

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy Minerals and Natural Resources

Oil Conservation Division  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Form C-101  
Revised March 17, 1999

Submit to appropriate District Office  
State Lease - 6 Copies  
Fee Lease - 5 Copies

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address <b>Permian Resources, Inc.</b>		<sup>2</sup> OGRID Number <b>25797</b>
		<sup>3</sup> API Number <b>30 - 025-35596</b>
<sup>3</sup> Property Code <b>25993</b>	<sup>5</sup> Property Name <b>Hilburn</b>	<sup>6</sup> Well No. <b>3</b>

<sup>7</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	13	16S	35E		510	North	250	West	Lea

<sup>8</sup> Proposed Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	13	16S	35E		990	North	3300	West	Lea

<sup>9</sup> Proposed Pool North Shoe Bar (Strawn)	<sup>10</sup> Proposed Pool 2 North Shoe Bar (Wolfcamp)
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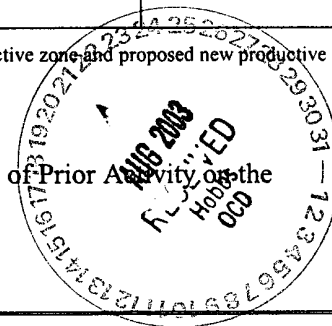
<sup>11</sup> Work Type Code D	<sup>12</sup> Well Type Code O	<sup>13</sup> Cable/Rotary R	<sup>14</sup> Lease Type Code P	<sup>15</sup> Ground Level Elevation 3968
<sup>16</sup> Multiple N	<sup>17</sup> Proposed Depth 11,500	<sup>18</sup> Formation Strawn	<sup>19</sup> Contractor Tmbr Sharp	<sup>20</sup> Spud Date 08/09/2003

<sup>21</sup> Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
17 1/2	13 3/8	48	450	450	Surface
11	8 5/8	24 & 32	4800	1050	Surface
7 7/8	5 1/2	17	11250	850	+4000

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

Please find attached C-102, Re-entry Proposal to Drill 3<sup>rd</sup> BHL and a C-103 with Recap of Prior Activity on the Hilburn No. 3.



<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Barbara Watson*

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Printed name: Barbara Watson

Title: Operations

Date: 08-18-2003

Phone: 915/685-0113

OIL CONSERVATION DIVISION

Approved by: *Paul J. [Signature]*

Title:

Approval Date: **SEP 15 2003**

Conditions of Approval:

Attached ☐

Expiration Date:

PETROLEUM ENGINEER

DISTRICT I  
1625 N. French Dr., Hobbs, NM 88240

State of New Mexico  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 15, 2000  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88211-0719

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

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87505

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-35595	Pool Code 56270	Pool Name NORTH SHOE BAR (STRAWN)
Property Code 25993	Property Name HILBURN	Well Number 3
OGRID No. 25797	Operator Name PERMIAN RESOURCES, INC.	Elevation 3969

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	13	16 S	35 E		510	NORTH	250	WEST	LEA

Bottom Hole Location If Different From Surface

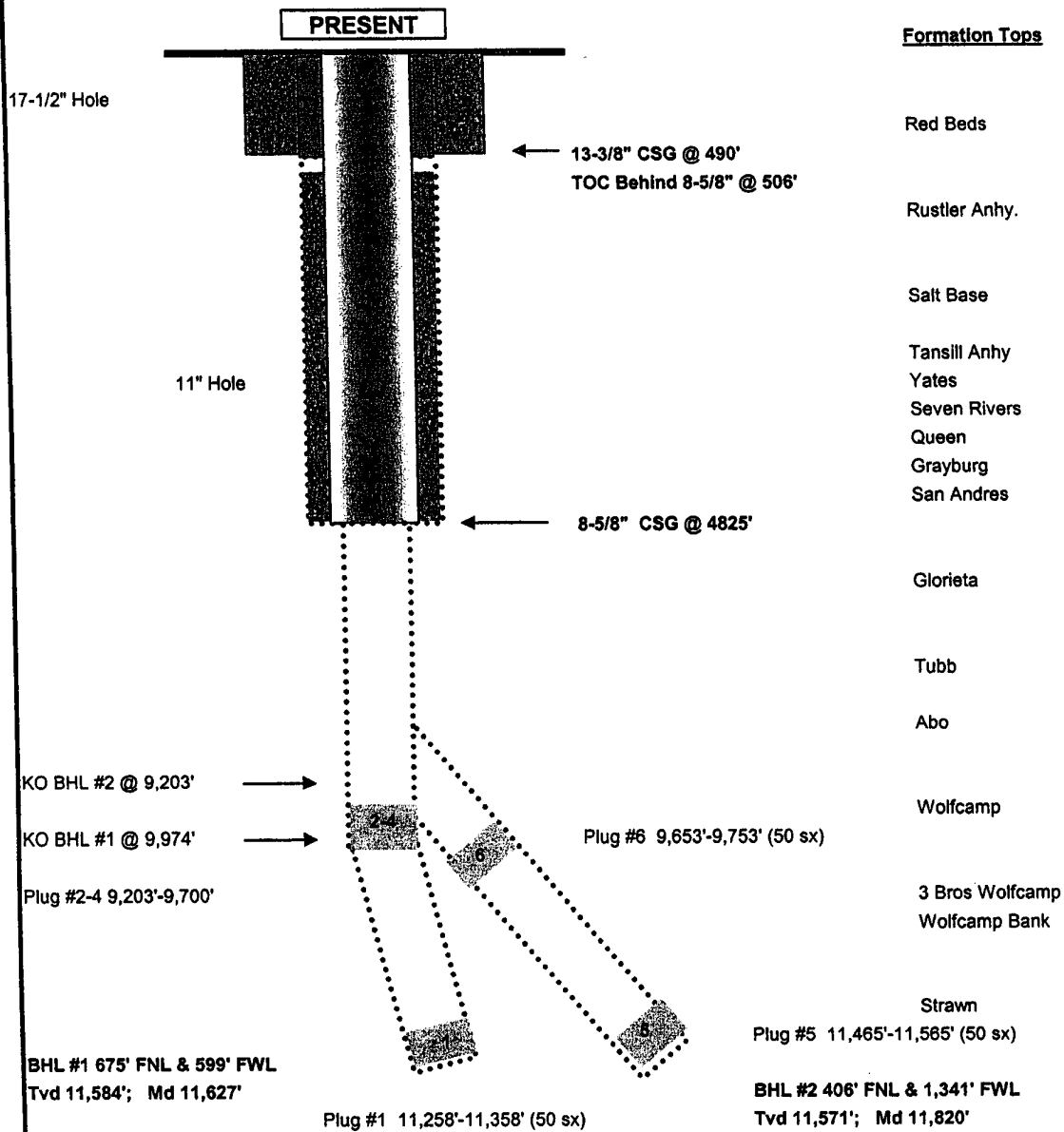
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	13	16 S	35 E		990	NORTH	330	WEST	LEA
Dedicated Acres 158.3	Joint or Infill	Consolidation Code	Order No.						

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

<p>(Bottom Hole Location) Plane Coordinate X = 781,844.2 Y = 702,549.6</p> <p>#3 (Surface Location) Plane Coordinate X = 780,749.9 Y = 702,445.4</p> <p>(New Bottom Hole Location) Plane Coordinate X = 780,833.9 Y = 701,966.6</p> <p>(Bottom Hole Location) Plane Coordinate X = 781,098.7 Y = 702,280.8</p> <p>Project Area 158.3 Acres NW/4 Section 13, T-16-S, R-35-E</p>	<p>Aug 20 2003 Hobbs, NM</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p> Signature Michael Stewart Printed Name Agent Title August 20, 2003 Date</p>
<p>NOTE: 1) Plane Coordinates shown hereon are Transverse Mercator Grid and Conform to the "New Mexico Coordinate System", New Mexico East Zone, North American Datum of 1927. Distances shown hereon are mean horizontal surface values.</p>	<p>Aug 20 2003 Hobbs, NM</p>	<p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p>August 20, 2003 Date Surveyed Signature &amp; Seal of Professional Surveyor LVA Num. 2001-1037-S Certificate No. MACON McDONALD 12185</p>

**PERMIAN RESOURCES, INC.  
WELLBORE DIAGRAM**

WELL NAME:	Hilburn No. 3			FIELD:	North Shoe Bar (Strawn)		
LOCATION:	510' FNL & 250' FWL, Sec 13, T-16-S, R-35-E			COUNTY:	Lea	STATE:	New Mexico
ELEVATION:	GL = 3968'; KB = 3987 (19' KB Corr)			SPUD DATE:	11/19/01	COMP DATE:	1/14/02
API#	30-025-35596-00-00			PREPARED BY:	M. Stewart		
	DEPTH	HOLE SIZE	SIZE	WEIGHT	GRADE	THREAD	TOC
CASING:	490	17-1/2"	13-3/8"	48 #	H-40	ST&C	Surface
CASING:	4825	11"	8-5/8"	32 #	N-80 & J-55	LT&C	506' TS
CASING:							
TUBING:							
TUBING:							



# FENNIAN RESOURCES

Structure : Hilburn #3

Slot : slot #1

Field : Red Hills

Location : LEA COUNTY, NEW MEXICO

**BAKER  
HUGHES**

**INTEQ**

## WELL PROFILE DATA

Point	MD	Inc	Dir	TVD	North	East	V. Sect	Deg/100
KOP	9100.00	0.58	177.45	9098.78	-3.37	52.39	11.94	0.00
End of Build/Turn	9552.02	11.88	176.68	9547.40	-52.27	55.19	60.63	2.50
T.D. & Target	11633.20	11.88	176.68	11584.00	-480.00	80.00	486.62	0.00

### STRUCTURE SET-UP REFERENCE

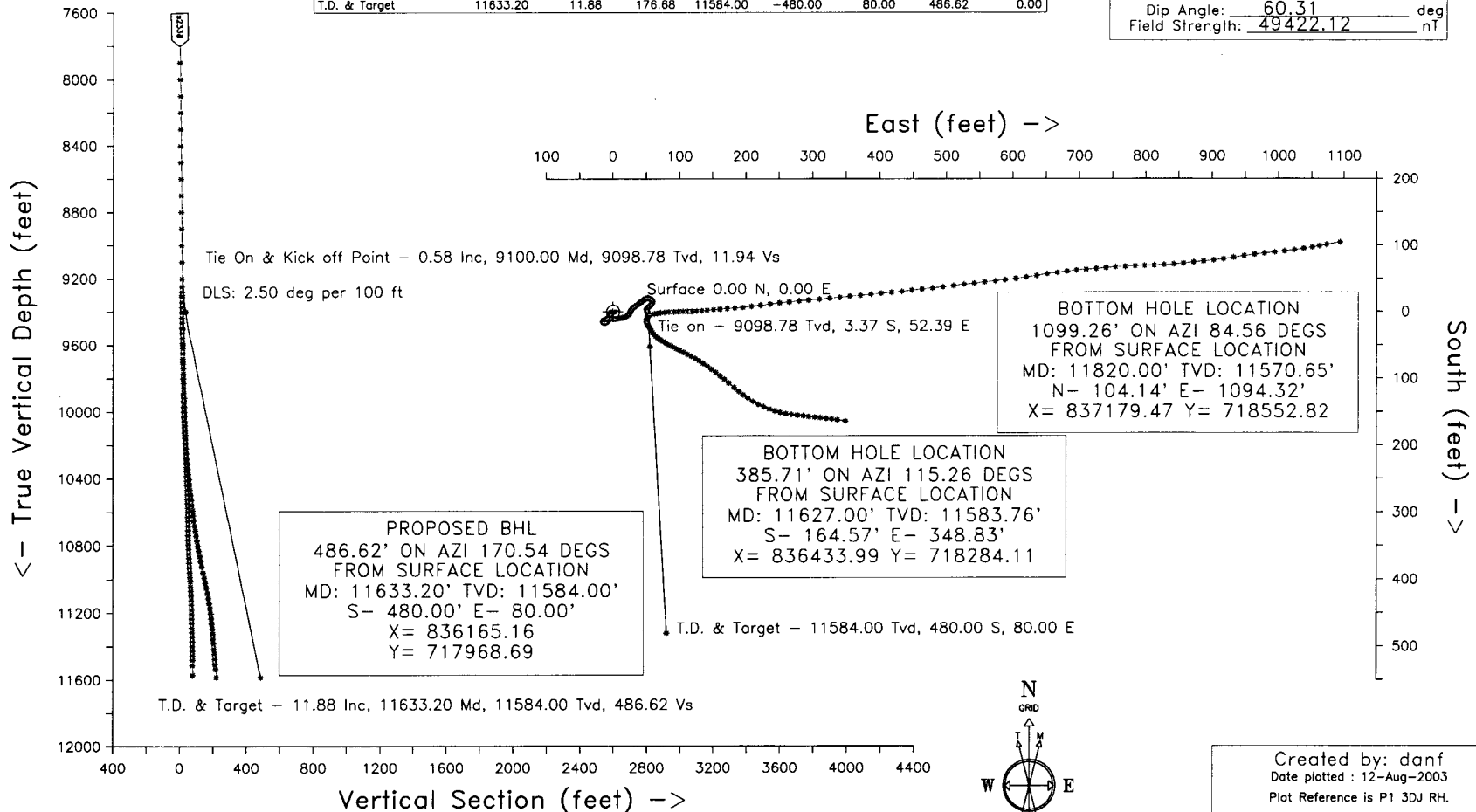
LAT : 32 58 13.000 N  
LONG: 103 14 15.000 W  
X= 836085.155 Y= 718448.687

PROJECTION: MERCATOR

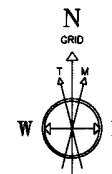
Mercator Zone: New Mexico East  
Spheroid Used: Clarke - 1866

Data Source: BGGM

Dip Angle: 60.31 deg  
Field Strength: 49422.12 nT



Azimuth 170.54 with reference 0.00 N, 0.00 E from slot #1



12-Aug-2003 (source: BGGM)  
Magnetic North is 8.47 degrees East of True North  
GRID North is 0.45 degrees East of True North  
To correct azimuth from True to GRID subtract 0.45 deg

Created by: danf  
Date plotted : 12-Aug-2003  
Plot Reference is P1 3DJ RH.  
Coordinates are in feet reference slot #1.  
True Vertical Depths are reference rotary table.  
hillrdpp

## Hilburn No. 3 Re-Entry Proposal drill to 3<sup>rd</sup> BHL

Proposal to Re-enter previously TA'd wellbore and directionally drill to the Strawn formation at the following locations:

Surface Location:	510' FNL & 250' FWL, Section 13, T16S, R35E
Strawn Entry Point @ 11,285' TVD	
Bottom Hole Location	990' FNL & 330' FWL, Section 13, T16S, R35E @ 11,633' MD, 11,584' TVD.

Propose following:

- 1 MIRU WSU. RIH w/ 2-3/8" tbg and tag existing TOC plug @ 9,653'. Circulate hole with mud and spot 200 sx Class "C" KO plug w/ 9/10% Halad-322 from 9,653' to 9,050'. RD WSU.
- 2 MIRU TMBR / Sharp Rig # 23. NU 5000# double ram & Hydril annular BOP. PU 7-7/8" bit w/ motor and directional tools. KO cement plug @ 9,050' and directionally drill 7-7/8" hole to test Strawn formation. Proposed TD @ 11,633' MD, 11,584' TVD at a BHL of 990' FNL & 330' FWL, Section 13, T16S, R35E, Lea County, NM. Anticipated Strawn entry point @ 11,285' TVD.
- 3 Potential DST's in Wolfcamp formation (10,500') and Strawn formation. Open-hole log and evaluate.
- 4 If productive hydrocarbons are encountered, run  $\pm$  11,633' of 5-1/2", 17 #/ft, N-80 and P110 casing. DV tool @  $\pm$  9400'. Cement 1<sup>st</sup> stage with  $\pm$  350 sx Class Super "H" + 200 sx Premium Plus cement to circulate DV tool. Cement 2<sup>nd</sup> stage with  $\pm$  510 sx Interfill "H" + 150 sx Premium Plus cement sufficient to bring cement to  $\pm$  4,000' inside existing 8-5/8" casing. Total 1,210 sx cement. RD TMBR/Sharp Rig # 23.
- 5 Complete as Strawn producing well pending NMOCD hearing for unorthodox (non-standard) well location in North Shoe Bar (Strawn) pool or as orthodox (standard) well location in North Shoe Bar (Strawn) pool should Permian be successful in obtaining revised field rules for 80 acre proration units with 330' well spacing from outer boundary consistent with off-setting Strawn pool field rules.

Hilburn No. 3  
C-103

Below is a recap of prior activity on the Hilburn No. 3 for clarification purposes:

Originally Permitted Location

Surface Location: 510' FNL & 250' FWL, Section 13, T16S, R35E

Strawn Entry Point @ 11332' MD 660' FNL & 510' FWL, Section 13, T16S, R35E

End of Lateral BHL: 1980' FNL & 1980' FWL, Section 13, T16S, R35E

- 11/19/01 MIRU TMBR / Sharp Rig # 23. Spudded 17-1/2" hole @ 1:30 AM. Drilled to 490'. Ran 490' of 13-3/8", 54.5 #/ft, H-40, casing. Cemented with 510 sx Class "C" + 2% CaCl & 1/4 #/sx celloflake. Circulated 55 sx to pit.
- 11/30/01 Drilled 11" hole to 4825'. Ran and set 4825' of 8-5/8" (16 jts, 702' 32 #/ft, N-80 and 92 jts, 4126' 32 #/ft, J-55) casing. Cemented with 1400 sx 35/65 Poz "C" + 6% gel, 5% salt & 1/4 #/sx celloflake plus 250 sx Class "C". Total 1650 sx. TOC by TS @ 506'.
- 12/20/01 Reached TD @ 11,627' MD, 11, 584' TVD at BHL 675' FNL & 599' FWL. Encountered Strawn formation top @ 11,358' MD, 11,324' TVD at a BHL 664' FNL & 518' FWL. Ran Dual Induction / MSFL, Z-Density / CNL / GR. Strawn porosity deemed non-productive. **Plugged back to KO and drill to alternative BHL.** Mix & spot 50 sx Class "H" plug w/ 2/10% R-3 from 11,358' to 11,258'. Mix and spot 270 sx Class "H" plug w/ 9/10% D31 from 9,700' to 9,200'. Plan to KO and drill to alternative BHL encountering Strawn @ 11,506' MD, 11,269' TVD at 420' FNL & 1,296' FWL.
- 1/7/02 Reached TD @ 11,820' MD, 11, 571' TVD at BHL 406' FNL & 1,344' FWL. Encountered Strawn formation top @ 11,601' MD, 11,370' TVD at a BHL 419' FNL & 1,259' FWL. Ran Dual Induction / MSFL, Z-Density / CNL / GR. Strawn porosity deemed non-productive. **Proposed to plug back to TA and evaluate for alternative BHL.**
- 1/12/02 Mix & spot 50 sx Class "H" plug from 11,565' to 11,465'. Mix and spot 50 sx Class "H" plug from 9,753' to 9,653'.
- 1/13/02 ND BOP & RD TMBR / Sharp Rig # 23. Install capping flange on wellhead.