

366

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

March 30, 2011

RECEIVED OCD

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 Pierce Canyon 5 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 Pierce Canyon 5 State 1H _____ FORMATION _____ Bone Spring _____
 LOCATION _____ P _____ UNIT, _____ 350 FEET FROM _____ South LINE & _____ 350 FEET FROM _____ East LINE
 SECTION _____ 5 _____ TOWNSHIP _____ 25S RANGE _____ 30E COUNTY _____ EDDY _____, NEW MEXICO
 SPUD DATE _____ 1/2/2010 _____ COMPLETION DATE _____ 03/02/2010 _____ INITIAL PRODUCTION _____ 04/01/2010 _____
 PERFORATIONS _____ 7,900'-12,327' _____

BHL: 398' FNL & 502' FEL Sec 5 T25S R30E

STIMULATION:

ACID _____

FRACTURE Frac with 30,000 gals 15% HCL, 42,000 BBLs Frac Fluid, 2,260,000 LBS sand

POTENTIAL 4/1/2010: 388 BOPD, 1,552 MCFPD, 1,758 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	3,397	
Recovery factor (RF), %	60%	
Recoverable gas, BCF *(See eq. below)	3.250	

*Sometimes unable to match performance due to volumetric uncertainty.

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

Bgi = 0.640 RB/MCF

PERFORMANCE DATA

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

CUMULATIVE PRODUCTION TO	<u>01/01/2011</u>	<u>187,474</u>	MCF Gas	<u>53,156</u>	BBL Oil
INITIAL RATE (qi)	<u>1278 MCFPD</u>				
ECONOMIC LIMIT (ql)	<u>10 MCFPD</u>				
HYPERBOLIC DECLINE RATE, dy	<u>n=1.5 d= 51%/yr</u>				
REMAINING GAS (Q) =	<u>2,130,536</u>				
ULTIMATE RECOVERABLE GAS (mcf)	<u>2,318,010</u>				

(Attach plat showing proration unit and participating area.)

ECONOMIC

GROSS WELL COST \$ \$2,531,880 (to the depth of formation completed)

COMPLETION COST \$ 2,531,880

GROSS TOTAL COST \$ \$4,869,650

YEAR	GROSS GAS MMCF	BFIT NET INCOME (\$M)	OPERATING COST (\$M) INCL SEV & AD VAL TAX	5% NET BFIT DISCOUNTED CASH FLOW
ZERO				
1	<u>258.04</u>	<u>2,869.2</u>	<u>378.7</u>	<u>-2,408.0</u>
2	<u>277.23</u>	<u>2,404.3</u>	<u>382.6</u>	<u>1,907.8</u>
3	<u>179.29</u>	<u>1,584.5</u>	<u>309.6</u>	<u>1,144.2</u>
4	<u>138.62</u>	<u>1,246.6</u>	<u>279.3</u>	<u>826.4</u>
5	<u>115.28</u>	<u>1,052.1</u>	<u>261.8</u>	<u>642.9</u>
6	<u>99.82</u>	<u>926.1</u>	<u>250.6</u>	<u>523.3</u>
7	<u>88.69</u>	<u>835.6</u>	<u>242.5</u>	<u>437.5</u>
8	<u>80.22</u>	<u>762.8</u>	<u>236.0</u>	<u>370.1</u>
9	<u>73.53</u>	<u>707.1</u>	<u>231.0</u>	<u>318.5</u>
10	<u>68.07</u>	<u>660.1</u>	<u>226.8</u>	<u>276.1</u>
REMAINDER	<u>939.22</u>	<u>10,061.7</u>	<u>5460.0</u>	<u>1,977.7</u>
TOTAL	2,318.01	23,110.0	8258.9	6,016.5

WELL IS COMMERCIAL

Lease: PLU PIERCE CANYON 5 STATE **1H**
 Field: POKER LAKE
 Operator: BOPCO
 County: EDDY State: NM
 Oil Differential: -3.410000 \$/BB
 Rsv_Cat: 1PDP Loc: 5-258-30E

DATE : 01/25/2011
 TIME : 11:02:11
 DBS : CHK0101
 SETTINGS : CHK0410M
 QUALIFIER: CEC0111

RESERVES AND ECONOMICS

AS OF DATE: 04/2010

--END--	GROSS OIL	GROSS GAS	NET OIL	NET GAS	NET NGL	NET EQUIV	PRICES	PRICES	PRICES	NET	NET	NET
MO-YEAR	PRODUCTION	PRODUCTION	PRODUCTION	PRODUCTION	PROD	PRODUCTION	OIL	GAS	NGL	OIL SALES	GAS SALES	NGL SALES
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
-----	MMBLS	MMCF	MMBLS	MMCF	MMBLS	MMCF	\$/BBL	\$/MCF	\$/BBL	MM\$	MM\$	MM\$
04-2010	11.12	48.67	9.73	19.59	3.19	97.16	66.890	3.767	34.86	651.07	73.80	111.34
12-2010	21.14	209.37	18.49	84.27	13.74	277.67	66.890	3.767	34.86	1237.01	317.47	478.97
12-2011	20.26	277.23	17.72	111.58	16.19	327.09	69.650	4.800	34.86	1234.49	535.60	634.21
12-2012	12.00	179.29	10.50	72.16	11.77	209.78	76.000	5.211	34.86	798.28	376.05	410.15
12-2013	8.89	138.62	7.78	55.79	9.10	157.04	82.330	5.182	34.86	640.28	289.15	317.12
12-2014	7.18	115.28	6.28	46.40	7.57	129.49	87.500	5.144	34.86	549.71	238.69	263.73
12-2015	6.08	99.82	5.32	40.18	6.55	111.41	91.110	5.297	34.86	484.89	212.83	228.36
12-2016	5.31	88.69	4.65	35.70	5.82	98.50	94.820	5.383	34.86	440.55	192.17	202.89
12-2017	4.73	80.22	4.14	32.29	5.26	88.73	97.820	5.393	34.86	405.11	174.13	183.52
12-2018	4.28	73.53	3.75	29.59	4.83	81.03	100.820	5.441	34.86	377.89	161.01	168.20
12-2019	3.92	68.07	3.43	27.40	4.47	74.80	103.060	5.498	34.86	353.71	150.64	155.73
12-2020	3.62	63.53	3.17	25.57	4.17	69.62	104.870	5.613	34.86	332.63	143.53	145.34
12-2021	3.38	59.68	2.95	24.02	3.92	65.24	106.110	5.699	34.86	313.37	136.89	136.53
12-2022	3.16	56.36	2.77	22.69	3.70	61.48	107.510	5.852	34.86	297.45	132.75	128.94
12-2023	2.98	53.46	2.61	21.52	3.51	58.20	108.910	5.880	34.86	283.76	126.53	122.30
12-2024	2.82	50.79	2.46	20.44	3.33	55.23	110.220	5.842	34.86	271.64	119.42	116.18
12-2025	2.67	48.25	2.34	19.42	3.17	52.45	111.680	5.909	34.86	261.25	114.75	110.37
S TOT	123.55	1710.85	108.10	688.62	112.27	2010.90	82.634	5.076	34.86	8933.10	3495.43	3913.90
AFTER	33.64	607.16	29.44	244.38	39.84	660.08	124.200	7.048	34.86	3656.20	1722.34	1388.99
TOTAL	157.19	2318.01	137.54	933.00	152.12	2670.97	91.530	5.562	34.86	12589.30	5217.77	5302.89

--END--	NO.OF AD	VALOREM	PRODUCTION	OTHER OPER	DIRECT	OVERHEAD	TOTAL OPER	EQUITY	FUTURE NET	CUMULATIVE	CUM. DISC.
MO-YEAR	WELLS	TAX	TAX	EXPENSES	EXPENSES	EXPENSES	EXPENSES	INVESTMENT	CASHFLOW	CASHFLOW	CASHFLOW
-----	-----	MM\$	MM\$	MM\$	MM\$	MM\$	MM\$	MM\$	MM\$	MM\$	MM\$
04-2010	1.	1.53	71.28	0.00	14.00	0.00	14.00	4869.65	-4120.24	-4120.24	-4120.21
12-2010	1.	3.71	176.20	0.00	112.00	0.00	112.00	0.00	1741.54	-2378.70	-2435.29
12-2011	1.	4.39	210.23	0.00	168.00	0.00	168.00	0.00	2021.68	-357.02	-629.84
12-2012	1.	2.89	138.67	0.00	168.00	0.00	168.00	0.00	1274.92	917.90	402.50
12-2013	1.	2.28	108.99	0.00	168.00	0.00	168.00	0.00	967.28	1885.18	1113.89
12-2014	1.	1.92	91.92	0.00	168.00	0.00	168.00	0.00	790.29	2675.47	1642.03
12-2015	1.	1.69	80.90	0.00	168.00	0.00	168.00	0.00	675.49	3350.97	2052.30
12-2016	1.	1.53	72.97	0.00	168.00	0.00	168.00	0.00	593.12	3944.09	2379.73
12-2017	1.	1.39	66.58	0.00	168.00	0.00	168.00	0.00	526.79	4470.98	2644.07
12-2018	1.	1.29	61.71	0.00	168.00	0.00	168.00	0.00	476.11	4946.99	2861.23
12-2019	1.	1.20	57.59	0.00	168.00	0.00	168.00	0.00	433.29	5380.28	3040.86
12-2020	1.	1.13	54.23	0.00	168.00	0.00	168.00	0.00	398.13	5778.41	3190.94
12-2021	1.	1.07	51.21	0.00	168.00	0.00	168.00	0.00	366.50	6144.91	3316.51
12-2022	1.	1.02	48.80	0.00	168.00	0.00	168.00	0.00	341.32	6486.23	3422.82
12-2023	1.	0.97	46.48	0.00	168.00	0.00	168.00	0.00	317.14	6803.37	3512.61
12-2024	1.	0.93	44.26	0.00	168.00	0.00	168.00	0.00	294.06	7097.43	3588.30
12-2025	1.	0.89	42.43	0.00	168.00	0.00	168.00	0.00	275.05	7372.48	3652.66
S TOT	1.	29.84	1424.46	0.00	2646.00	0.00	2646.00	4869.65	7372.48	7372.48	3652.66
AFTER	1.	12.35	590.24	0.00	3556.00	0.00	3556.00	16.00	2592.95	9965.43	3989.58
TOTAL	1.	42.19	2014.69	0.00	6202.00	0.00	6202.00	4885.65	9965.43	9965.43	3989.58

OIL @4/2010 GAS @4/2010

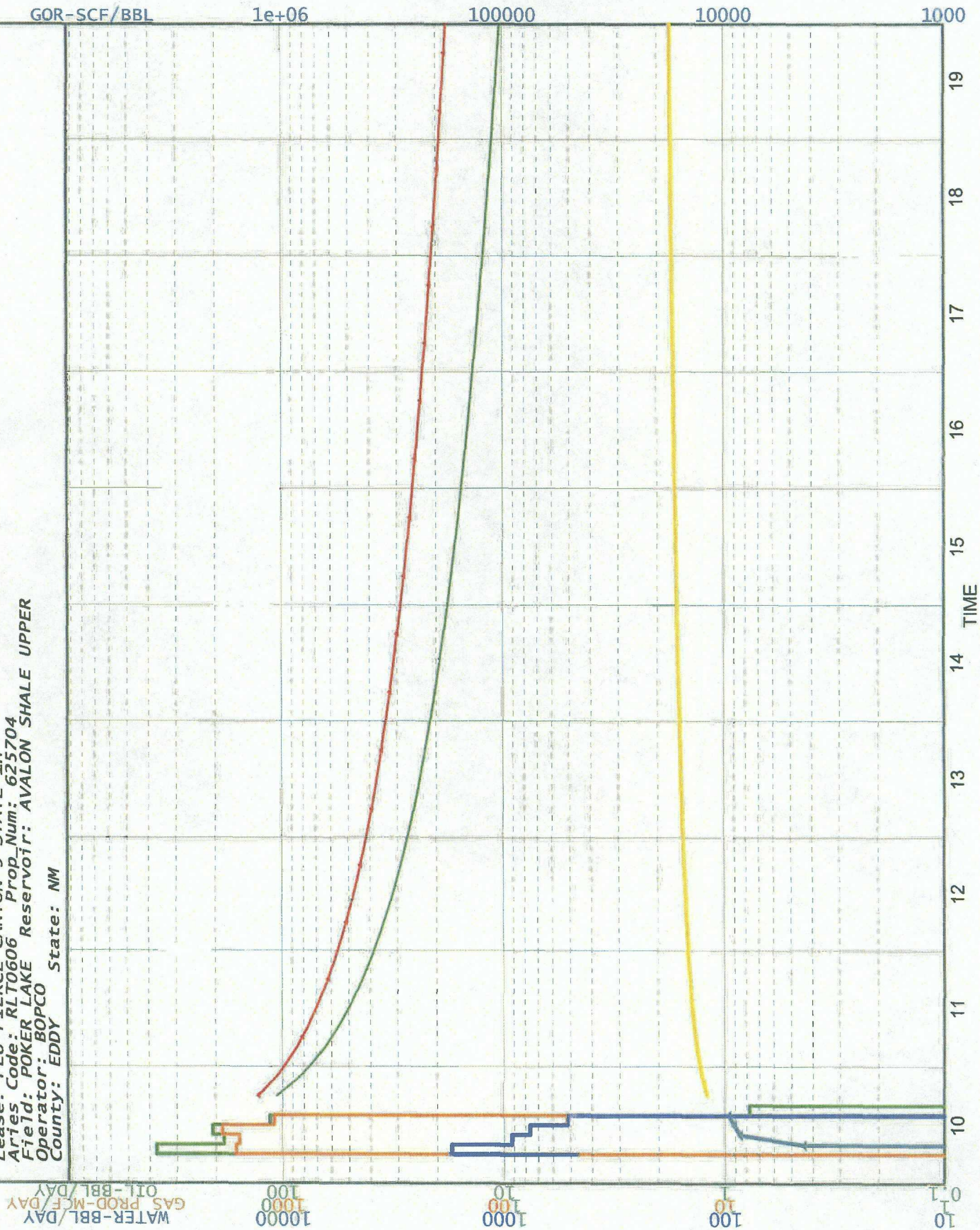
GROSS WELLS	1.0	0.0	LIFE, YRS.	36.92
GROSS ULT., MB & MMF	157.192	2318.012	DISCOUNT %	10.00
GROSS CUM., MB & MMF	0.000	0.000	UNDISCOUNTED PAYOUT, YRS.	2.03
GROSS RES., MB & MMF	157.192	2318.012	DISCOUNTED PAYOUT, YRS.	2.36
NET RES., MB & MMF	137.543	933.000	UNDISCOUNTED NET/INVEST.	3.04
NET REVENUE, M\$	12589.303	5217.772	DISCOUNTED NET/INVEST.	1.82
INITIAL PRICE, \$	66.890	3.767	RATE-OF-RETURN, PCT.	45.25
INITIAL N.I., PCT.	87.500	87.500	INITIAL W.I., PCT.	100.000
NET EQUIV RES., MMCFE		2670.975	REVERSION, YRS.	0.00

PLANT GROSS PROD (MU)	173.851
PLANT NET PROD (MU)	152.120
PLANT NET REVENUES (M\$)	5302.885

P.W. %	P.W., M\$
0.00	9965.427
5.00	6016.543
8.00	4665.868
10.00	3989.579
12.00	3435.986
14.00	2974.025
16.00	2582.080
20.00	1950.834
25.00	1356.136
30.00	900.863
40.00	241.849
50.00	-218.594
60.00	-562.326
80.00	-1047.291
100.00	-1377.480

District: PERMIAN

Lease: PLU PIERCE CANYON 5 STATE 1H
Aries Code: RL70606 Prop Num: 625704
Field: POKER LAKE Reservoir: AVALON SHALE UPPER
Operator: BOPCO
County: EDDY State: NM



Submit To Appropriate District Office
Two Copies
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

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

Form C-105
July 17, 2008

1. WELL API NO.
30-015-36998

2. Type of Lease
☒ STATE ☐ FEE ☐ FED/INDIAN

3. State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

4. Reason for filing:

☒ COMPLETION REPORT (Fill in boxes #1 through #31 for State and Fee wells only)

☐ C-144 CLOSURE ATTACHMENT (Fill in boxes #1 through #9, #15 Date Rig Released and #32 and/or #33; attach this and the plat to the C-144 closure report in accordance with 19.15.17.13.K NMAC)

5. Lease Name or Unit Agreement Name
PLU Pierce Canyon 5 State

6. Well Number:

1H

7. Type of Completion:

☒ NEW WELL ☐ WORKOVER ☐ DEEPENING ☐ PLUGBACK ☐ DIFFERENT RESERVOIR ☐ OTHER

8. Name of Operator

Chesapeake Operating, Inc.

9. OGRID

147179

10. Address of Operator

P.O. Box 18496 Oklahoma City, OK 73154-0496

11. Pool name or Wildcat

Pierce Crossing; Bone Spring, East

12. Location	Unit Ltr.	Section	Township	Range	Lot	Feet from the	N/S Line	Feet from the	E/W Line	County
Surface:	P	5	25S	30E		350'	South	350'	East	Eddy
BH:	A	5	25S	30E		398'	North	502'	East	Eddy

13. Date Spudded 01/02/2010	14. Date T.D. Reached 02/01/2010	15. Date Rig Released 03/05/2010	16. Date Completed (Ready to Produce) 03/02/2010	17. Elevations (DF and RKB, RT, GR, etc.) 3243' GR
--------------------------------	-------------------------------------	-------------------------------------	---	---

18. Total Measured Depth of Well 12,357'	19. Plug Back Measured Depth 12,262'	20. Was Directional Survey Made? Yes	21. Type Electric and Other Logs Run Porosity, Resistivity & BVP
---	---	---	---

22. Producing Interval(s), of this completion - Top, Bottom, Name
7900'-12327'

CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	48#	695'	17 1/2"	900 sxs	
9 5/8"	40#	3730'	12 1/4"	1121 sxs	
5 1/2"	20#	12357'	8 3/4"	1845 sxs	

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2 7/8"	7441'	7429'

26. Perforation record (interval, size, and number)
7900'-12327' (OA) 350 holes

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
7900'-12327'	30K gals Acid; 42K bbl water
	& 2.26 Mill #s sand

28. PRODUCTION

Date First Production		Production Method (Flowing, gas lift, pumping - Size and type pump)				Well Status (Prod. or Shut-in)	
						Shut-in	
Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
				0	0	0	
Flow/Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)	
			0	0	0		

29. Disposition of Gas (Sold, used for fuel, vented, etc.)

Shut-in Recover Load Water

30. Test Witnessed By

31. List Attachments As drilled C-102, Directional Survey, E-Logs, Letter Requesting Confidentiality

32. If a temporary pit was used at the well, attach a plat with the location of the temporary pit.

33. If an on-site burial was used at the well, report the exact location of the on-site burial:

Latitude

Longitude

NAD 1927 1983

I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief

Signature

Printed Name Bryan Arrant

Title Senior Regulatory Compl. Sp. Date 03/25/2010

E-mail Address bryan.arrant@chk.com

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well and not later than 60 days after completion of closure. When submitted as a completion report, this shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 11, 12 and 26-31 shall be reported for each zone.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico		Northwestern New Mexico	
T. Anhy	T. Canyon	T. Ojo Alamo	T. Penn A"
T. Salt 688'	T. Strawn	T. Kirtland	T. Penn. "B"
B. Salt 3526'	T. Atoka	T. Fruitland	T. Penn. "C"
T. Yates	T. Miss	T. Pictured Cliffs	T. Penn. "D"
T. 7 Rivers	T. Devonian	T. Cliff House	T. Leadville
T. Queen	T. Silurian	T. Menefee	T. Madison
T. Grayburg	T. Montoya	T. Point Lookout	T. Elbert
T. San Andrés	T. Simpson	T. Mancos	T. McCracken
T. Glorieta	T. McKee	T. Gallup	T. Ignacio Otzie
T. Paddock	T. Ellenburger	Base Greenhorn	T. Granite
T. Blinebry	T. Gr. Wash	T. Dakota	
T. Tubb	T. Delaware Sand 3733	T. Morrison	
T. Drinkard	T. Bone Springs 7509	T. Todilto	
T. Abo	T.	T. Entrada	
T. Wolfcamp	T.	T. Wingate	
T. Penn	T.	T. Chinle	
T. Cisco (Bough C)	T.	T. Permian	

OIL OR GAS SANDS OR ZONES

No. 1, from:.....10.....

No. 3, from.....to.....

No. 2, from..... to.....

No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from to feet.

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology

From	To	Thickness In Feet	Lithology

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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 15, 2009
Submit one copy to appropriate
District Office

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-36998	² Pool Code 96473	³ Pool Name Pierce Crossing; Bone Spring, East
⁴ Property Code 37594	⁵ Property Name PLU Pierce Canyon 5 State	⁶ Well Number 1H
⁷ OGRID No. 147179	⁸ Operator Name Chesapeake Operating, Inc.	⁹ Elevation 3243' 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
P	5	25S	30E		350'	South	350'	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	5	25S	30E		398'	North	502'	East	Eddy

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ 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.

Bottom Hole Location
398' FNL & 502' FEL

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 undivided 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. Date: 03/25/2010 Bryan Arrant 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:	
	Please Refer to Original Plat Certificate Number	

Surface Location
&
Penetration Point
350' FSL & 350' FEL

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Form C-104
Revised October 15, 2009

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address Chesapeake Operating, Inc. P.O. Box 18496 Oklahoma City, OK 73154-0496		² OGRID Number 147179
⁴ API Number 30 - 015 - 36998		³ Reason for Filing Code/ Effective Date NW
⁵ Pool Name Pierce Canyon; Bone Spring, East	⁶ Pool Code 96473	
⁷ Property Code 37594	⁸ Property Name PLU Pierce Canyon 5 State	⁹ Well Number 1H

II. ¹⁰ Surface Location

UI or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South	Feet from the	East/West line	County
P	5	25S	30E		350'	South Line	350'	East	Eddy

¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot 1dn	Feet from the	North/South line	Feet from the	East/West line	County
A	5	25S	30E		398'	North	502'	East	Eddy

¹² Lse Code S	¹³ Producing Method Code P	¹⁴ Gas Connection Date	¹⁵ C-129 Permit Number	¹⁶ C-129 Effective Date	¹⁷ C-129 Expiration Date
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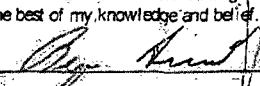
III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W
174238	Teppeo Crude Oil, LLC 210 Park Ave, Suite 1600 Oklahoma City, OK	O
23435	Transwestern Pipeline Company P.O. Box 1188 Houston, TX	G

IV. Well Completion Data

²¹ Spud Date 01/02/2010	²² Ready Date 03/02/2010	²³ TD 12327'	²⁴ PBTD 12262'	²⁵ Perforations 7900'-12327'	²⁶ DHC, MC
²⁷ Hole Size 17 1/2"	²⁸ Casing & Tubing Size 13 3/8"	²⁹ Depth Set 695'	³⁰ Sacks Cement 900 sxs		
12 1/4"	9 5/8"	3730'	1121 sxs		
8 3/4"	5 1/2"	12357'	1845 sxs		
2 7/8" tubing set @7441'					

V. Well Test Data

³¹ Date New Oil 04/01/2010	³² Gas Delivery Date 04/01/2010	³³ Test Date 04/14/2010	³⁴ Test Length 24 hours	³⁵ Tbg. Pressure 900	³⁶ Csg. Pressure 900
³⁷ Choke Size 64/64	³⁸ Oil 388 BO	³⁹ Water 1758 BW	⁴⁰ Gas 1552 MCFG	⁴¹ Test Method	
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: 			OIL CONSERVATION DIVISION		
Printed name: Bryan Arrant			Approved by:		
Title: Senior Regulatory Compl. Sp.			Title:		
E-mail Address: bryan.arrant@chk.com			Approval Date:		
Date: 04/16/2010		Phone: (405)935-3782			



Directional Survey Schematic

PLU PIERCE CANYON 5 STATE 1H

Field: SEC 5, 25S-30E, 350 FSL & 350 FEL
 County: EDDY
 State: NEW MEXICO
 Location: WellReadiness: FROM HWY 128 & TWINWELLS; SOUTH 10 MILES TO MCDONALD RD; WEST 3.3 MILES TO LEASE RD; SOUTH 1.8 MILES; WEST INTO

Spud Date: 1/2/2010
 API #: 3001536998
 CHK Property #: 625704
 1st Prod Date:
 PBDT: Original Hole - 12262.0
 TD: 12,357.0

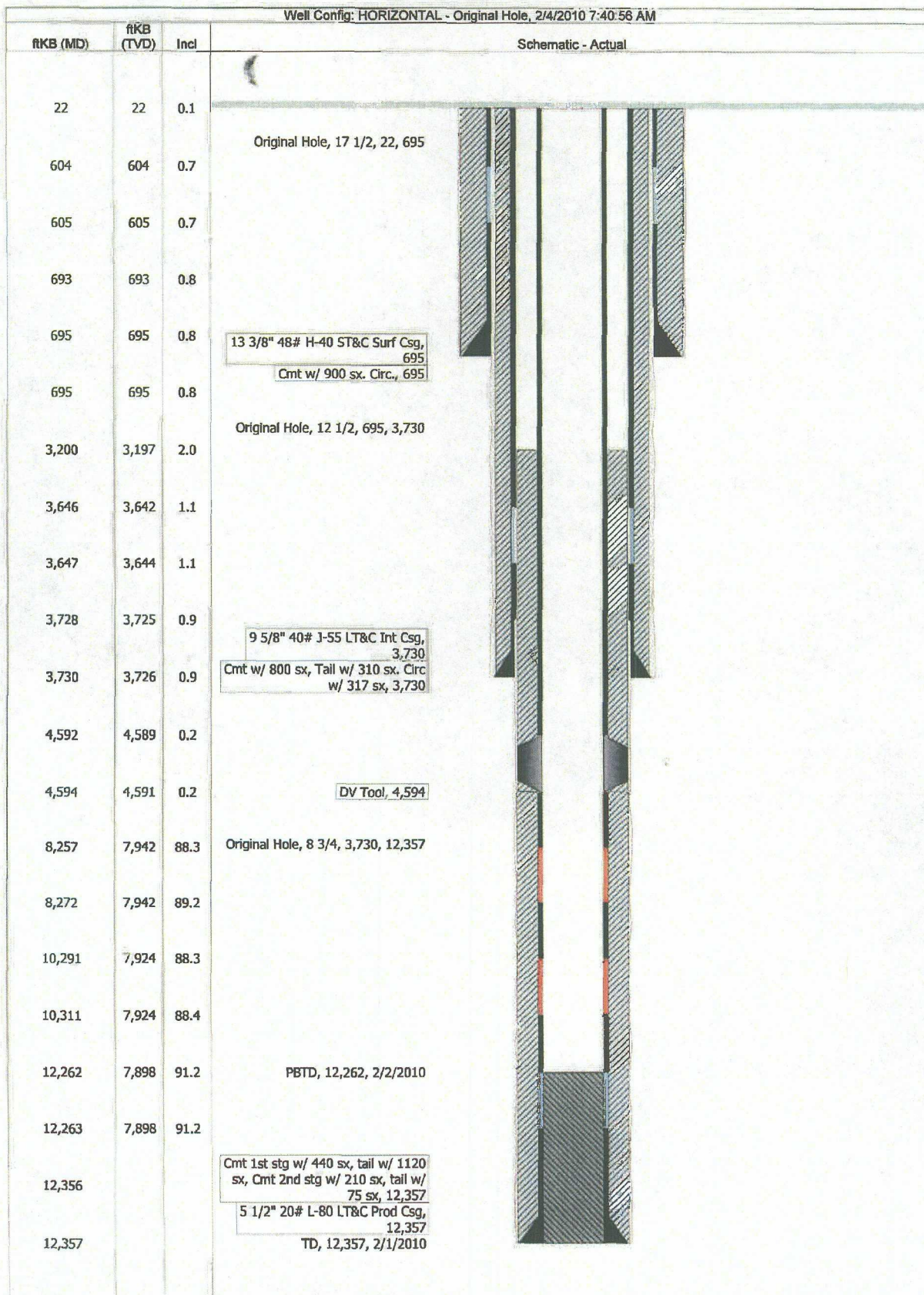
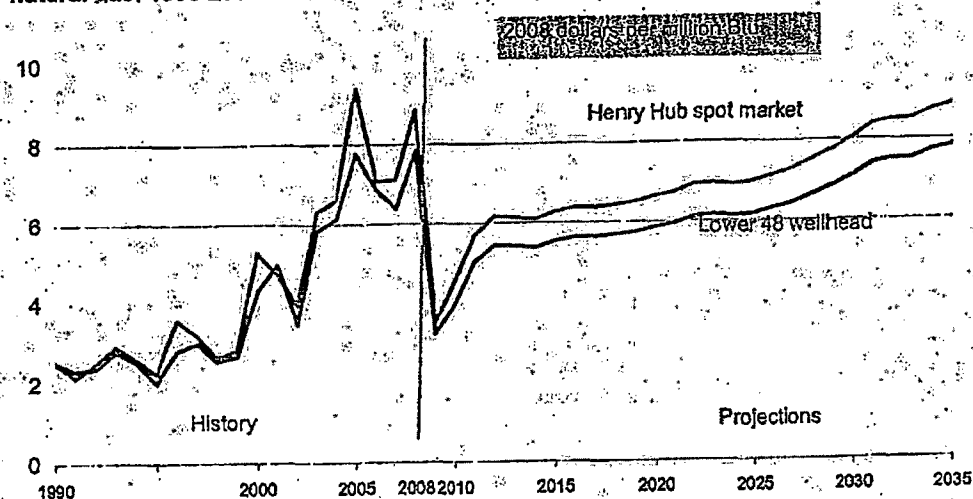


Figure 69. Annual average lower 48 wellhead and Henry Hub spot market prices for natural gas, 1990-2035 (2008 dollars per million Btu)

	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

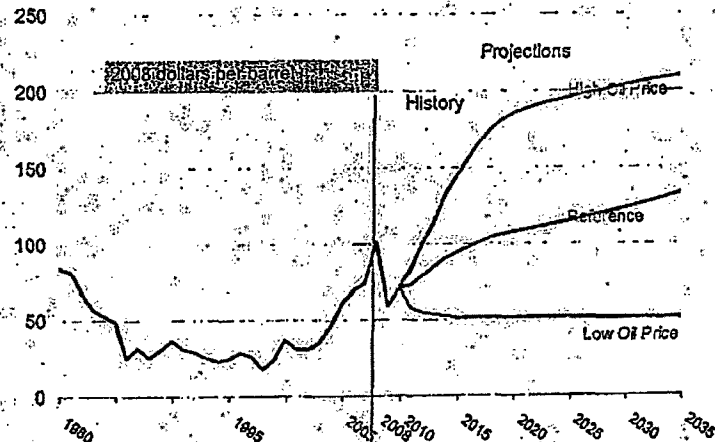


U.S. Energy Information Administration, Natural Gas Annual 2007, DOE/EIA-0131(2007) (Washington, DC, January 2009). Henry Hub natural gas prices: U.S. Energy Information Administration, Short-Term Energy Outlook Query System, Monthly Natural Gas Data, Variable NGHHUUS. Projections: AEO-2010 National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