

BOPCO, L.P.
201 MAIN ST.
FORT WORTH, TEXAS 76102-3131
817/390-8400

March 30, 2011

RECEIVED OGD
2011 MAR 31 A 11:38

FEDERAL EXPRESS

Bureau of Land Management
Carlsbad District Office
620 E. Green St.
Carlsbad, New Mexico 88220
Attn: Mr. Wesley Ingram

New Mexico State Land Office
Commissioner of Public Lands
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501
Attention: Mr. Pete Martinez

New Mexico Oil Conservation Division
1220 St. Francis
Santa Fe, New Mexico 87505
Attention: Mr. William Jones

Re: Commercial Determination
PLU Ross Ranch 19 Federal 1H
Bone Spring Formation
Eddy County, New Mexico

Gentlemen:

Please find attached hereto one (1) copy of Bass' commercial determination worksheets and exhibits which indicate that the subject well is a commercial well in the Bone Spring Formation. Please indicate your concurrence to the above Commercial Determination. Upon your execution hereof, Bass will submit a participating area for the well.

Thank you very much and should you have any questions or comments in regard to the attached commercial determination, please do not hesitate to contact the undersigned.

Very truly yours,


Andy Morrison

Bureau of Land Management

New Mexico State Land Office

New Mexico Oil Conservation Division

By: _____

By: _____

By: _____

Its: _____

Its: _____

Its: _____

Date: _____

Date: _____

Date: _____

WORKSHEET FOR COMMERCIAL DETERMINATION AND PARTICIPATING AREA IN FEDERAL UNITS

WELL DATA

WELL _____ PLU Ross Ranch 19 Federal 1H _____ FORMATION _____ Bone Spring _____
 LOCATION _____ P _____ UNIT, _____ 100 _____ FEET FROM _____ South _____ LINE & _____ 475 _____ FEET FROM _____ East _____ LINE
 SECTION _____ 19 _____ TOWNSHIP _____ 25S _____ RANGE _____ 30E _____, COUNTY _____ EDDY _____, NEW MEXICO
 SPUD DATE _____ 6/4/2010 _____ COMPLETION DATE _____ 10/26/2010 _____ INITIAL PRODUCTION _____ 10/26/2010 _____
 PERFORATIONS _____ 8,130'-12,850' _____

BHL: 358' FNL & 428' FEL Sec 19 T25S R30E

STIMULATION:

ACID _____

FRACTURE Frac with 65,478 gals 15% HCL, 106,172 BBLS Frac Fluid, 4,890,434 LBS sand

POTENTIAL 10/28/2010: 188 BOPD, 442 MCFPD, 2,666 BWPD

(Attach Copy of C-105. Attach Copy of Wellbore Sketch of Completed Well.)

VOLUMETRIC CALCULATION

	SANDS PERFORATED		SANDS NOT PERFORATED BUT POTENTIALLY PRODUCTIVE	
Area (A) proration unit size, acres	160	_____	_____	_____
Porosity (por), %	7%	_____	_____	_____
Water saturation (Sw), %	40%	_____	_____	_____
Net Thickness (h), ft.	67	_____	_____	_____
Temperature (T), Fahrenheit	120	_____	_____	_____
Bottom Hole pressure (P), psia	3,378	_____	_____	_____
Recovery factor (RF), %	55%	_____	_____	_____
Recoverable gas, BCF *(See eq. below)	3.123	_____	_____	_____

*Sometimes unable to match performance due to volumetric uncertainty.

Formula = $(7758) (A) (h) (por) (1-Sw)(RF)/Bg_i$

Bgi = 0.6152 RB/MCF

PERFORMANCE DATA

(If sufficient history exists, attach plot of oil production rate v time.)

CUMULATIVE PRODUCTION TO 12/31/2010 73,570 MCF Gas 13,617 BBL OilINITIAL RATE (qi) 5000 MCFPDECONOMIC LIMIT (qi) 30 MCFPDHYPERBOLIC DECLINE RATE, dy n=1.5 d= 85%/yrREMAINING GAS (Q) = 2,317,557ULTIMATE RECOVERABLE GAS (mcf) 2,391,127

(Attach plat showing proration unit and participating area.)

ECONOMIC

GROSS WELL COST \$ \$3,275,000 (to the depth of formation completed)COMPLETION COST \$ 3,275,000GROSS TOTAL COST \$ \$6,550,000

<u>YEAR</u>	<u>GROSS GAS MMCF</u>	<u>BFIT NET INCOME (\$M)</u>	<u>OPERATING COST (\$M) INCL SEV & AD VAL TAX</u>	<u>5% NET BFIT DISCOUNTED CASH FLOW</u>
ZERO				
1	<u>73.60</u>	<u>1,076.8</u>	<u>136.1</u>	<u>-5,617.1</u>
2	<u>534.20</u>	<u>4,092.9</u>	<u>535.5</u>	<u>3,454.9</u>
3	<u>215.90</u>	<u>1,672.2</u>	<u>318.4</u>	<u>1,245.8</u>
4	<u>153.30</u>	<u>1,204.1</u>	<u>276.2</u>	<u>812.6</u>
5	<u>122.60</u>	<u>975.1</u>	<u>255.5</u>	<u>599.9</u>
6	<u>103.80</u>	<u>839.0</u>	<u>243.3</u>	<u>472.9</u>
7	<u>90.90</u>	<u>745.3</u>	<u>234.9</u>	<u>385.9</u>
8	<u>81.40</u>	<u>672.6</u>	<u>228.3</u>	<u>319.9</u>
9	<u>74.00</u>	<u>618.2</u>	<u>223.4</u>	<u>270.7</u>
10	<u>68.10</u>	<u>573.5</u>	<u>219.4</u>	<u>231.2</u>
REMAINDER	<u>873.40</u>	<u>8,065.9</u>	<u>4755.1</u>	<u>1,506.6</u>
TOTAL	<u>2,391.10</u>	<u>20,535.6</u>	<u>7426.2</u>	<u>3,683.1</u>

WELL IS COMMERCIAL

Lease: PLU ROSS RANCH 19 FED 1H
 Field: POKER LAKE
 Operator: CHESAPEAKE OPERATING I
 County: EDDY State: NM
 Oil Differential: -3.410000 \$/BB
 Rsv_Cat: 1PDP Loc: 19-25S-30E

DATE : 02/03/2011
 TIME : 09:41:29
 DBS : CHK010J
 SETTINGS : CHK1010PVO
 QUALIFIER: CEC0111

RESERVES AND ECONOMICS

AS OF DATE: 10/2010

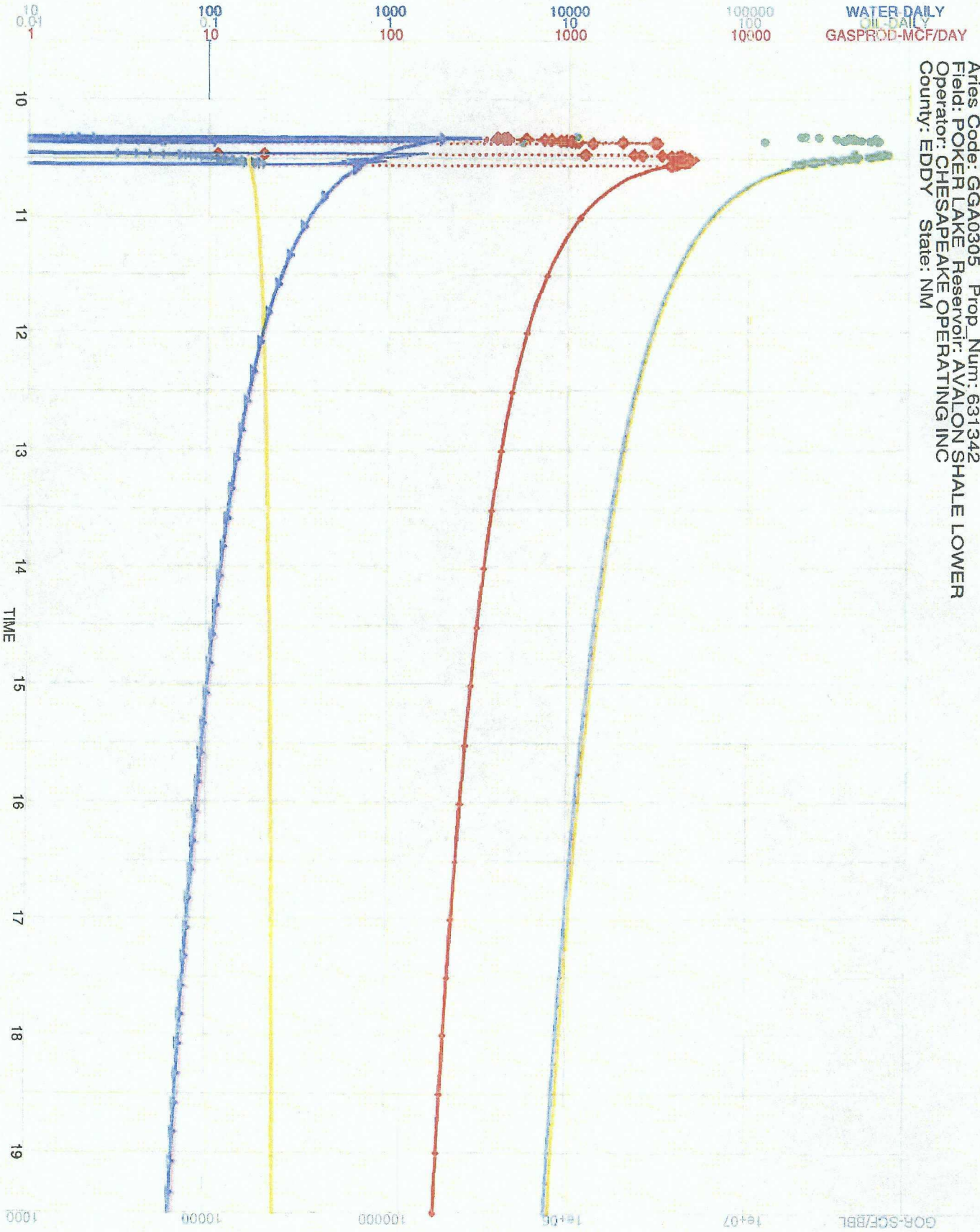
--END-- MO-YEAR	GROSS OIL PRODUCTION ---MMBLS---	GROSS GAS PRODUCTION ---MMCF---	NET OIL PRODUCTION ---MMBLS---	NET GAS PRODUCTION ---MMCF---	NET NGL PROD ---MMBLS---	NET EQUIV PRODUCTION ---MMCF---	----- OIL \$-/BBL-	PRICES GAS \$-/MCF-	----- NGL \$-/BBL-	NET OIL SALES ---M\$---	NET GAS SALES ---M\$---	NET NGL SALES ---M\$---
12-2010	13.62	73.57	11.91	29.61	4.83	130.06	66.890	3.767	34.86	796.93	111.56	168.31
12-2011	30.17	534.22	26.40	215.02	35.06	583.76	69.650	4.800	34.86	1838.63	1032.10	1222.12
12-2012	10.91	215.88	9.55	86.89	14.17	229.18	76.000	5.211	34.86	725.55	452.81	493.88
12-2013	7.41	153.27	6.48	61.69	10.06	160.94	82.330	5.182	34.86	533.76	319.70	350.62
12-2014	5.76	122.61	5.04	49.35	8.05	127.85	87.500	5.144	34.86	440.75	253.86	280.48
12-2015	4.77	103.81	4.17	41.78	6.81	107.69	91.110	5.297	34.86	380.18	221.33	237.48
12-2016	4.10	90.89	3.59	36.58	5.96	93.91	94.820	5.383	34.86	340.42	196.94	207.94
12-2017	3.62	81.37	3.17	32.75	5.34	83.80	97.820	5.393	34.86	309.84	176.63	186.15
12-2018	3.25	74.01	2.84	29.79	4.86	76.00	100.820	5.441	34.86	286.83	162.07	169.31
12-2019	2.96	68.12	2.59	27.42	4.47	69.78	103.060	5.498	34.86	266.91	150.74	155.83
12-2020	2.72	63.27	2.38	25.47	4.15	64.67	104.870	5.613	34.86	249.82	142.94	144.75
12-2021	2.53	59.21	2.21	23.83	3.89	60.40	106.110	5.699	34.86	234.46	135.81	135.45
12-2022	2.36	55.74	2.06	22.43	3.66	56.76	107.510	5.852	34.86	221.85	131.28	127.51
12-2023	2.21	52.74	1.94	21.23	3.46	53.62	108.910	5.880	34.86	211.08	124.82	120.64
12-2024	2.09	50.07	1.83	20.15	3.29	50.84	110.220	5.842	34.86	201.60	117.74	114.55
12-2025	1.98	47.57	1.73	19.15	3.12	48.28	111.680	5.909	34.86	193.57	113.14	108.82
12-2026	1.88	45.19	1.65	18.19	2.97	45.86	113.200	6.043	34.86	186.36	109.91	103.38
S TOT	102.34	1891.53	89.55	761.34	124.13	2043.41	82.846	5.193	34.86	7418.54	3953.38	4327.22
AFTER	20.80	499.60	18.20	201.09	32.79	507.02	124.590	7.090	34.86	2267.70	1425.79	1142.93
TOTAL	123.14	2391.13	107.75	962.43	156.92	2550.42	89.897	5.589	34.86	9686.25	5379.17	5470.15

--END-- MO-YEAR	NO.OF AD WELLS	VALOREM TAX ---M\$---	PRODUCTION TAX ---M\$---	OTHER OPER EXPENSES ---M\$---	DIRECT EXPENSES ---M\$---	OVERHEAD EXPENSES ---M\$---	TOTAL OPER EXPENSES ---M\$---	EQUITY INVESTMENT ---M\$---	FUTURE NET CASHFLOW ---M\$---	CUMULATIVE CASHFLOW ---M\$---	CUM. DISC. CASHFLOW ---M\$---
12-2010	1.	1.97	92.13	0.00	42.00	0.00	42.00	6550.00	-5609.31	-5609.31	-5617.08
12-2011	1.	7.47	360.05	0.00	168.00	0.00	168.00	0.00	3557.33	-2051.97	-2162.18
12-2012	1.	3.05	147.32	0.00	168.00	0.00	168.00	0.00	1353.87	-698.11	-916.38
12-2013	1.	2.20	105.98	0.00	168.00	0.00	168.00	0.00	927.91	229.80	-103.83
12-2014	1.	1.78	85.76	0.00	168.00	0.00	168.00	0.00	719.56	949.35	496.07
12-2015	1.	1.53	73.78	0.00	168.00	0.00	168.00	0.00	595.69	1545.04	968.96
12-2016	1.	1.36	65.52	0.00	168.00	0.00	168.00	0.00	510.42	2055.46	1354.82
12-2017	1.	1.23	59.11	0.00	168.00	0.00	168.00	0.00	444.29	2499.74	1674.67
12-2018	1.	1.13	54.31	0.00	168.00	0.00	168.00	0.00	394.77	2894.52	1945.32
12-2019	1.	1.05	50.37	0.00	168.00	0.00	168.00	0.00	354.05	3248.57	2176.48
12-2020	1.	0.98	47.22	0.00	168.00	0.00	168.00	0.00	321.31	3569.88	2376.27
12-2021	1.	0.92	44.43	0.00	168.00	0.00	168.00	0.00	292.37	3862.25	2549.40
12-2022	1.	0.88	42.23	0.00	168.00	0.00	168.00	0.00	269.53	4131.78	2701.40
12-2023	1.	0.83	40.11	0.00	168.00	0.00	168.00	0.00	247.60	4379.38	2834.39
12-2024	1.	0.79	38.11	0.00	168.00	0.00	168.00	0.00	226.98	4606.37	2950.49
12-2025	1.	0.76	36.50	0.00	168.00	0.00	168.00	0.00	210.27	4816.64	3052.93
12-2026	1.	0.73	35.10	0.00	168.00	0.00	168.00	0.00	195.83	5012.47	3143.78
S TOT	1.	28.64	1378.04	0.00	2730.00	0.00	2730.00	6550.00	5012.47	5012.47	3143.78
AFTER	1.	8.82	424.68	0.00	2856.00	0.00	2856.00	25.00	1521.92	6534.39	3683.08
TOTAL	1.	37.47	1802.72	0.00	5586.00	0.00	5586.00	6575.00	6534.39	6534.39	3683.08

	OIL@10/1/10	GAS@10/1/10		P.W. %	P.W., M\$
GROSS WELLS	1.0	0.0	LIFE, YRS.	33.25	0.00
GROSS ULT., MB & MMF	123.140	2391.127	DISCOUNT %	5.00	6534.391
GROSS CUM., MB & MMF	0.000	0.000	UNDISCOUNTED PAYOUT, YRS.	3.00	3683.084
GROSS RES., MB & MMF	123.140	2391.127	DISCOUNTED PAYOUT, YRS.	3.42	2648.417
NET RES., MB & MMF	107.748	962.429	UNDISCOUNTED NET/INVEST.	1.99	2115.912
NET REVENUE, M\$	9686.249	5379.174	DISCOUNTED NET/INVEST.	1.56	1671.990
INITIAL PRICE, \$	66.890	3.767	RATE-OF-RETURN, PCT.	24.29	1295.564
INITIAL N.I., PCT.	87.500	87.500	INITIAL W.I., PCT.	100.000	971.611
NET EQUIV RES., MMCFE		2550.421	REVERSION, YRS.	0.00	440.266
PLANT GROSS PROD (MU)	179.335			25.00	-72.379
PLANT NET PROD (MU)	156.918			30.00	-473.876
PLANT NET REVENUES (M\$)	5470.152			40.00	-1071.528
				50.00	-1503.115
				60.00	-1834.549
				80.00	-2318.810
				100.00	-2662.352

District: PERMIAN

Lease: PLU ROSS RANCH 19 FED 1H
Aries Code: GGA0305 Prop. Num: 631342
Field: POKER LAKE Reservoir: AVALON SHALE LOWER
Operator: CHESAPEAKE OPERATING INC
County: EDDY State: NM



CONFIDENTIAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOV 29 2010

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

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

b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other

2. Name of Operator **CHESAPEAKE OPERATING INC** Contact: **LINDA GOOD** E-Mail: **linda.good@chk.com**

3. Address **OKLAHOMA CITY, OK 73154-0496** Ja. Phone No. (include area code) **Ph: 405-935-4275**

4. Location of Well (Report location clearly and in accordance with Federal requirements)
At surface **SESE Lot P 100FSL 475FEL**
At top prod interval reported below **Sec 19 T25S R30E Mer NMP**
At total depth **NENE Lot A 350FNL 428FEL**

5. Lease Serial No. **NMLC070341**

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. **NMNM71018X**

8. Lease Name and Well No. **PLU ROSS RANCH 19 FEDERAL 1H**

9. API Well No. **30-015-37800-00-S1**

10. Field and Pool, or Exploratory **CORRAL CANYON**

11. Sec., T., R., M., or Block and Survey or Area **Sec 19 T25S R30E Mer NMP**

12. County or Parish **EDDY** 13. State **NM**

14. Date Spudded **06/04/2010** 15. Date T.D. Reached **07/09/2010** 16. Date Completed ☐ D & A ☒ Ready to Prod. **10/26/2010**

17. Elevations (D, K, RT, GL)* **3182 GL**

18. Total Depth: **KID 12890 TVD 8047** 19. Plug Back T.D.: **KID 12855 TVD 8022** 20. Depth to Link Plug Set: **KID TVD**

21. Type Electric & Other Mechanical Logs Run (Submit copy of each) **DLL MLLZDL CN SLHDILXMAC** 22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit analysis)
Directional Survey? ☐ No ☒ Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (H/L)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sks. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
17.500	13.375 H-40	48.0	0	715		750		0	
11.000	8.625 J-55	32.0	0	3628		1325		0	
7.875	5.500 L-80	20.0	0	12890		1409		2490	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	7668							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BONE SPRING	8130	12850	8130 TO 12850		500	OPEN, Bone Springs
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
8130 TO 12850	FRAC W/65,478 GAL 16% HCL, 106,172 BBL 4.890,434# SAND

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/26/2010	10/26/2010	24	→	188.0	442.0	2666.0			FLows FROM WELL
Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
48/64	SI		→	188	442	2666		POW	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg Press Flwg SI	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #97095 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
Choke Size	Tbg Press Flwg St	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
Choke Size	Tbg Press Flwg St	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas Oil Ratio	Well Status	

29. Disposition of Gas: Sold, used for fuel, vented, etc. / SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Mcas. Depth
				BASE OF SALT	3622
				BELL CANYON	3646
				CHERRY CANYON	4433
				BRUSHY CANYON	5743
				FIRST BONE SPRING SAND	8310

32. Additional remarks (include plugging procedure):

LOGS BEING SET VIA UPS OVERNIGHT EXPRESS.

(CHK PN 631342)

33. Include enclosed attachments:

1. Electrical/Mechanical Logs (1 full set req'd.)
2. Geologic Report
3. DST Report
4. Directional Survey
5. Sundry Notice for plugging and cement verification
6. Core Analysis
7. Other:

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #97095 Verified by the BLAI Well Information System.
For CHESAPEAKE OPERATING INC. sent to the Carlsbad
Committed to AFMSS for processing by KURT SIMMONS on 11/15/2010 (11KMS0216SE)

Name (please print) LINDA GOOD

Title SR. REGULATORY COMPLIANCE SPEC

Signature (Electronic Submission)

Date 11/09/2010

Title 18 U.S.C. Section 1001 and Title 18 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.

** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED **



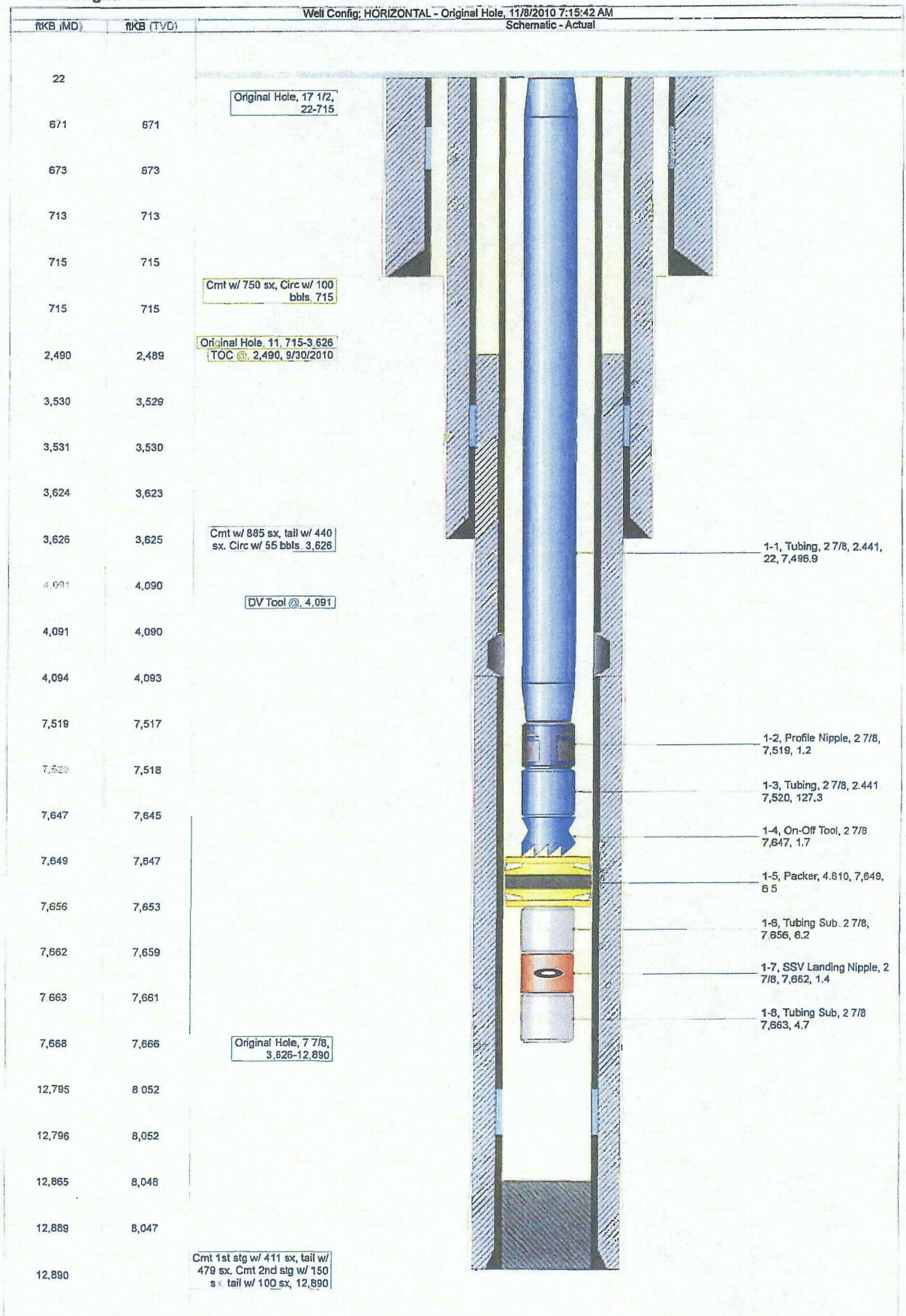
BLM PLU Schem

PLU ROSS RANCH 19 FEDERAL 1H

CONFIDENTIAL

Field: DELAWARE BASIN NORTH
County: EDDY
State: NEW MEXICO
Location: SEC 19, 25S-30E, 100 FSL & 400 FEL
Elevation: GL 3,182.0 KB 3,204.0
KB Height: 22.0

Spud Date: 6/5/2010
Initial Compl. Date:
API #: 3001537800
CHK Property #: 631342
1st Prod Date: 10/26/2010
PBDT: Original Hole - 12865.0
TD: 12,890.0



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

DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210

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

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 15, 2009

Submit one copy to appropriate
District Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-37800	Pool Code 13354	Pool Name Undes. Corral Canyon; Bone Spring, South
Property Code 38141	Property Name PLU ROSS RANCH "19" FEDERAL	Well Number 1H
OGRID No. 147179	Operator Name CHESAPEAKE OPERATING CO.	Elevation 3182'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	19	25 S	30 E		100	SOUTH	475	EAST	EDDY

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	19	25 S	30 E		358	NORTH	428	EAST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No. NSL-6172, (A)
------------------------	-----------------	--------------------	----------------------------

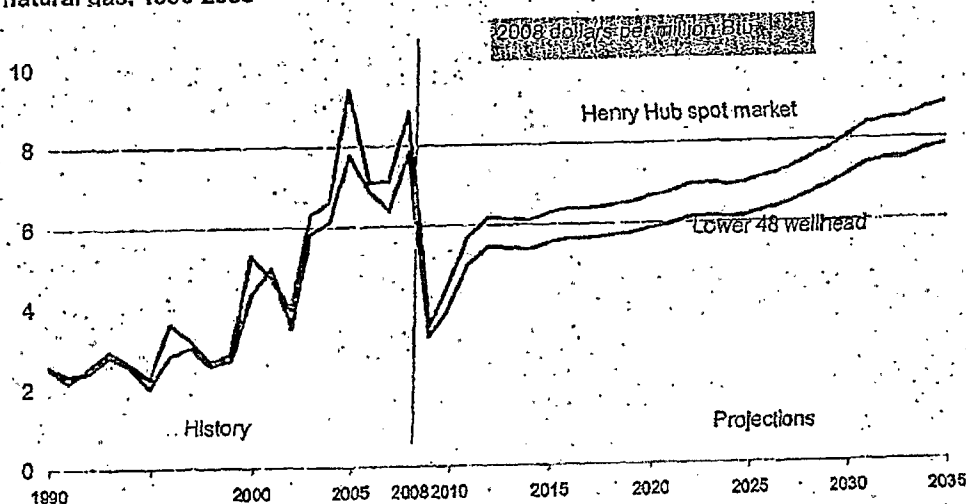
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	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. <i>Bryan Arrant</i> 07/19/2010 Signature Date Bryan Arrant Printed Name
	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. MADE BY 72, 1984 Date Surveyed Signature & Seal of Professional Surveyor Certificate No. Gory L. Jones 7977 BASIN SURVEYS

Figure 69. Annual average lower 48 wellhead and Henry Hub spot market prices for natural gas, 1990-2035 (2008 dollars per million Btu)

	Wellhead price	Henry Hub spot price
1990	2.55	2.6
	2.3	2.2
	2.4	2.51
	2.81	2.94
	2.54	2.61
	2.03	2.25
	2.83	3.59
	3.02	3.21
	2.57	2.65
	2.69	2.84
2000	4.32	5.28
	4.99	4.74
	3.49	3.95
	5.83	6.3
	6.14	6.6
2005	7.77	9.41
	6.87	7.07
	6.38	7.12
2008	7.85	8.86
	3.24	3.49
2010	3.94	4.5
	5.02	5.68
	5.45	6.17
	5.42	6.13
	5.38	6.09
2015	5.54	6.27
	5.63	6.38
	5.64	6.38
	5.69	6.43
	5.75	6.51
2020	5.87	6.64
	5.96	6.74
	6.12	6.93
	6.15	6.96
	6.11	6.91
2025	6.18	6.99
	6.32	7.15
	6.44	7.29
	6.65	7.53
	6.87	7.77
2030	7.11	8.05
	7.41	8.39
	7.51	8.5
	7.53	8.53
	7.73	8.75
2035	7.84	8.88

Figure 69. Annual average lower 48 wellhead and Henry Hub spot market prices for natural gas, 1990-2035

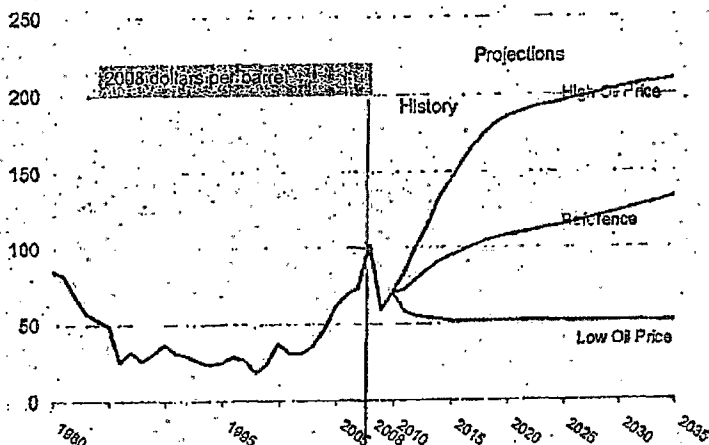


U.S. Energy Information Administration, Natural Gas Annual 2007, DOE/EIA-0131(2007) (Washington, DC, January 2009). Henry Hub natural gas prices: U.S. Energy Information Administration, Short-Term Energy Outlook Query System, Monthly Natural Gas Data, Variable NGHHUUS. Projections: AEO-2010 National Energy Modeling System, run AEO2010R.D111809A.

Figure 16. Average annual world oil prices in three cases, 1980-2035 (2008 dollars per barrel)

	Reference	High	Low
1980	84.95		
	82		
	68.31		
	57.56		
	53.27		
	48.98		
	25.86		
	32.11		
	25.83		
	30.61		
	36.81		
	31.23		
	29.15		
	25.53		
	23.33		
1995	24.5		
	28.85		
	26.44		
	18.3		
	24.19		
	37.19		
	31.06		
	30.76		
	35.75		
	46.35		
2005	61.34		
	69.27		
	73.89		
2008	101.45		
	59.21	59.21	59.21
2010	70.3	70.3	70.3
	73.06	83.89	57.84
	79.41	100.4	54.88
	85.74	115.55	53.86
	90.91	132.86	52.79
2015	94.52	144.78	51.59
	98.23	156.35	51.73
	101.23	166.97	51.78
	104.41	175.39	51.82
	106.47	181.21	51.91
2020	108.28	185.63	51.86
	109.52	188.38	51.83
	110.92	190.68	51.82
	112.32	192.76	51.8
	113.63	194.06	51.76
2025	115.09	196.01	51.73
	116.61	197.59	51.71
	118.32	198.81	51.71
	120.13	200.45	51.66
	122.04	202.29	51.62
2030	123.5	203.91	51.63
	125.56	205.32	51.59
	127.43	206.73	51.53
	129.29	207.78	51.5
	131.25	208.7	51.49
2035	133.22	209.6	51.44

Figure 16. Average annual world oil prices in three cases, 2005-2035



U.S. Energy Information Administration, Annual Energy Review 2008, DOE/EIA-0384 (2008)
(Washington, DC, June 2009). Projections: AEO2010 National Energy Modeling System, runs
AEO2010R.D111809A, LP2010.D011910A, and HP2010.D011910A.