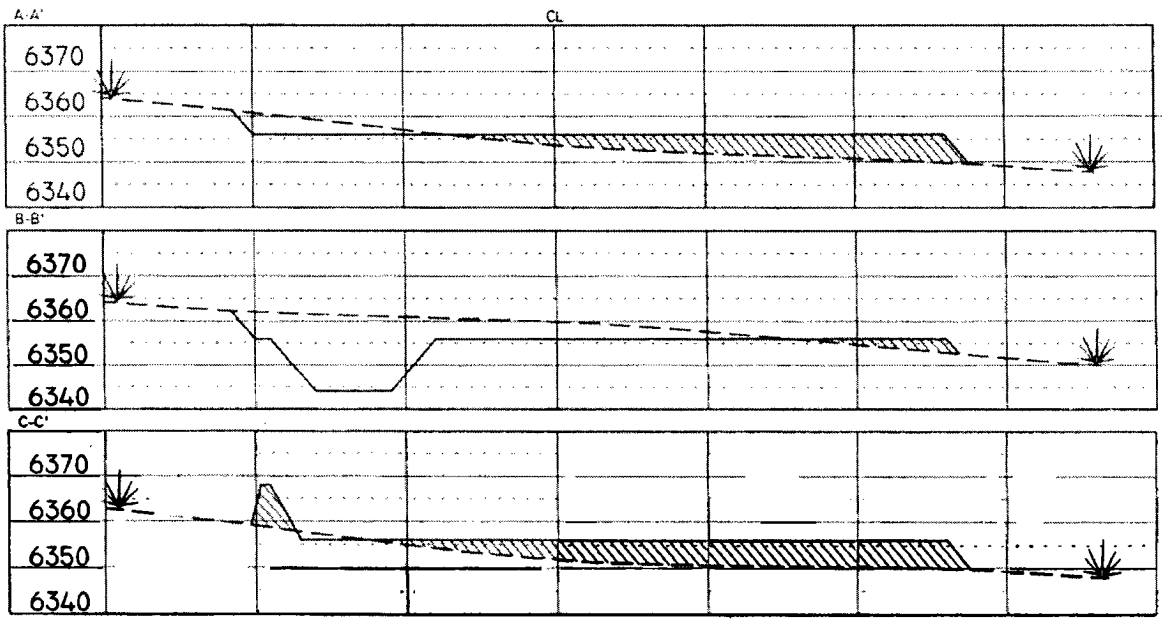
Lat: 36°57'14"
Long: 107°58'27"



NOTES: Reserve Pit Dike – Should be 8' above Deep side (overflow – 3' wide & 1' above shallow side)
Flare Pit – Overflow pipe should be halfway between top and bottom and extend over plastic liner and into flare pit.

Area of Construction Zone – 330'x400' or 3.03 acres, more or less.

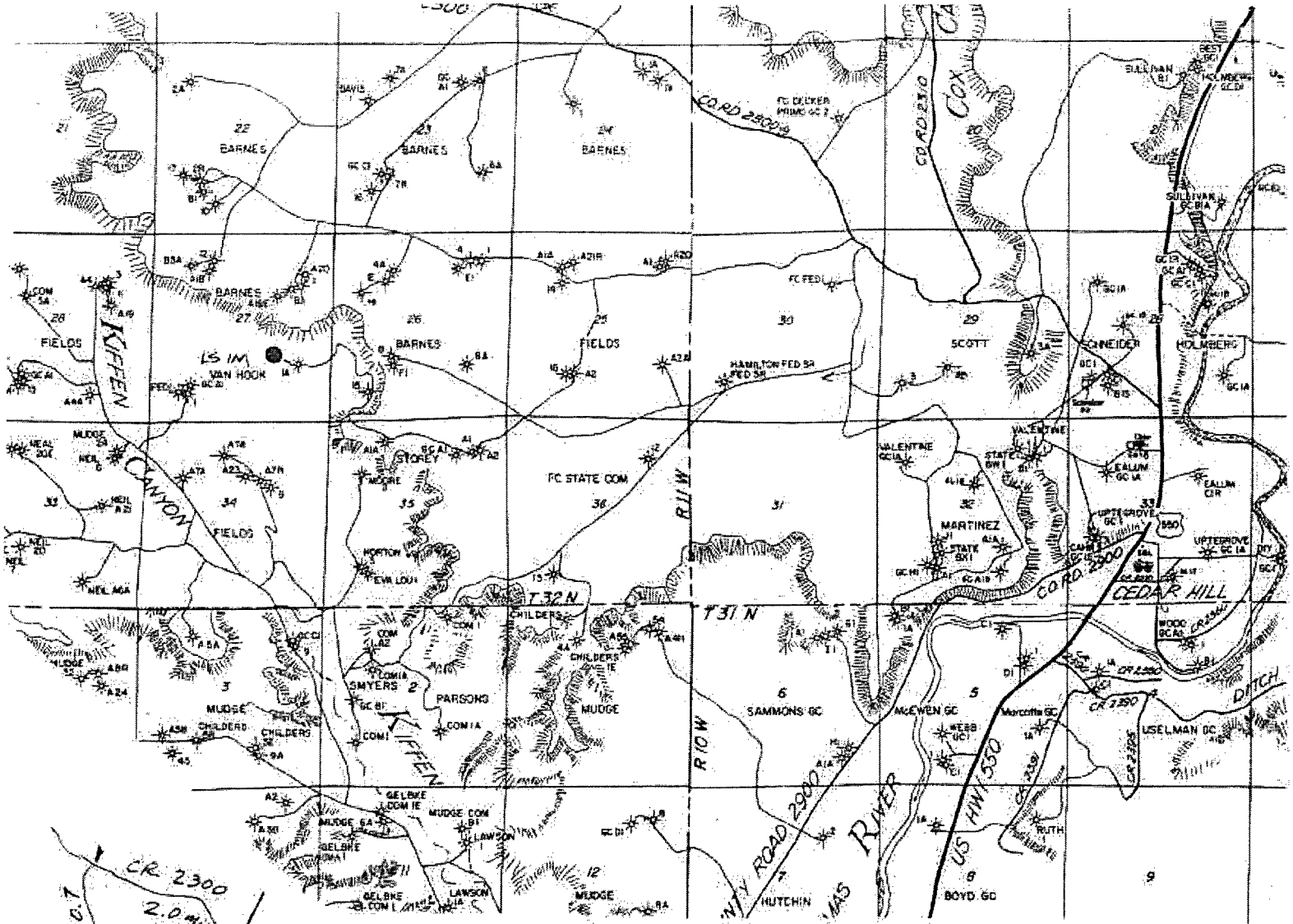
SCALE: 1"=60'-HORIZ.
1"=40'-VERT.

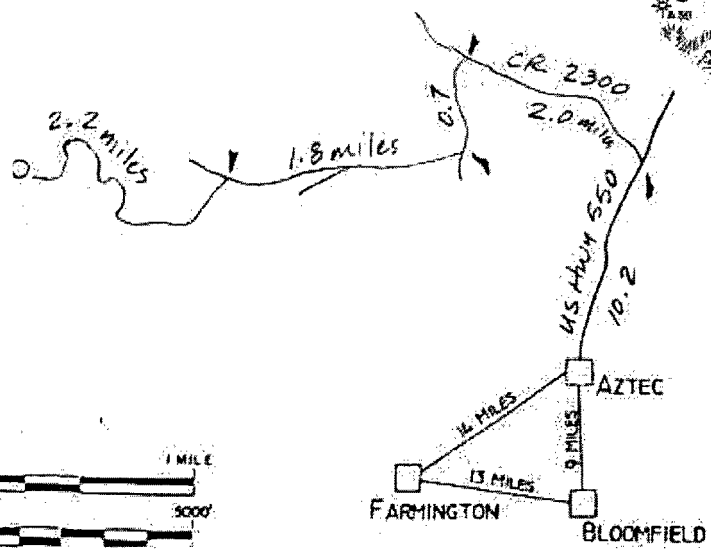


NOTE: Contractor should call One-Call for location of any marked or unmarked buried pipelines or cables on well pad and/or access road at least two (2) working days prior to construction.

Cuts and fills shown are approximate – final finished elevation is to be adjusted so earthwork will balance. Corner stakes are approximate and do not include additional areas needed for sideslopes and drainages. Final Pad Dimensions are to be verified by Contractor.

VANN SURVEYS
P. O. Box 1306
Farmington, NM





LAT: 36°57.2'
LONG: 107°58.5'
BP AMERICA PRODUCTION COMPANY
Van Hook LS # 1M
SE¼ Sec. 27, T32N, R11W, NMPM
RAIL POINT:
MUD POINT:
CEMENT POINT:

VanHook LS 1M R0 18-Dec-03 Proposal

Report Date:	December 18, 2003	**Survey / DLS Computation Method:**	Minimum Curvature / Lubinski
Client:	BP America Inc.	**Vertical Section Azimuth:**	260.810°
Field:	NM, San Juan County (NAD 83 WZ)	**Vertical Section Origin:**	N 0.000 ft, E 0.000 ft
Structure / Slot:	BP 27-32N-11W (VanHook LS 1M) No Certified Plat / VanHook LS 1M	**TVD Reference Datum:**	RKB
Well:	VanHook LS 1M	**TVD Reference Elevation:**	6374.0 ft relative to MSL
Borehole:	Original Hole	**Sea Bed / Ground Level Elevation:**	6360.000 ft relative to MSL
UWI/API#:		**Magnetic Declination:**	
Survey Name / Date:	VanHook LS 1M R0 jok 18-Dec-03 / December 18, 2003	**Total Field Strength:**	
Tort / AHD / DDI / ERD ratio:		**Magnetic Dip:**	
Grid Coordinate System:		**Declination Date:**	
Location Lat/Long:		**Magnetic Declination Model:**	
Location Grid N/E Y/X:		**North Reference:**	
Grid Convergence Angle:		**Total Corr Mag North -> Grid North:**	
Grid Scale Factor:		**Local Coordinates Referenced To:**	

Comments	Measured Depth (ft)	Inclination (deg)	Azimuth (deg)	TVD (ft)	Vertical Section (ft)	NS (ft)	EW (ft)	Closure (ft)	Closure Azimuth (deg)	DLS (deg/100 ft)	Tool Face (deg)
Surface	0.00	0.00	260.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-99.19M
9 5/8" Casing Point	*120.00*	*0.00*	*260.81*	*120.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*-99.19M*
KOP, Begin 2.00°Build	250.00	0.00	260.81	250.00	0.00	0.00	0.00	0.00	0.00	0.00	-99.19M
	300.00	1.00	260.81	300.00	0.44	-0.07	-0.43	0.44	260.81	2.00	-99.19M
	400.00	3.00	260.81	399.93	3.93	-0.63	-3.88	3.93	260.81	2.00	-99.19M
	500.00	5.00	260.81	499.68	10.90	-1.74	-10.76	10.90	260.81	2.00	-99.19M
Begin Tangent	568.37	6.37	260.81	567.72	17.67	-2.82	-17.45	17.67	260.81	2.00	0.00G
Ojo Alamo 1768 TVD	*2162.49*	*6.37*	*260.81*	*2152.00*	*194.47*	*-31.05*	*-191.97*	*194.47*	*260.81*	*0.00*	*0.00G*
Base Ojo Alamo 1958 TVD	*2252.04*	*6.37*	*260.81*	*2241.00*	*204.40*	*-32.64*	*-201.77*	*204.40*	*260.81*	*0.00*	*0.00G*
Fruitland 2462 TVD	*2474.41*	*6.37*	*260.81*	*2462.00*	*229.06*	*-36.58*	*-226.12*	*229.06*	*260.81*	*0.00*	*0.00G*
Fruitland Coal 2681 TVD	*2694.77*	*6.37*	*260.81*	*2681.00*	*253.50*	*-40.48*	*-250.25*	*253.50*	*260.81*	*0.00*	*0.00G*
Pictured Cliffs 3110 TVD	*3126.44*	*6.37*	*260.81*	*3110.00*	*301.37*	*-48.13*	*-297.50*	*301.37*	*260.81*	*0.00*	*0.00G*
Lewis Shale 3285 TVD	*3302.52*	*6.37*	*260.81*	*3285.00*	*320.90*	*-51.24*	*-316.78*	*320.90*	*260.81*	*0.00*	*0.00G*
7" Casing Point	*3403.14*	*6.37*	*260.81*	*3385.00*	*332.06*	*-53.03*	*-327.80*	*332.06*	*260.81*	*0.00*	*0.00G*
Begin Natural Drop	3408.36	6.37	260.81	3390.19	332.64	-53.12	-328.37	332.64	260.81	0.00	180.00G
	3500.00	3.62	260.81	3481.47	340.61	-54.39	-336.24	340.61	260.81	3.00	-99.19M
	3600.00	0.62	260.81	3581.39	344.31	-54.98	-339.89	344.31	260.81	3.00	-99.19M
Begin Vertical Hole	3620.61	0.00	260.81	3602.00	344.42	-55.00	-340.00	344.42	260.81	3.00	-99.19M
Cliff House 4621 TVD	*4639.61*	*0.00*	*260.81*	*4621.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
	4640.61	0.00	260.81	4622.00	344.42	-55.00	-340.00	344.42	260.81	0.00	-99.19M
Menefee Shale 5019 TVD	*5037.61*	*0.00*	*260.81*	*5019.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Point Lookout 5373 TVD	*5391.61*	*0.00*	*260.81*	*5373.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Mancos 5715 TVD	*5733.61*	*0.00*	*260.81*	*5715.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Greenhorn 7425 TVD	*7443.61*	*0.00*	*260.81*	*7425.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Bentonite Marker 7475 TVD	*7493.61*	*0.00*	*260.81*	*7475.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Two Wells 7542 TVD	*7560.61*	*0.00*	*260.81*	*7542.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Paguate 7617 TVD	*7635.61*	*0.00*	*260.81*	*7617.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Cubero Upper 7648 TVD	*7666.61*	*0.00*	*260.81*	*7648.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
Cubero Lower 7685 TVD	*7703.61*	*0.00*	*260.81*	*7685.00*	*344.42*	*-55.00*	*-340.00*	*344.42*	*260.81*	*0.00*	*-99.19M*
PBHL/TD	7770.61	0.00	260.81	7752.00	344.42	-55.00	-340.00	344.42	260.81	0.00	0.00M

Survey Type: Raw Proposal

Survey Error Model: **SLB ISCWSA version 16 *** 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (ft)	MD To (ft)	EOU Freq	Survey Tool Type
0.00	7770.61	1/100.00 ft	SLB_MWD-STD