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
May 27, 2004

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
Chesapeake Operating Inc. P. O. Box 11050 Midland, TX 79702-8050	147179
	[3] API Number 30-015-34750

[4] Property Code	[5] Property Name	[6] Well No.
35531	IMC 21	1

[9] Proposed Pool 1	[10] Proposed Pool 2
Ha Brown Ranch ;Delaware, NE	

RECEIVED
OCT - 2006
OCD - ARTESIA

[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
A	33	23S	29E		330	North	660	East	Eddy

[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
Plug Back	O		P	2957
[16] Multiple	**[17] Proposed Depth**	**[18] Formation**	**[19] Contractor**	**[20] Spud Date**
	8115	Delaware	Not Available	11/01/2006

Depth to Groundwater	Distance from nearest fresh water well	Distance from nearest surface water
150'	1000+	1000+

Pit: Liner: Synthetic ☐ ____ mils thick Clay ☐ Pit Volume: ____ bbls Drilling Method:

Closed-Loop System ☐ Fresh Water ☐ Brine ☐ Diesel/Oil-based ☐ Gas/Air ☐

[21] 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	345	460	0
11	8 5/8	32	3000	800	0
7 7/8	5 1/2	17	8115	1142	2510

[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.

We propose to come up hole and perf the Delaware and the file for a down hole commingle for both zones. There will be no pit used.

[23] 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 ☐.**

Printed name: Brenda Coffman (Brenda Coffman)
Title: Regulatory Analyst
E-mail Address: bcoffman@chkenergy.com
Date: 10/11/2006 Phone: (432)687-2992

OIL CONSERVATION DIVISION

Approved by: BRYAN G. ARRANT
Title: DISTRICT II GEOLOGIST
Approval Date: OCT 12 2006 Expiration Date: OCT 12 2007
Conditions of Approval Attached ☐

Work Only DHC Required To Produce

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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
30-015-34750	96878	Harroun Ranch; (Delaware), NE

4 Property Code	5 Property Name	6 Well Number
35531	IMC 21	1

7 OGRID No.	8 Operator Name	9 Elevation
147179	Chesapeake Operating Inc.	2957

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
A	21	23S	29E		330	North	660	East	Eddy

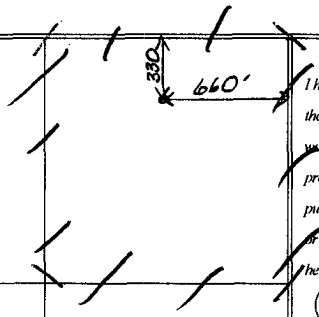
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	23S	29E		330	North	660	East	Eddy

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.

16



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.

Brenda Coffman 10/11/2006
Signature Date

Brenda Coffman
Printed Name

18 SURVEYOR CERTIFICATION

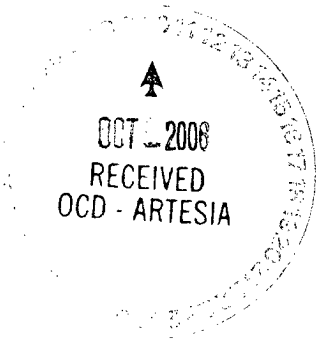
I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number

IMC 21 – 1
DELAWARE COMPLETION PROCEDURE
Eddy County, New Mexico



October 4, 2006

GENERAL INFORMATION

Location: 330' FNL & 660' FEL, Sec 21 – T23S – R29E
API No.: 30-015-34750
Total Cost to Date: $1,561,272

WELL INFORMATION

String OD	Weight & Grade	Depth	ID	Drift	Burst	TOC
13-3/8"	48# H40 STC	0' – 345'	12.715"	12.559"	1730	0'
8-5/8"	32# J55 LTC	0' - 3000'	7.921"	7.796"	3930	0'
5-1/2"	17# L80 LTC	0' - 8115'	4.892"	4.767"	7740	2510'

Bone Springs 7684 – 7926' (OA)

Recommended Perforations

Brushy Canyon (Delaware) 6244 - 51'; 6489 - 6635' (OA)

TD/PBTD: 8115'/ 8017'

Procedure

1. MIRU Service Rig and requisite equipment. Kill well with lease water.

2. NU BOP. Release Arrowset packer and POOH with 2-7/8" tubing and Arrowset 1X packer.

3. MIRU Wireline Service Unit. RU lubricator. Set a 5K CBP at 7600'. Bail 1 sx of cement on plug. Load hole with 2% KCL and pressure test to 2500#.

4. RIH w/ 3-3/8" HSD casing gun. Perforate the Delaware w/ 1 SPF, 23 gram charge, .37" holes at 6489', 90', 91', 92', 93', 94', 95', 96', 6503', 04', 05', 06, 6602', 03', 04', 05', 24', 25', 26', 32', 33', 34', and 35' (23 holes). Correlate to N/D log dated 6/08/06.

5. RIH w/ 5-1/2" treating packer, XN, and on/off tool on 2-7/8" tubing. Space out with the EOT at 6635'.

6. RU Acid Service Company. Spot 200 gal of 7-1/2% HCL Acid containing 4 gpt of iron control, 1 gpt each of corrosion inhibitor, surface tension reducer, and non-emulsifier. Pull packer to ~ 6440'. Reverse circulate to ensure packer is clear of acid, set packer. Pressure test annulus to 1000#.

7. ND BOP. NU tree. Pressure annulus to 1000 psi. Displace spot acid, establish rate of 3 to 4 BPM w/ 2% KCL. Acidize w/ 1300 gal of same acid. Displace w/ 2% KCL. Do not over-displace. Pump at 4 to 5 BPM max. Launch 40 ball sealers during job. Note rates and pressures. Note ISIP. Max pressure 5000#.

8. Flow/swab back job. Swab test zone.

9. Prep to frac. Load frac tanks with lease water from the adjacent Teledyne lease. Kill well with lease water if required. ND tree, NU BOP. Release packer. Lower through perfs to clear of ball sealers. POOH w/ tubing and packer. MIRU Frac Service Company. NU frac valve. Establish rate w/ 10000 gal

lease water pad containing friction reducer and additives per frac schedule. Scour zone with 1000# of 20/40 brown sand mixed at .25#/gal in 4000 gal of pad fluid. Frac zone with 34,000 gal of lease water containing additives per frac schedule and 12,000# 14/30 Lite Prop. Tail in with 4000# of Super LC resin coat 16/30 in 2000 gal of lease water. Total sand with scour 17,000#. Ramp Lite Prop from .1 ppg to 1.0 ppg at tail-in. Ramp resin coat to 2 #/gal. Obtain rates of 30 BPM maximum. Maximum pr 5000#. Displace to perfs w/ lease water. Anticipated treating pressure ~1700#. Obtain 5, 10, and 15 min SI data.

10. Lubricate in with 5000# 5-1/2" CBP. Set at 6400'. Test plug to 2500#. RIH w/ 3-3/8" HSD casing gun. Perforate the Delaware w/ 4 SPF, 23 gram charge, 90 deg. phasing, .37" holes from 6244 – 51' (29 holes).

11. Prep to frac. Establish rate with lease water pad fluid. (If unable to establish rate, run tubing and spot 500 gal of 7.5% HCL plus additives across perfs. POOH with tubing). Pump 1000 gal of 7.5% HCL followed by 10000 gal lease water pad containing friction reducer and additives per frac schedule. Scour zone with 1000# of 20/40 brown sand mixed at .25#/gal in 4000 gal of pad fluid. Frac zone with 31,000 gal of lease water containing additives per frac schedule and 10,000# 14/30 Lite Prop tailed in by 4000# of Super LC resin coat 16/30 in 2000 gal of lease water. Total sand with scour 15,000#. Ramp Lite Prop from .1 ppg to 1.0 ppg at tail-in. Ramp resin coat to 2 #/gal. Obtain rates of 30 BPM maximum. Maximum pr 5000#. Displace to perfs w/ lease water. Anticipated treating pressure ~1300#. Obtain 5, 10, and 15 min SI data. RDMO Frac Service Company. Wait on frac overnight.

12. Flow back frac.

13. RIH with bit and collars. Drill up CBP at 6400'. Clean out and circulate clean at new PBTD ~ 7600'. POOH with bit and tubing.

14. MIRU Wireline Service Unit. RU lubricator. Perforate the Delaware w/ 4 SPF, 23 gram charge, 90 deg. phasing, .37" holes from 6570 – 72' (9 holes).

15. RIH with plug and treating packer. Set plug at 6590'. Test tools. Spot 200 gal of 7-1/2% HCL Acid containing 4 gpt of iron control, 1 gpt each of corrosion inhibitor, surface tension reducer, and non-emulsifier. Pull packer to ~ 6530'. Reverse circulate to ensure packer is clear of acid, set packer.

16. ND BOP. NU tree. Displace spot acid, establish rate of 3 to 4 BPM w/ lease water. Acidize w/ 1300 gal of same acid. Displace w/ lease water. Do not over-displace. Pump at 3 to 4 BPM max. Note rates and pressures. Note ISIP. Note any communication up backside. Max pressure 3500#.

17. Wait on acid 2 to 3 hours. Swab test zone. POOH with plug and packer.

18. RIH w/ MA, PS, SN, TAC (at ~ 6200') and 2-7/8" tubing. Space out and land SN ~6650'. Swab to clean up.

19. Set 640 PU. RIH w/ 1-3/4" pump and a high strength tapered rod string. Run pump, 350' of 1-1/2" sinker bars, 136 – ¾", and 116 – 7/8". Space out/seat pump. Load and test. PWOP at 6 SPM, 144" SL.

20. Note: Following well testing and authorization from the OCD, this well will be commingled with the Bone Spring.