

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

RECEIVED OCD

2011 MAR 31 A 11:38

March 30, 2011

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

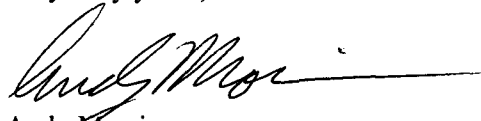
Re: Commercial Determination
PLU Pierce Canyon 33 1H
Bone Spring Formation
Eddy County, New Mexico

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 33 Federal 1H _____ FORMATION _____ Bone Spring _____
 LOCATION _____ P _____ UNIT, _____ 350 FEET FROM _____ South LINE & _____ 350 FEET FROM _____ East LINE
 SECTION _____ 33 TOWNSHIP _____ 24S RANGE _____ 30E COUNTY _____ EDDY _____, NEW MEXICO
 SPUD DATE _____ 5/8/2010 COMPLETION DATE _____ 07/03/2010 INITIAL PRODUCTION _____ 07/08/2010
 PERFORATIONS _____ 8,385'-12,575'

BHL: 351' FNL & 364' FEL Sec 33 T24S R30E

STIMULATION:

ACID _____

FRACTURE Frac with 67,620 gals 15% HCL, 117,041 BBLS Wtr, 4,397,510 LBS sand

POTENTIAL 7/16/2010: 315 BOPD, 249 MCFPD, 1,592 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.	53	
Temperature (T), Fahrenheit	120	
Bottom Hole pressure (P), psia	3,630	
Recovery factor (RF), %	45%	
Recoverable gas, BCF *(See eq. below)	2.012	

*Sometimes unable to match performance due to volumetric uncertainty.

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

Bgi = 0.618 RB/MCF

PERFORMANCE DATA

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

CUMULATIVE PRODUCTION TO	<u>11/30/2010</u>	<u>172,454</u>	MCF Gas	<u>16,134</u>	BBL Oil
INITIAL RATE (qi)	<u>2277 MCFPD</u>				
ECONOMIC LIMIT (qi)	<u>38</u>				
HYPERBOLIC DECLINE RATE, dy	<u>n=1.5 d= 55%/yr</u>				
REMAINING GAS (Q) =	<u>1,190,178</u>				
ULTIMATE RECOVERABLE GAS (mcf)	<u>1,362,632</u>				

(Attach plat showing proration unit and participating area.)

ECONOMIC

GROSS WELL COST \$ \$2,627,500 (to the depth of formation completed)

COMPLETION COST \$ 2,627,500

GROSS TOTAL COST \$ \$5,255,000

YEAR	GROSS GAS MMCF	BFIT NET INCOME (\$M)	OPERATING COST (\$M) INCL SEV & AD VAL TAX	5% NET BFIT DISCOUNTED CASH FLOW
ZERO				
1	195.5	1,779.4	241.8	-3,734.1
2	179.2	1,524.3	304.2	1,165.8
3	111.1	998.2	257.1	673.4
4	84.8	791.3	238.5	478.2
5	70.1	673.8	228.0	367.1
6	60.5	597.5	221.1	295.2
7	53.6	543.0	216.3	244.0
8	48.4	498.9	212.3	203.9
9	44.3	465.3	209.3	173.4
10	41.0	436.7	206.8	148.3
REMAINDER	474.2	5,608.5	3773.2	867.8
TOTAL	1,362.6	13,916.9	6108.6	882.9

WELL IS COMMERCIAL

Lease: PLU PIERCE CANYON 33 FED
 Field: POKER LAKE
 Operator: CHESAPEAKE OPERATING I
 County: Eddy State: NM
 Oil Differential: -3.410000 \$/BB
 Rsv_Cat: 1PDP Loc: 33 024S 030E

DATE : 01/31/2011
 TIME : 11:56:13
 DBS : CHK0101
 SETTINGS : CHK0710PV0
 QUALIFIER: CEC1210

RESERVES AND ECONOMICS

AS OF DATE: 07/2010

--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	17.70	195.49	15.48	78.68	12.83	248.56	66.890	3.767	34.86	1035.73	296.43	447.22
12-2011	12.60	179.20	11.03	72.13	11.76	208.86	69.650	4.800	34.86	768.15	346.20	409.94
12-2012	7.68	111.14	6.72	44.73	7.29	128.83	76.000	5.211	34.86	510.86	233.12	254.26
12-2013	5.83	84.83	5.11	34.15	5.57	98.18	82.330	5.182	34.86	420.31	176.96	194.07
12-2014	4.81	70.10	4.21	28.22	4.60	81.07	87.500	5.144	34.86	368.23	145.15	160.37
12-2015	4.14	60.47	3.62	24.34	3.97	69.90	91.110	5.297	34.86	330.25	128.92	138.33
12-2016	3.67	53.59	3.21	21.57	3.52	61.92	94.820	5.383	34.86	304.30	116.11	122.59
12-2017	3.31	48.38	2.90	19.47	3.17	55.90	97.820	5.393	34.86	283.24	105.02	110.68
12-2018	2.03	44.28	2.65	17.82	2.91	51.15	100.820	5.441	34.86	267.05	96.97	101.30
12-2019	2.80	40.95	2.45	16.48	2.69	47.30	103.060	5.498	34.86	252.37	90.63	93.69
12-2020	2.61	38.19	2.38	15.37	2.51	44.10	104.870	5.613	34.86	239.39	86.27	87.36
12-2021	2.45	35.85	2.14	14.43	2.35	41.40	106.110	5.699	34.86	227.31	82.22	82.01
12-2022	2.31	33.83	2.02	13.62	2.22	39.07	107.510	5.852	34.86	217.33	79.69	77.40
12-2023	2.19	32.08	1.92	12.91	2.11	37.04	108.910	5.880	34.86	208.71	75.93	73.39
12-2024	2.08	30.47	1.82	12.27	2.00	35.19	110.220	5.842	34.86	200.64	71.66	69.71
12-2025	1.98	28.95	1.73	11.65	1.90	33.43	111.680	5.909	34.86	193.13	68.85	66.23
12-2026	1.88	27.50	1.64	11.07	1.80	31.76	113.200	6.043	34.86	185.97	66.89	62.92
S TOT	81.06	1115.30	70.93	448.91	73.19	1313.64	84.773	5.050	34.86	6012.98	2267.01	2551.46
AFTER	16.89	247.33	14.77	99.55	16.23	285.59	123.393	6.997	34.86	1823.10	696.59	565.82
TOTAL	97.95	1362.63	85.71	548.46	89.42	1599.23	91.431	5.403	34.86	7836.07	2963.59	3117.28

--END-- MO-YEAR	NO. OF WELLS	AD 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.	3.25	154.57	0.00	84.00	0.00	84.00	5255.00	-3717.44	-3717.44	-3734.05
12-2011	1.	2.78	133.40	0.00	168.00	0.00	168.00	0.00	1220.11	-2497.33	-2568.25
12-2012	1.	1.82	87.30	0.00	168.00	0.00	168.00	0.00	741.12	-1756.22	-1894.87
12-2013	1.	1.44	69.08	0.00	168.00	0.00	168.00	0.00	552.81	-1203.41	-1416.72
12-2014	1.	1.23	58.73	0.00	168.00	0.00	168.00	0.00	445.79	-757.62	-1049.60
12-2015	1.	1.09	52.05	0.00	168.00	0.00	168.00	0.00	376.36	-381.25	-754.45
12-2016	1.	0.99	47.27	0.00	168.00	0.00	168.00	0.00	326.73	-54.52	-510.45
12-2017	1.	0.91	43.40	0.00	168.00	0.00	168.00	0.00	286.62	232.10	-306.60
12-2018	1.	0.85	40.45	0.00	168.00	0.00	168.00	0.00	256.02	488.13	-133.20
12-2019	1.	0.80	37.95	0.00	168.00	0.00	168.00	0.00	229.94	718.06	15.11
12-2020	1.	0.75	35.89	0.00	168.00	0.00	168.00	0.00	208.38	926.44	143.11
12-2021	1.	0.72	34.02	0.00	168.00	0.00	168.00	0.00	188.80	1115.25	253.56
12-2022	1.	0.68	32.53	0.00	168.00	0.00	168.00	0.00	173.21	1288.46	350.06
12-2023	1.	0.65	31.10	0.00	168.00	0.00	168.00	0.00	158.27	1446.73	434.04
12-2024	1.	0.62	29.70	0.00	168.00	0.00	168.00	0.00	143.69	1590.42	506.65
12-2025	1.	0.60	28.49	0.00	168.00	0.00	168.00	0.00	131.12	1721.54	569.76
12-2026	1.	0.58	27.41	0.00	168.00	0.00	168.00	0.00	119.79	1841.33	624.67
S TOT	1.	19.78	943.34	0.00	2772.00	0.00	2772.00	5255.00	1841.33	1841.33	624.67
AFTER	1.	5.64	267.81	0.00	2100.00	0.00	2100.00	16.00	696.05	2537.38	882.90
TOTAL	1.	25.41	1211.14	0.00	4872.00	0.00	4872.00	5271.00	2537.38	2537.38	882.90

OIL@7/1/2010 GAS@7/1/2010

				P.W. %	P.W., M\$
GROSS WELLS	1.0	0.0	LIFE, YRS.	29.00	0.00
GROSS ULT., MB & MMF	97.949	1362.632	DISCOUNT %	5.00	2537.379
GROSS CUM., MB & MMF	0.000	0.000	UNDISCOUNTED PAYOUT, YRS.	6.69	882.904
GROSS RES., MB & MMF	97.949	1362.632	DISCOUNTED PAYOUT, YRS.	9.40	257.942
NET RES., MB & MMF	85.705	548.459	UNDISCOUNTED NET/INVEST.	1.48	-68.298
NET REVENUE, M\$	7836.073	2963.586	DISCOUNTED NET/INVEST.	1.17	-342.194
INITIAL PRICE, \$	66.890	3.767	RATE-OF-RETURN, PCT.	9.58	-575.466
INITIAL N.I., PCT.	87.500	87.500	INITIAL W.I., PCT.	100.000	-776.683
NET EQUIV RES., MMCF		1599.227	REVERSION, YRS.	0.00	-1106.888
				25.00	-1424.516
				30.00	-1671.714
PLANT GROSS PROD (MU)	102.197			40.00	-2035.581
PLANT NET PROD (MU)	89.423			50.00	-2294.278
PLANT NET REVENUES (M\$)	3117.276			60.00	-2490.141
				80.00	-2771.364
				100.00	-2966.991

Aries_Code: RLT0511 Prop_Num: 623048

District: PERMIAN

Lease: PLU PIERCE CANYON 33 FED 1H
Aries Code: RL70511 Prop Num: 623048
Field: POKER LAKE Reservoir: AVALON SHALE LOWER
Operator: CHESAPEAKE OPERATING INC
County: Eddy State: NM

WATER-DAILY
OIL-DAILY
GASPROD-MCF/DAY

1 10 100 1000 10000
10 100 1000 10000



CONFIDENTIAL UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
Operator Copy

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

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

AUG 20 2010

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other		3. Lease Serial No. NMLC068430	
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____		6. If Indian, Allottee or Tribe Name	
2. Name of Operator CHESAPEAKE OPERATING, INC. E-Mail: linda.good@chk.com		7. Unit or CA Agreement Name and No. NMNM71016X	
3. Address OKLAHOMA CITY, OK 73154-0496		8. Lease Name and Well No. PLU PIERCE CANYON 33 FEDERAL 1H	
4a. Phone No. (include area code) Ph: 405-935-4275		9. API Well No. 30-015-36636-00-S1	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* Sec 33 T24S R30E Mer NMP At surface SESE 350FSL 350FEL 32.16799 N Lat, 103.87858 W Lon At top prod interval reported below Sec 33 T24S R30E Mer NMP At total depth NENE 350FNL 350FEL		10. Field and Pool, or Exploratory WILDCAT	
14. Date Spudded 05/08/2010		15. Date T.D. Reached 05/28/2010	
16. Date Completed ☐ D & A ☒ Ready to Prod. 07/03/2010		17. Elevations (DF, KB, RT, GL)* 3301 GL	
18. Total Depth: MD 12620 TVD 8301		19. Plug Back T.D.: MD 12590 TVD 8271	
20. Depth Bridge Plug Set: MD TVD		21. Type Electric & Other Mechanical Logs Run (Submit copy of each) DSNT SLDL ML ACRT	
22. Was well cored? ☒ No ☐ Yes (Submit analysis)		23. Was DST run? ☒ No ☐ Yes (Submit analysis)	
24. Directional Survey? ☐ No ☒ Yes (Submit analysis)		25. Casing and Liner Record (Report all strings set in well)	

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
8.750	5.500	20.0		12620		2030		2800	
17.500	13.375 H-40	48.0	0	714		750		0	
12.250	9.625 J-55	40.0	0	3852		1665		0	

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	7714							

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) BONE SPRING	8385	12575	8385 TO 12575		600	OPEN
B)						
C)						
D)						

Depth Interval	Amount and Type of Material
8385 TO 12575	FRAC W/87,820 GAL ACID, 117,041 BBL WTR, 4,397,510# SAND

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
07/08/2010	07/16/2010	24	→	315.0	249.0	1592.0			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	
37/64	480		→	315	249	1592		POW	

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						AUG 25
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						/s/ Chris Watts

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

ELECTRONIC SUBMISSION #91007 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. SI	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. SI	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 Meas. Depth
				BASE OF SALT BELL CANYON CHERRY CANYON BRUSHY CANYON BONE SPRING	3804 3848 4767 6309 7636

32. Additional remarks (include plugging procedure):

CONFIDENTIAL

LOGS SUBMITTED VIA UPD OVERNIGHT TO JERRY FANT.

ATTACHMENTS: WELLBORE SCHEMATIC, DIRECTIONAL SURVEY AND CONFIDENTIAL LETTER.

(CHK PN 623048)

33. Circle 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 #91007 Verified by the BLM Well Information System.
For CHESAPEAKE OPERATING, INC., sent to the Carlsbad
Committed to AFMSS for processing by KURT SIMMONS on 08/06/2010 (10KMS1943SE)

Name (please print) LINDA GOOD

Title SR. REGULATORY COMPLIANCE SPEC

Signature (Electronic Submission)

Date 08/06/2010

Title 18 U.S.C. Section 1001 and Title 43 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 ****

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 12, 2005

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-36636	Pool Code	Pool Name Wildcat; Bone Spring
Property Code 37393	Property Name PLU PIERCE CANYON "33" FEDERAL	Well Number 1H
OGRID No. 147179	Operator Name CHESAPEAKE OPERATING CO.	Elevation 3301'

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	33	24 S	30 E		350	SOUTH	350	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	33	24 S	30 E		351	NORTH	364	EAST	EDDY
Dedicated Acres 160	Joint or Infill	Consolidation Code	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

<u>As Drilled Bottom Hole Location</u> <u>BONE SPRINGS ENTRY POINT</u> Lat - N32°10'04.69" Long - W103°52'42.94" SPC- N: 425137.658 E: 682046.547 (NAD-83) <u>SURFACE LOCATION</u> Lat - N32°10'04.69" Long - W103°52'42.94" SPC- N: 425137.658 E: 682046.547 (NAD-83)	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 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. JULY 26, 2008 Date Surveyed <i>Gary L. Jones</i> Signature Professional Surveyor Certificate No. Gary L. Jones 7977	
	BASIN SURVEYS	
	3297.1' 3298.8'	



BLM PLU Schematic

PLU PIERCE CANYON 33 FEDERAL 1H

CONFIDENTIAL

Field: Delaware Basin North
County: EDDY
State: NEW MEXICO
Location: SEC 33, 24S-30E, 350 FSL & 350 FEL
Elevation: GL 3,301.00 KB 3,323.00
KB Height: 22.00

Spud Date: 5/8/2010
Initial Compl. Date:
API #: 3001536636
CHK Property #: 623048
1st Prod Date: 7/9/2010
PBTD: Original Hole - 12590.0
TD: 12,623.0

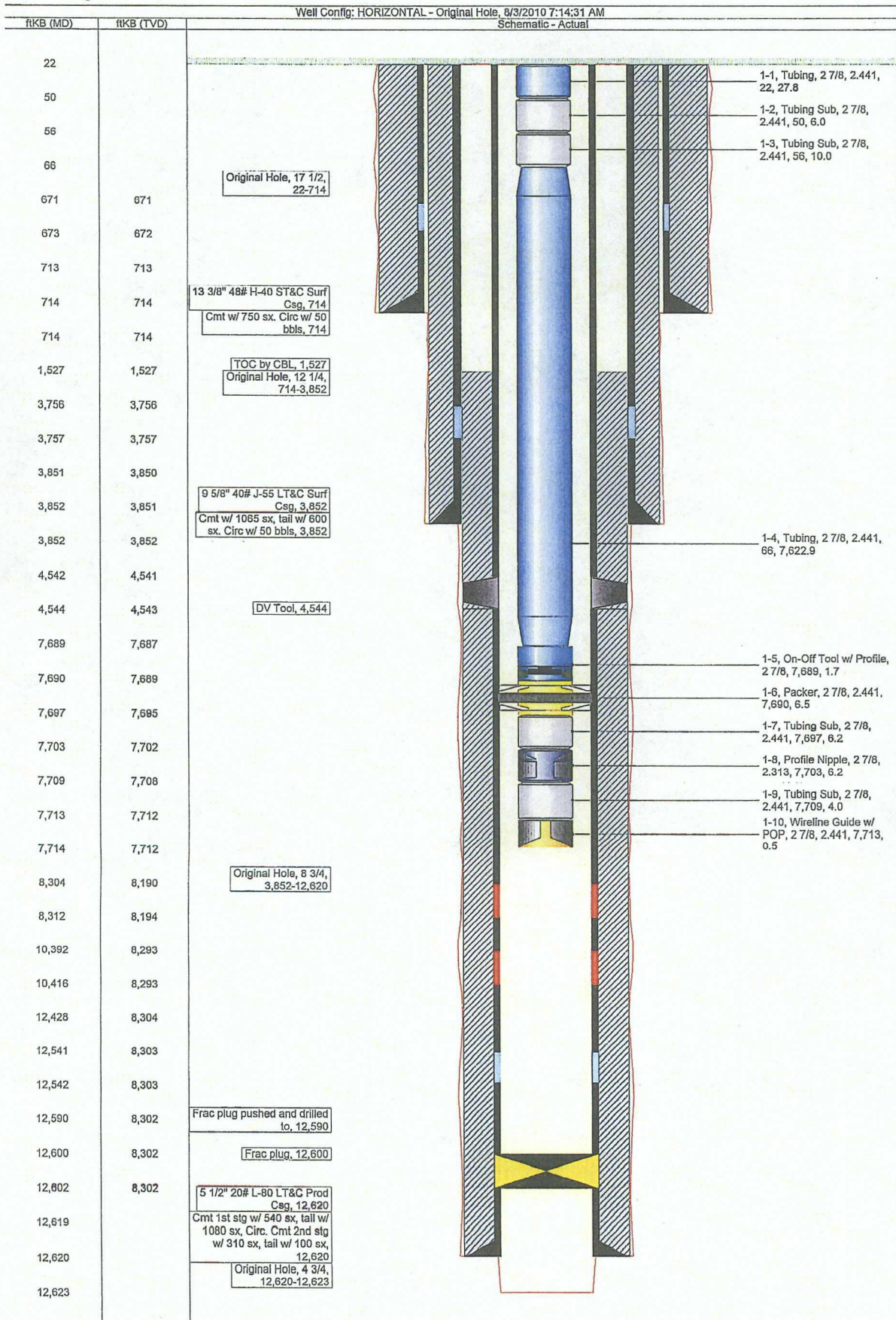
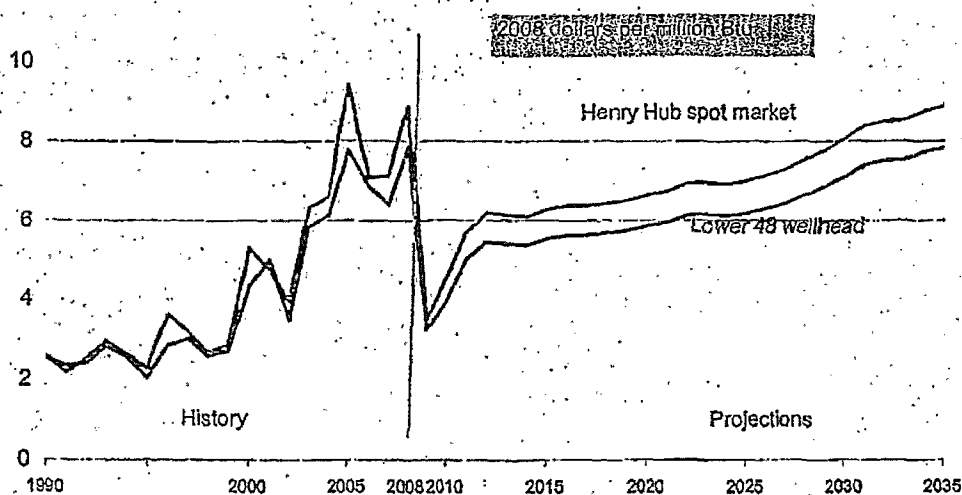


Figure 69. Annual average lower 48 wellhead and Henry Hub spot market prices for natural gas, 1990-2035 (2008 dollars per million Btu)

	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

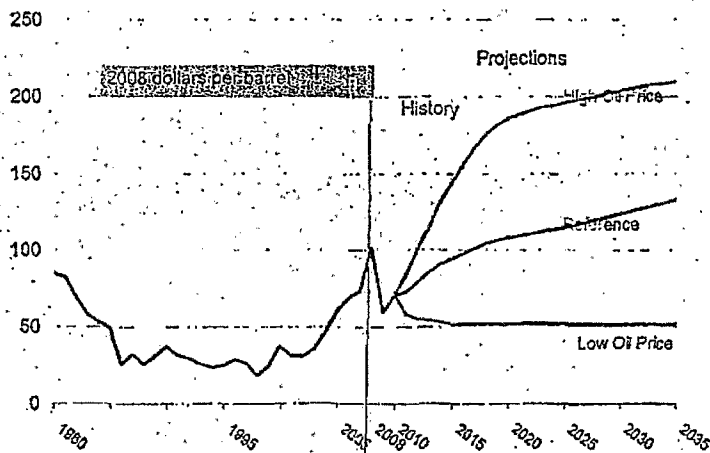


U.S. Energy Information Administration, Natural Gas Annual 2007, DOE/EIA-0131(2007) (Washington, DC, January 2009). Henry Hub natural gas prices: U.S. Energy Information Administration, Short-Term Energy Outlook Query System, Monthly Natural Gas Data, Variable NGHHUUS. Projections: AEO-2010 National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