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

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SEP 16 2009
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Form C-101
June 16, 2008

Submit to appropriate District Office

☐ AMENDED REPORT

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

[1] Operator Name and Address	[2] OGRID Number
ConocoPhillips Company P.O Box 51810 Midland, Texas 79710-1810	217817
	[3] API Number 30 – 025-36624

[3] Property Code	[5] Property Name	[6] Well No.
31667	Hardy 36 State	28

[9] Proposed Pool 1	[10] Proposed Pool 2
Hardy, Tubb-Drinkard North 96356	

[7] 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	36	20S	37E		2374	North	511	East	Lea

[8] 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

Additional Well Information

[11] Work Type Code	[12] Well Type Code	[13] Cable/Rotary	[14] Lease Type Code	[15] Ground Level Elevation
R P	O	R	S	3494'
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
No	6900'	Drinkard	Nabors	10/02/2004

[21] Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12.25"	8.625"	24#	1343'	895	Surface
7.875"	5.5"	15.5#	8062'	2495	1000'

[22] 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.

This is a Recompletion from the Strawn to the Drinkard formation, a CIBP will be set at 7500' with 35' of cement on top. Please see the attached procedure and wellbore sketches for more information

Permit Expires 2 Years From Approval Date Unless ~~Drilling~~ Underway
Plugback

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

Signature: Justin C Firkins

Printed name: Justin C. Firkins

Title: Regulatory Specialist

E-mail Address justin.c.firkins@conocophillips.com

Date: 09/15/2009 Phone. 432-688-6913

OIL CONSERVATION DIVISION

Approved by:

Title: PETROLEUM ENGINEER

Approval Date: SEP 23 2009 Expiration Date.

Conditions of Approval Attached ☐

HARDY 36 STATE #28

WBS ELEMENT – WA5.CNM.____

WellView Well Name – **HARDY 36 STATE #28**

Re-Completion Procedure

September 2, 2009

Objective: Recomplete to the Drinkard formation.

COPC WI: 100%	COPC NRI: 87.5%	
Well Status: Prod	Well Type: Oil Well	County: Lea
Area: Permian	Field: Strawn	Team: Permian Oil
Venting: Permit not required	Flaring: Permit not required	H_2S: Possible
Well Control: Class 2 Category 2	(post perforating & post stimulation)	

IMPORTANCE OF SAFETY

Safe operations are of utmost importance at all ConocoPhillips properties and facilities. To further this goal, the ConocoPhillips Supervisor at the location shall request tailgate safety meetings prior to initiation of work and also prior to any critical operations. All company, contract, and service personnel then present shall attend these tailgate safety meetings at the location. All parties shall review the proposed upcoming steps, procedures, and potentially hazardous situations. Occurrence of these meetings shall be recorded in the Well View daily report.

History / Justification

The Hardy 36 State #28 was originally drilled to 8072' in October 2004. The well was completed In the Strawn from 7678-7696' and acid frac'd. The Strawn has produced 5,837 BO and 5,031 Mcf thru February 2009 according to Dwight's PI. The last test of the Strawn showed the well was making 2 BO and 0.4 Mcf. It is proposed to recomplete the well to the Drinkard formation from 6807-6859'.

An initial rate of 10 BOPD with 10 Mcf/d is projected based upon the initial rates of the offset wells. Economics were performed using an exponential decline rate of 25% per year, a recompletion cost of $200,000, and an operating cost of $7.92/BOE per year. ConocoPhillips owns a 100% WI and a NRI of 87.5% in the Hardy State lease. This project yields an ATAX ROR of 39.6% with a NPV of $86M at 13%.

Hardy 36 State #28
Recomplete to the Drinkard formation

AFE Number: WA5.CNM.____

API Number: 30-025-36624

Field: Hardy; Strawn, North

Location: 2374' FNL & 511' FEL, Sec. 36, T-20-S, R-37-E, Lea County, NM

Depths: TD = 8072'; PBTD = 8016'

Elevation: GR = 3494' KB = 3513.5'

Casing Data:

Existing & Proposed Casing, Tubing and Packer Information

	OD (in)	Depth (ft)	ID/Drift (inches)	Weight (#/ft)	Grade	Burst	Burst w/ 1.15 D.F.	Collapse (psi)	Collapse w/ 1.05 D.F.	Volume (Bbls/Ft)
Int Csg.	8⅝	1344'	8 097/7.972	24#	J-55	2950	**2565**	1370	**1305**	0609
*Prod.	5½	8062'	4.950/4.825	15.5#	J-55	4810	**4183**	4040	**3848**	0232
Prod Tbg	2⅜"		1.995/1.901	4 7#	J-55	7700	**6696**	8100	**7714**	.00579

Top of Cement: surface Casing Fluid: 2% KCl (0.438 psi/ft)

Proposed Cased Hole Perforations

Formation	Perforations (MD)	Frac Grad	Perf Feet	SPF	Phase	Zero Hole	Holes	Anticipated Reservoir Pressure	Reservoir Temp
Drinkard	6807-6811'	.75	4	4	60°	No	16	3165	108°
	6820-6826'	.75	6	4	60°	No	24	3171	
	6837-6841'	.75	4	4	60°	No	16	3179	
	6853-6859'	.75	6	4	60°	No	24	3187	

Correlation Log: Schlumberger Platform Express High Resolution Laterolog dated 10/29/04
Gun Type: 3⅜" High Shot Density, 34JL Ultrajet, HMX 22.7g, (API 19B: Pen – 28.94", EHD - 0.37")

Prepared by: David McPherson: Contract Production Engineer, Panhandle/Permian Group
Mobile: 1(903) 316-4272 Home: 1(903) 894-3547

GENERAL NOTES

1. No project or task is to be performed unless it can be done safely and without harm to the environment. All work must comply with all State and Federal regulations and with COPC Safety and Environmental Policies.

2. Conduct daily safety meetings and review all procedures with all contractors prior to performing the operation.

3. Report all activity on the Well View Daily Completion Work-Over Report.

4. Insure contractors are familiar with and comply with all relevant COPC safety/environmental policies.

5. Spills are to be prevented. Utilize a vacuum truck as necessary.

6. **All references to 2% KCl water is powdered 2% KCl.**

7. Throughout the entire completion process, any fluids from the well-bore that are displaced or produced must be sent through the flow-back equipment so that the fluids can be properly disposed.

8. Verify that all pressured lines and fittings meet or exceed the MPSP (Maximum Predicted Surface Pressure) for the treatment lines of **5250** psi for the pressure test during stimulation operations. Maximum treatment pressure during the acid treatment will be **6000** psi. MPSP from the zone should not be greater than 2000 psi before & after stimulation operations of the Drinkard zones.

9. Well control for this well will be Class 2, Category 2 before and after stimulation. Expected Shut in Casing Pressures (SICP) before & after stimulation should not exceed 2000 psi.

Mid-Continent / Permian / Hobbs East Contact List:

Reservoir Engineer:	D. Pecore	832-486-2145
Production Engineer:	J. Lowder	432-368-1609
Facilities Engineer Tech:	L. Johansen	432-368-1223
Operations Supervisor:	J. Coy	505-391-3127
Projects Planner:	D. Garrett	505-368-1410
Production Foreman:	V. Mackey	505-391-3129

Recommended Procedure

1. MIRU well service unit. POOH with rods & pump. ND wellhead and NU BOP's and test. POOH with 2⅜", 4.7#, J-55 tubing. Scan tubing while pulling. If tubing is acceptable, use 2⅜", 4.7#, J-55 production tubing as workstring, and haul in enough workstring for bit run in Step #2. If tubing is unacceptable, lay down 2⅜", 4.7#, J-55 tubing, send tubing in for inspection, place all inspected yellow and blue band tubing in COPC inventory, and haul in 7600'± of 2⅜", 4.7#, J-55 production tubing and enough workstring for bit run in Step #2.

2. PU and TIH with 4¾" bit on 2⅜", 4.7#, J-55 workstring to 7600'±, circulating well clean with 2% KCL water. Test 2⅜", 4.7#, J-55 workstring to 6500 psi while TIH. POOH with 2⅜", 4.7#, J-55 workstring and bit. Lay down drill bit.

3. MIRU Schlumberger wireline. RU 1000 psi lubricator. Set CIBP at 7500'±. Correlate to Schlumberger Platform Express High Resolution Laterolog dated 10/29/04. Dump 35' of cement on top of CIBP. RU pump truck and test casing to 1000 psi. RD pump truck. Perforate the Drinkard from 6807-6811', 6820-6826', 6837-6841', and 6853-6859' (80 holes) with 4 SPF 60° phasing, using 3⅜" High Shot Density, 34JL Ultrajet, HMX 22.7g, (API 19B: Pen – 28.94", EHD - 0.37"). RD/MO wireline and lubricator.

4. PU 3½", 9.3#, N-80 workstring. TIH with 5½" packer on 3½" workstring. Test 3½" workstring to 7500 psi while TIH. Set packer at 6750'±.

5. Spot two 500 bbl clean, lined frac tanks and fill with 2% KCl. Add biocide to the first load of each tank.

6. MIRU Schlumberger pumping services fracturing equipment. RU and test all lines to 7,500 psi and monitor for 5 min. Make sure the pressure does not decrease more that 300 psi over the 5 min. Pressure up casing / tubing annulus to 300 psi and monitor during job.

7. Perform acid ballout with 1000 gals 15% HCl acid at 6-10 bpm with 90± 1.3 SG bio balls as per attached procedure. When acid is on perfs, bring rate up to 15-16 BPM. Obtain ISIP and 5 minute shut-in pressure. Surge the well 3-4 times to dislodge balls. Shut down for 30 minutes to allow balls to fall.

   Note: It is a ConocoPhillips policy to have shower facilities on location when using acid.

8. Fracture treat the Drinkard with 27,000 gal of YF125ST containing 65,000 lbs of 20/40 sand coated with prop-net as per attached treating schedule. Set treating line pop off at 7000 psi. Set pump trips at 6500 psi. Set annulus pop off at 700 psi. Frac at 30± BPM with maximum wellhead treating pressure of 5500 psi.

9. Obtain ISIP and 5 minute, 10 minute, and 15 minute shut-in pressures. Close Hydraulic Master Valve. RD Schlumberger Iron.

10. Unseat packer and reverse out any excess sand from tubing if flush volume not achieved. POOH with 5½" packer and 3½" workstring. Lay down 3½" workstring.

11. TIH with 4¾" bit on 2⅜" workstring to 7470'±. Circulate out any excess sand from frac job. Do not drill out cement or CIBP. POOH with 2⅜" workstring.

12. RIH with the 2⅜" production tubing (per tubing design in Well View). Place the EOT at 6890'± with the tubing anchor at 6850'±. Maintain a dynamic fluid column (DFC) while running tubing. (Trickle some 2% KCl water down the tubing head valve.)

13. ND BOP's and NU wellhead. RIH with pump and rods (per rod design in Well View). Space and hang well on. Load tubing and check pump action.

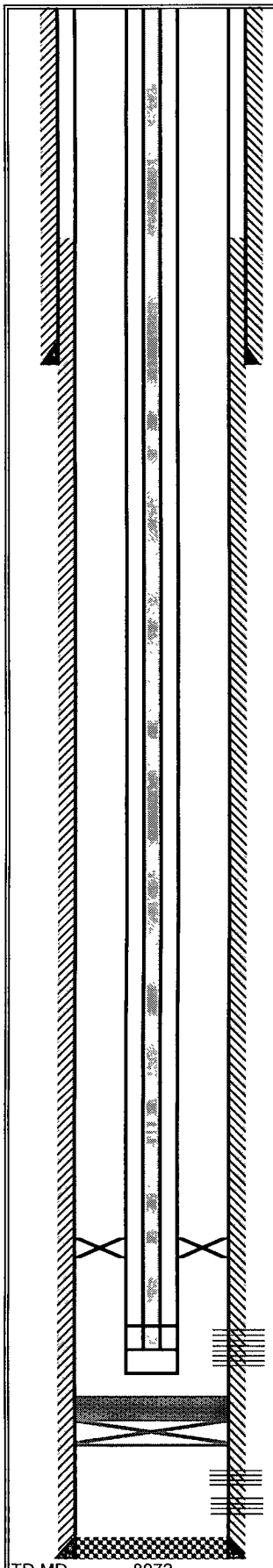
14. RD/MO well service rig. Release any ancillary equipment. Clean up location.

15. Turn well over to Operations. Place well on production. Report well tests on morning report. Place stabilized well test in Field View. Contact chemical representative to place well on corrosion inhibition and scale squeeze program if needed. Submit change of status report.

HARDY 36 STATE #28

PROPOSED WELLBORE DIAGRAM

API #:	30-025-36624				
FIELD:	Hardy, Strawn, North				
CO ST:	Lea, NM		**AREA:**	Hobbs East	
SECTION:	36	**TOWNSHIP:**	20S	**RANGE:**	37E
LOCATION:	2374' FNL & 511' FEL				
DATES:	**SPUD:** 10/2/04		**IC:** 1/20/05		
	LATEST RIG WORKOVER:				
	DIAGRAM REVISED:	9/02/09 by D. McPherson			



8⅝" @ 1343.5, cmt w/ 895 sxs

DV tool @ 3898'

PERFS. 6807-6811', 6820-6826', 6837-6841', 6853-6859'

CIBP @ 7500'± w/ 35' cement on top

Perfs: 7678-7681' (9 holes), 7688-7696' (13 holes)
Perfs: 7719-7731' (9 holes)

5½" @ 8062' cmt w/ 2495 sxs
PBTD = 8016'

	CASING		LINER	TUBING
Hole Size	12¼"	7⅞"		
Pipe Size	8⅝"	5½"		2⅜"
Weight	24#	15.5#		4.7#
Grade	J-55	J-55		J-55
Thread	8 rd	8 rd		8 rd
Depth	1343.5'	8062'		6582'

ELEVATION:	GR 3494', KB 3513.5'
TREE CONNECT	

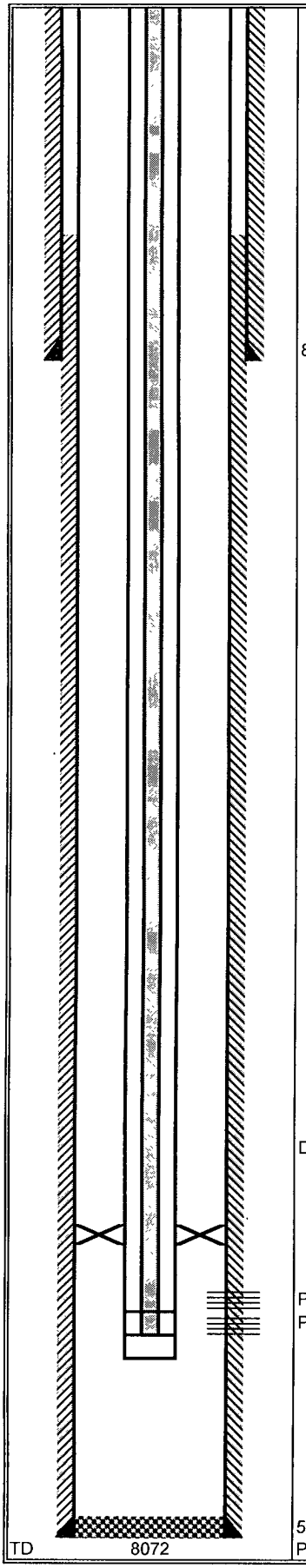
COMMENTS

1. Marker joint from 6957-6976' (19')
2. TD (TVD) = 8001'; KOP 5712'; Max ang 17.8° @ 7214'

HARDY 36 STATE #28

CURRENT WELLBORE DIAGRAM

API #:	30-025-36624				
FIELD:	Hardy, Strawn, North				
CO ST:	Lea, NM		**AREA:** Hobbs East		
SECTION:	36	**TOWNSHIP:**	20S	**RANGE:**	37E
LOCATION:	2374' FNL & 511' FEL				
DATES:	**SPUD:** 10/2/04		**IC:** 1/20/05		
	LATEST RIG WORKOVER:				
	DIAGRAM REVISED: 08/19/09 by D. McPherson				



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DV tool @ 3898'

Perfs: 7678-7681' (9 holes), 7688-7696' (13 holes)
Perfs: 7719-7731' (9 holes)

5½" @ 8062' cmt w/ 2495 sxs
PBTD = 8016'

TD 8072

	CASING			LINER	TUBING
Hole Size	12¼"	7⅞"			
Pipe Size	8⅝"	5½"			2⅜"
Weight	24#	15.5#			4.7#
Grade	J-55	J-55			J-55
Thread	8 rd	8 rd			8 rd
Depth	1343.5'	8062'			6582'

ELEVATION:	GR 3494', KB 3513.5'
TREE CONNECTION:	

COMMENTS

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

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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

Form C-102
Revised October 12, 2005
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
30-025-36624	96356	Hardy: Tubb-Drinkard, North

[4] Property Code	[5] Property Name	[6] Well Number
31667	Hardy 36 State	28

[7] OGRID No.	[8] Operator Name	[9] Elevation
217817	ConocoPhillips Company	3494' GR

[10] Surface Location

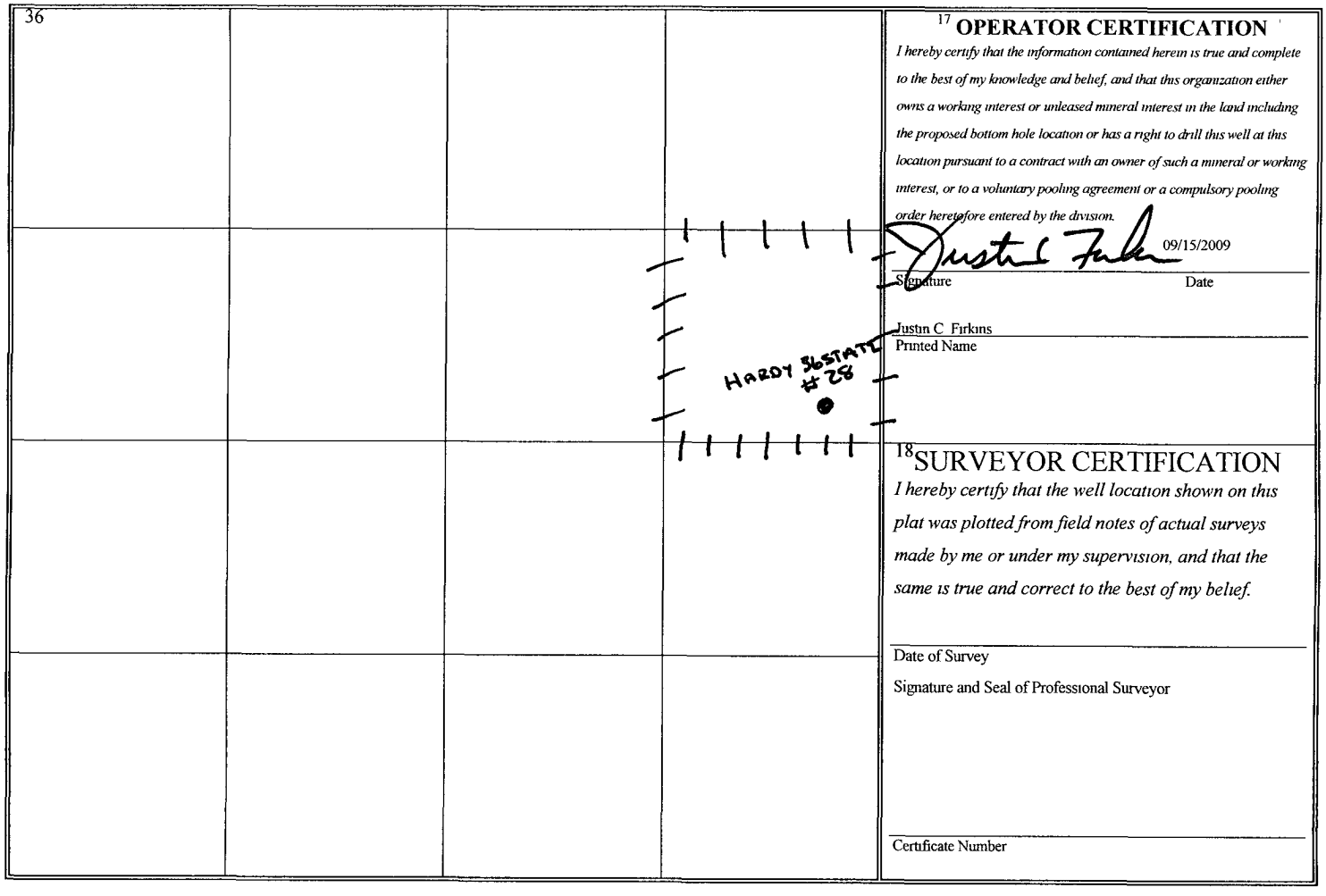
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	36	20S	37E		2374	South	511	East	Lea, NM

[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.

Justin C Firkins 09/15/2009
Signature Date

Justin C Firkins
Printed Name

[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