District I
1625 N French Dr , Hobbs, NM 88240
Phone (575) 393-6161 Fax (575) 393-0720
District II
811 S First St , Artesia, NM 88210
Phone (575) 748-1283 Fax (575) 848-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone (505) 334-6178 Fax (505) 334-6170
District IV
1220 S St Francis Dr , Santa Fe, NM 87505
Phone (505) 476-3460 Fax (505) 476-3462

HOBBS OCD

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RECEIVED

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 August 1, 2011

Permit

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

[1] Operator Name and Address	[2] OGRID Number
CHEVRON U S A INC 15 SMITH ROAD MIDLAND, TEXAS 79705	4323
	[3] API Number 30-025-03104 30-025-03104

[4] Property Code	[5] Property Name	[6] Well No
30005	~~NEW MEXICO~~ STATE "AN"	4

[7] Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
H	7	18-S	35-E		1650	NORTH	990	EAST	LEA

[8] Pool Information

VACUUM BLINEBRY 61850	

Additional Well Information

[9] Work Type	[10] Well Type	[11] Cable/Rotary	[12] Lease Type	[13] Ground Level Elevation
RE-ENTRY	OIL		STATE	3964'
[14] Multiple	**[15] Proposed Depth**	**[16] Formation**	**[17] Contractor**	**[18] Spud Date**
NO	9001'	BLINEBRY		

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water

[19] Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
			NO CHANGE			

Permit Expires 2 Years From Approval Date Unless Drilling Underway

Casing/Cement Program: Additional Comments

Re-Entry

Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer

I hereby certify that the information given above is true and complete to the best of my knowledge and belief
I further certify that the drilling pit will be constructed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Denise Pinkerton

Printed name DENISE PINKERTON

Title: REGULATORY SPECIALIST

E-mail Address leakejd@chevron.com

Date 08-04-2011 Phone 432-687-7375

OIL CONSERVATION DIVISION

Approved By

Title PETROLEUM ENGINEER

Approved Date AUG 09 2011 Expiration Date

Conditions of Approval Attached

AUG 0 9 2011

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State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

HOBBS OCD
AUG 05 2011
RECEIVED

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-03104	61850	VACUUM; BLINEBRY

[4] Property Code	[5] Property Name	[6] Well Number
30005	~~NEW MEXICO~~ STATE "AN"	4

[7] OGRID No.	[8] Operator Name	[9] Elevation
4323	CHEVRON U.S.A. INC.	3964'

[10] Surface Location

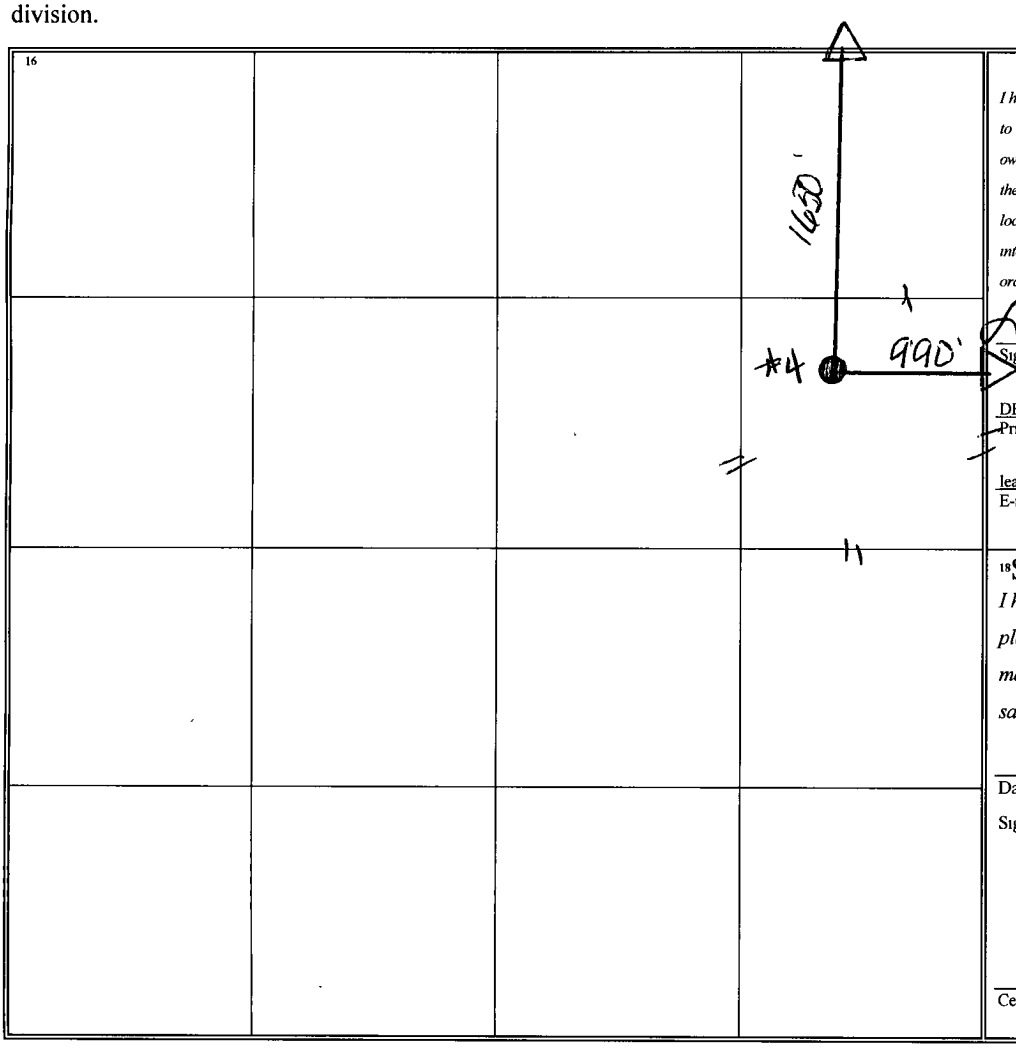
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	7	18-S	35-E		1650	NORTH	990	EAST	LEA

[11] 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

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
40			

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, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division

Denise Pinkerton 08-04-2011
Signature Date

DENISE PINKERTON REGULATORY SPECIALIST
Printed Name

leakejd@chevron com
E-mail Address

[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.

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number

~~New Mexico~~ State "AN" No. 4

API No. 30-025-03104

Workover Procedure

Well History:

Records indicate that TD was 9032'. Casing was set @ 9031'. According to the NMOCD records, "ran 2143' of 5-1/2" 17# casing and 6888' of 5-1/2" 15.5# casing".

RIGLESS

1. Thoroughly review the detailed P&A well bore diagram.
2. Call 1-800-DIG-TESS 48 hours before work begins. Fill out all excavation and hot work permits prior to starting work.
3. Dig out well at the surface until competent casing is found & set appropriate size shoring can. If depth of dig is greater than or equal to 15', D&C drilling superintendant approval is required.
4. Install 8-5/8" X 13-3/8" outlet and plate & plumb 2" riser to surface.
5. Weld stub on 5-1/2" casing to bring up to surface.
6. Weld stub on 8-5/8" casing to bring up to surface.
7. Weld on 8-5/8" starting head.
8. Install 5-1/2" X 8-5/8" packoff and tubing head.

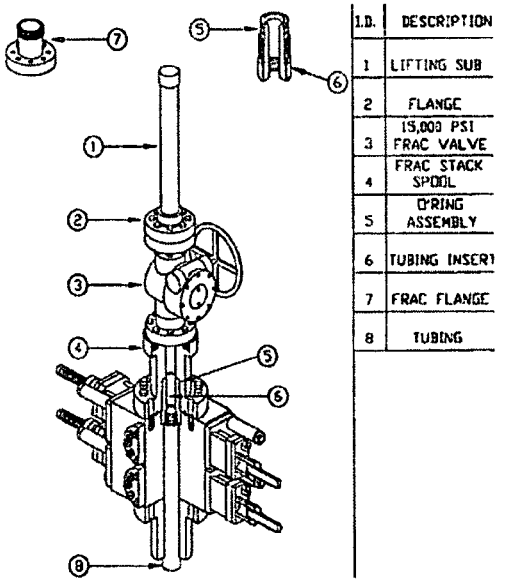
WITH RIG

9. Rig up pulling unit & auxiliary equipment.
10. ND WH
11. NU BOP 5M hydraulic BOP w/ 3M hydraulic annular. Test pipe rams to 250/500 psi for 5 minutes & test blind rams to 250/500 psi for 5 minutes against cement in casing.
12. Pick up 4-3/4" bear claw bit, bit sub. Pick up 3-1/2" drill collars (12 collars total to be run).
13. Drill out cement plugs as follows:
    a. From surface to 375'. Test casing to 500 psi.
    b. Drill out cement plug from 1380' to 1600'. Test casing to 500 psi.
    c. Drill out cement plug from 2832' to 3400'. Test casing to 500 psi.
    d. Drill out cement plug from 3700' to 3900'. Test casing to 500 psi.
    e. Drill out cement plug from 4500' to 4700'. Test casing to 500 psi.

    Circulate hole clean after drilling each plug. Be prepared to encounter trapped pressure under cement plugs. If casing leaks after drilling out plugs, contact remedial engineer for further instructions.

14. Con't TIH w/ drill out assembly & tag TOC @ 8310'.

15. Circulate abandonment fluid (25 sks gel per 100 bbls H20) from TOC @ 8310' to 6500'.
16. TOH to 6500' & circulate hole clean w/ FW for logging purposes. Con't TOH LD drill out assembly and workstring.
17. Change rams f/ 2-7/8" to 3-1/2"
18. Rig up wireline truck & lubricator. Run gauge ring to 6750'. Set CIBP @ 6700'. Cap with 35' class H neat cement using dump bailer.
19. Pull Spectral GR-CNL log from 6600' to 4600'.
20. Pull radial cement evaluation log from 6600' to 4600'. Pull log with 0 psi and 1000 psi on casing. Send logs to Paul Brown for review
21. Perforate the 5-1/2" casing across the pay interval w/ 4" guns, .42" entry hole diameter, 47" penetration as per the technical team's recommendation. Rig down wireline truck.
22. TIH w/ 5-1/2" treating packer on 3-1/2" L-80 workstring and set at 100' above top perf. Hydrotest tubing to 8,000 psi below the slips.
23. Acidize Blinebry perfs w/ 3,500 gallons 15% NEFE HCl. Pump acid at 8-10 BPM. Drop 50% excess 7/8" 1.18 SG bio balls. Shut in for one hour and bleed off pressure. Release packer and run through perfs to knock balls off seat. Pull packer back to 100' above top perf and reset. Load and test backside to 500 psi. (Anticipated pressure = 3,000 psi; Maximum pressure = 7,800 psi)
24. NU 10K frac valve & tie into 3-1/2" work string as per below (Guardian equipment):



25. Rig down pulling unit and move off.

FRAC

26. Set frac tanks and fill with fresh water. Use Schlumberger frac design to determine FW requirement.
27. Frac Blinebry perfs per Schlumberger's procedure.

28. Rig down frac crew and equipment. Commence flowing back load as soon as possible.

POST FRAC

29. Rig up pulling unit & kill well as necessary.
30. ND frac valve assembly.
31. Release frac packer and TOH laying down 3-1/2" workstring.
32. Change rams f/ 3-1/2" to 2-7/8"
33. TIH w/ 4-3/4" bit on 2-7/8" L-80 workstring. Clean out to TOC on CIBP. Tag plug per NMOCD plugging requirement. Note tag depth in WellView.
34. TOH & LD C/O assembly.
35. TIH w/ 5-1/2" packer on 2-7/8" L80 tubing. Set packer 100' above top perf. Load and test backside to 500 psi.
36. Perform scale squeeze as follows:
    a. Pump 30 bbls fresh water pre-pad
    b. Mix 220 gallons SCW358 scale inhibitor and 20 gallons XC-302 with 120 bbls fresh water
    c. Pump the chemical mixture down the tubing.
    d. Over flush with 300 bbls fresh water.
37. Shut in overnight.
38. TOH & LD 5-1/2" packer and workstring.
39. RIH w/ new 2-7/8" production tubing, pump and rods as per ALCR.
40. Hand over to production.

NCB 6/22/2011

Contact information:

Remedial Engineer – Nate Brummert 713 409 6170
Production Engineer – Paul Brown 432-687-7351 / 432-238-8755
ALCR – Carlos Valenzuela 575-390-9615
Schlumberger – Lori Ward 432-894-2121
Petroplex Acidizing – Steve Pendleton 432-563-1299 / 432-556-4211
Peak Packers – Sam Prieto 575-631-7704
Drilling Superintendant – Heath Lynch – 281 685 6188

CURRENT
WELLBORE DIAGRAM

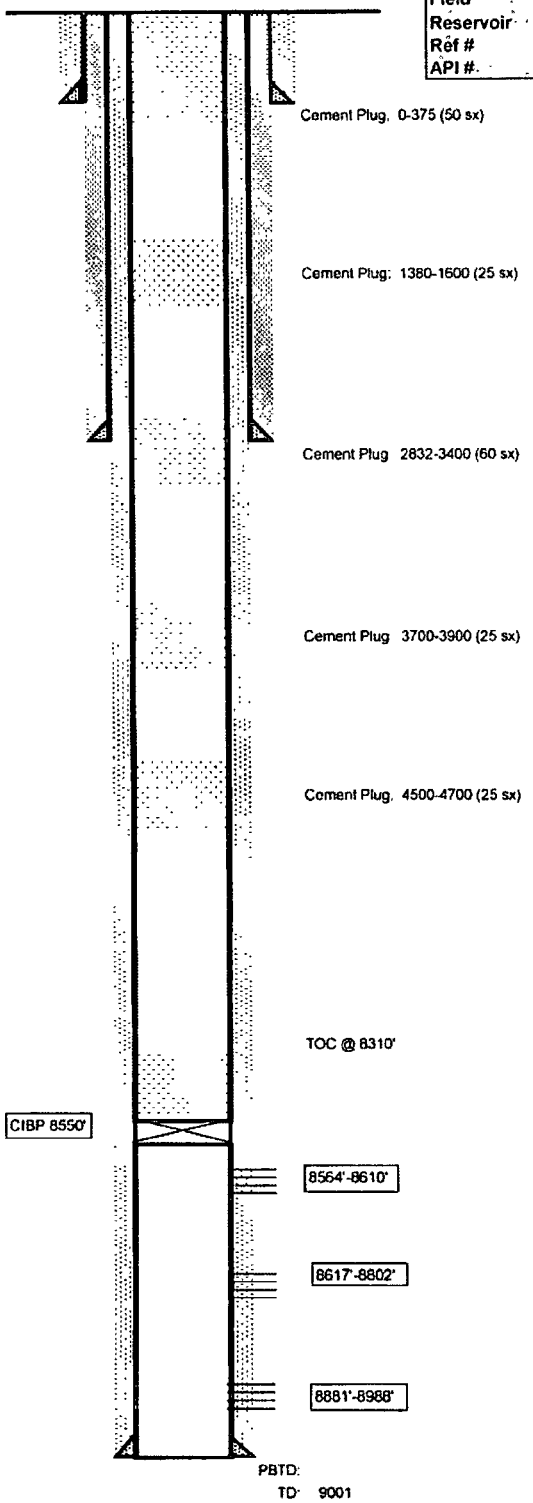
State AN #4

LOCATION	
State	New Mexico
County	Lea
Surface Location	1650 FNL, 990 FEL
	Sec 7, R-35E, T-18S
	Unit H

CASING DETAIL	
Surface Csg.	
Size:	13-3/8"
Wt.:	48# H40
Set @:	317
Sxs cmt:	350sx
TOC:	Surface
Hole Size:	17-1/4"
Intermediate Csg.	
Size:	8-5/8"
Wt.:	24# & 32# J-55
Set @:	3334
Sxs Cmt:	1950 sx
TOC:	circ
Hole Size:	11"
Production Csg.	
Size:	5-1/2"
Wt.:	15.5 & 17#
Set @:	9001
Sxs Cmt:	700 sx
TOC:	Circulated
Hole Size:	7-7/8"

WELL ID INFORMATION	
Lease Name:	State AN #4
Field	Vacuum Abo Reef
Reservoir	Abo Reef
Ref #	
API #:	30-025-03104

KB:	3976
DF:	3975
GL:	3964
Spud Date:	5/2/1962
Compl. Date:	6/18/1962
P&A Date:	2/7/2003



New Mexico State AN No. 4

API No. 30-025-03104

Engineering Comments

It is recommended that the subject plugged well be re-entered and completed in the Blinebry formation. The geological justification for this recommendation is attached.

To date Chevron has made three completions in the Blinebry formation on the AN lease. The subject well will be the lowest in structure when compared with the other completions, but is at equivalent structural depth to that of the Mack Energy completions to the west. Success of this workover could generate other development locations on the AN Lease.

Project economics are based on a 30 BOPD IP and the recovery of 46 MBOE of reserves.

PTB 7/6/11

State 'AN' #4 Reentry & Recompletion Recommendation
Sect: 7-T18S-R35E
30-025-03104

The State 'AN' #4 was PA'd in 2003 after producing the Abo reservoir. I recommend this well be reentered and recompleted in the Blinebry formation.

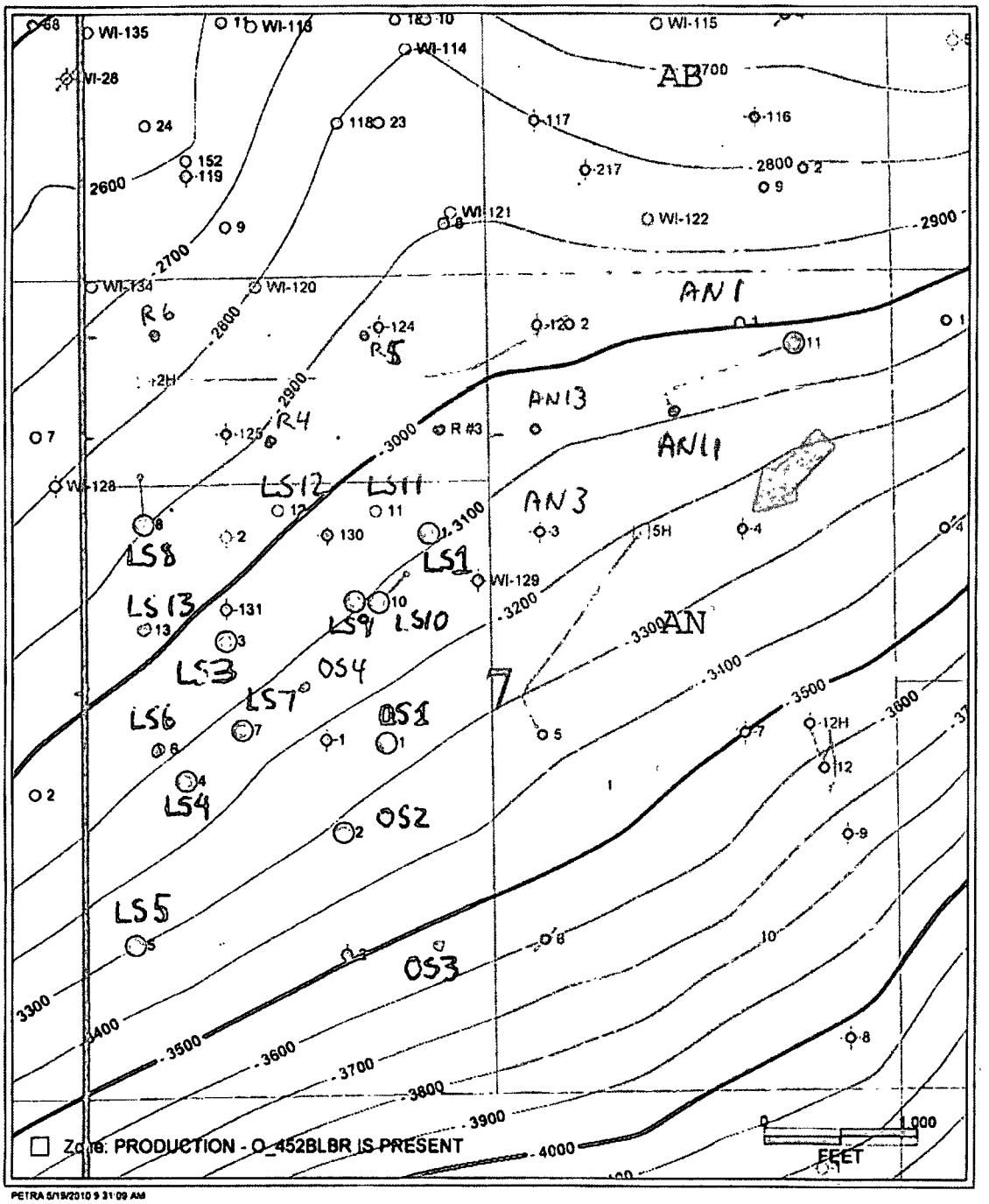
The State 'AN' #4 lies within 1300' of each of our recent Blinebry recompletions, the 'AN' #1, 3, and 11 wells. It sits structurally down dip to those wells but is roughly on strike to known Blinebry production lying 3300' to the southwest operated by Mack Energy (see attached Blinebry structure map).

When the State 'AN' #4 was PA'd a CIBP was set at 8550' which was capped with cement and then subsequently tagged at 8310'. Above this there were 5 cement plugs set (deepest at ~4700') which will need to be drilled out; once cleaned out a PBTD of 6700' should be achieved. Other than the cement plugs, a cursory investigation indicates the wellbore should be in acceptable condition.

The original porosity log on this wells is a 1962 sonic logs; these vintage sonic logs have proven to be generally pessimistic interpretations of porosity within this reservoir section (this is perhaps due to the dolomite lithologies being particularly fast transit times >23,000 ms/ft), and resently run CNL's have typically indicated incremental net porosity. Regardless of this typical pessimism of vintage sonics in this reservoir, the sonic log on the AN #4 suggests significant porosity is present in the "Blinebry" interval; in fact, of the early vintage porosity the AN #4 appears to have the best "Blinebry" porosity in the area. Additionally, we have also recognized that traditional GR logs can mask some of the pay with a high total GR count, therefore a spectral GR is needed. To confirm reservoir quality rock, identify optimal completion zones and cement presence and quality before perforating, I recommend running a Spectral GR-CNL-CCL and radial CET log (with 0 and 1000 psi), from PBTD to 4700' (2000' min). Tie into Welex's Acoustic Velocity log dated 6/16/1962.

From offsets the pay lithology is dolomite. The completion interval should be between 6000' and 6300' but detailed perfs will be picked after reviewing the new logs. A frac stimulation will be required to achieve the desire production rates and drainage area. Detailed perforation intervals and shot density can be tailored for the planned frac stimulation.

Scott Ingram X7212
2/7/2011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WI-114
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WI-121
WI-122
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