

DATE IN <u>12.6.10</u>	SUSPENSE	ENGINEER <u>TW</u>	LOGGED IN <u>12.6.10</u>	TYPE <u>IPI</u>	APP NO. <u>1034028653</u>
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



Cheaspeak
147179
3 wells

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

- [A] Location - Spacing Unit - Simultaneous Dedication
☐ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

- [B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

- [C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☒ IPI ☐ EOR ☐ PPR

- [D] Other: Specify _____

This application applies To:

Well	API
QQU #1	3002525536
QQU #8	3002523031
QQU #11	3002526707

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☒ Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] CERTIFICATION: I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Christian Combs

Print or Type Name

Signature

Manager Regulatory, S. Division

Title

Christian.Combs@chk.com

12/02/2010

Date

e-mail Address



11/30/2010

Terry Warnell (NMOCD)
1220 South St. Francis Drive
Santa Fe, NM 87505
(505) 476-3466

RE: Quail Queen Unit Injector Pressure Increases

Mr. Terry Warnell,

Chesapeake Energy respectfully requests to increase the injection pressure on three wells in the Quail Queen Unit (QQU) waterflood. Step rate tests have been performed, and the results are summarized in the table below. More detailed information in regards to the tests and wellbores is enclosed.

Well	API	Fracture Pressure	Requested Inj. Pressure Limit	SRT Date
QQU #1	3002525536	2018 psi	1968 psi	11/18/10
QQU #8	3002523031	2298 psi	2248 psi	11/19/10
QQU #11	3002526707	2314 psi	2264 psi	11/23/10

Note: All pressures are surface pressures

Feel free to contact me if you have any questions or need any other information. Thank you for your time, I appreciate it.

Regards,

A handwritten signature in black ink, appearing to read "Shannon Glancy".

Mr. Shannon Glancy
Production Engineer (Permian)
Chesapeake Energy Corporation
Office: (405) 935-8109
Cell: (405) 415-5299
Fax: (405) 849-8109

Step Rate Test



Cardinal Surveys Company

November 18, 2010

Chesapeake Energy
Well: Quail Queen # 1
Field:
Lea County, New Mexico
SC 58730
File # 20081

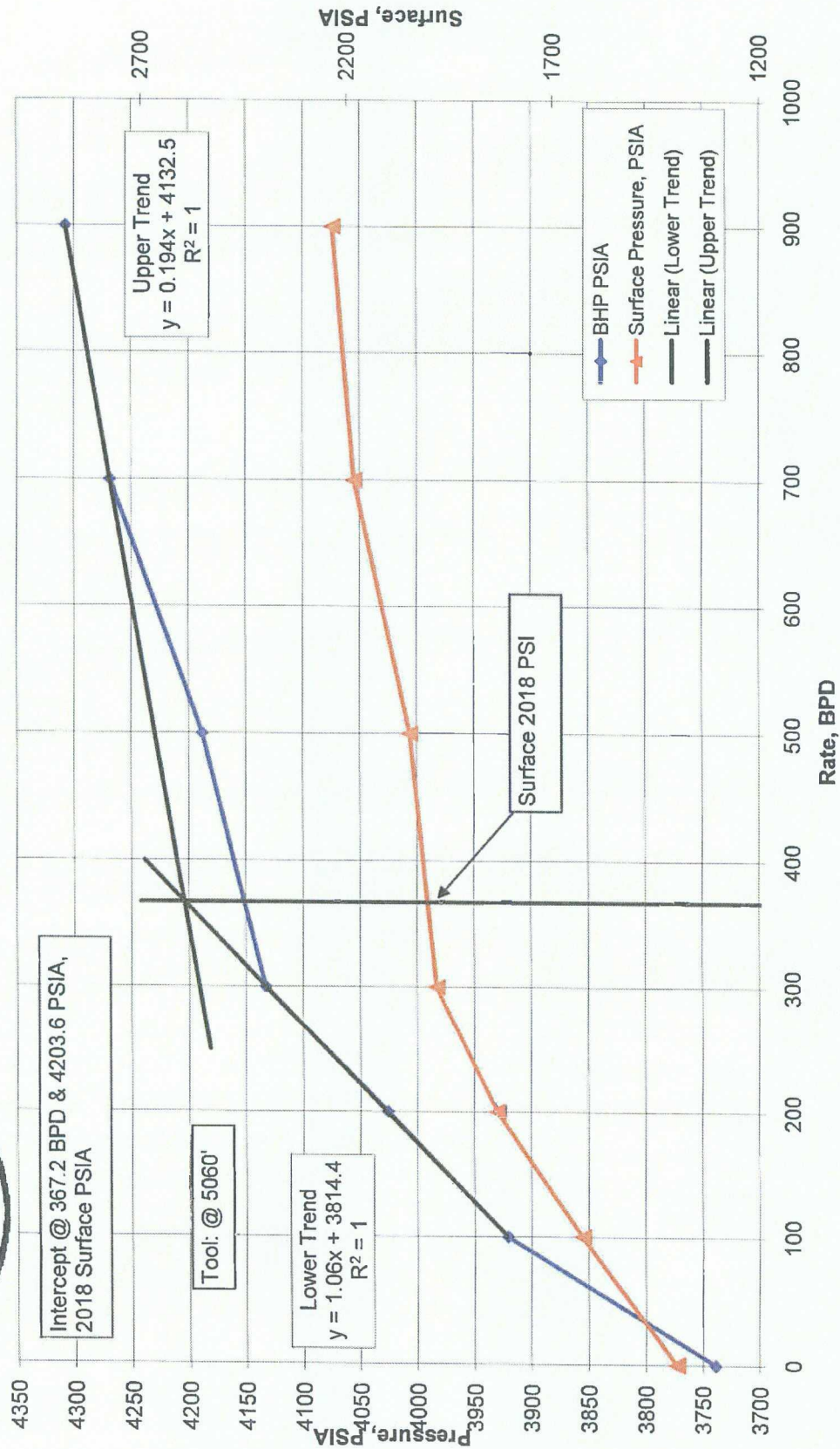
Intercept @ 367.2 BPD
& 4203.6 PSIA, 2018
Surface PSIA

Downhole PSI Tool Ser. No.
Surface PSI Gauge Ser. No.
Tool @ 5060'

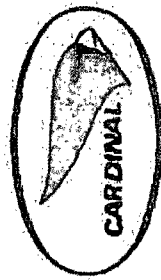
	Start Time	End Time	Rate BPD	Comments
1	8:48 AM	9:00 AM		0 On Bottom
2	9:00 AM	10:00 AM	100	
3	10:00 AM	11:00 AM	200	
4	11:00 AM	12:00 PM	300	
5	12:00 PM	1:00 PM	500	
6	1:00 PM	2:00 PM	700	
7	2:00 PM	3:00 PM	900	
8	3:00 PM	3:15 PM		0 Fall Off



Chesapeake Energy Quail Queen # 1 Step Rate Test 11-18-2010



Step Rate Test



Chesapeake Energy
 Quail Queen # 1
 Field:
 Lea County, New Mexico

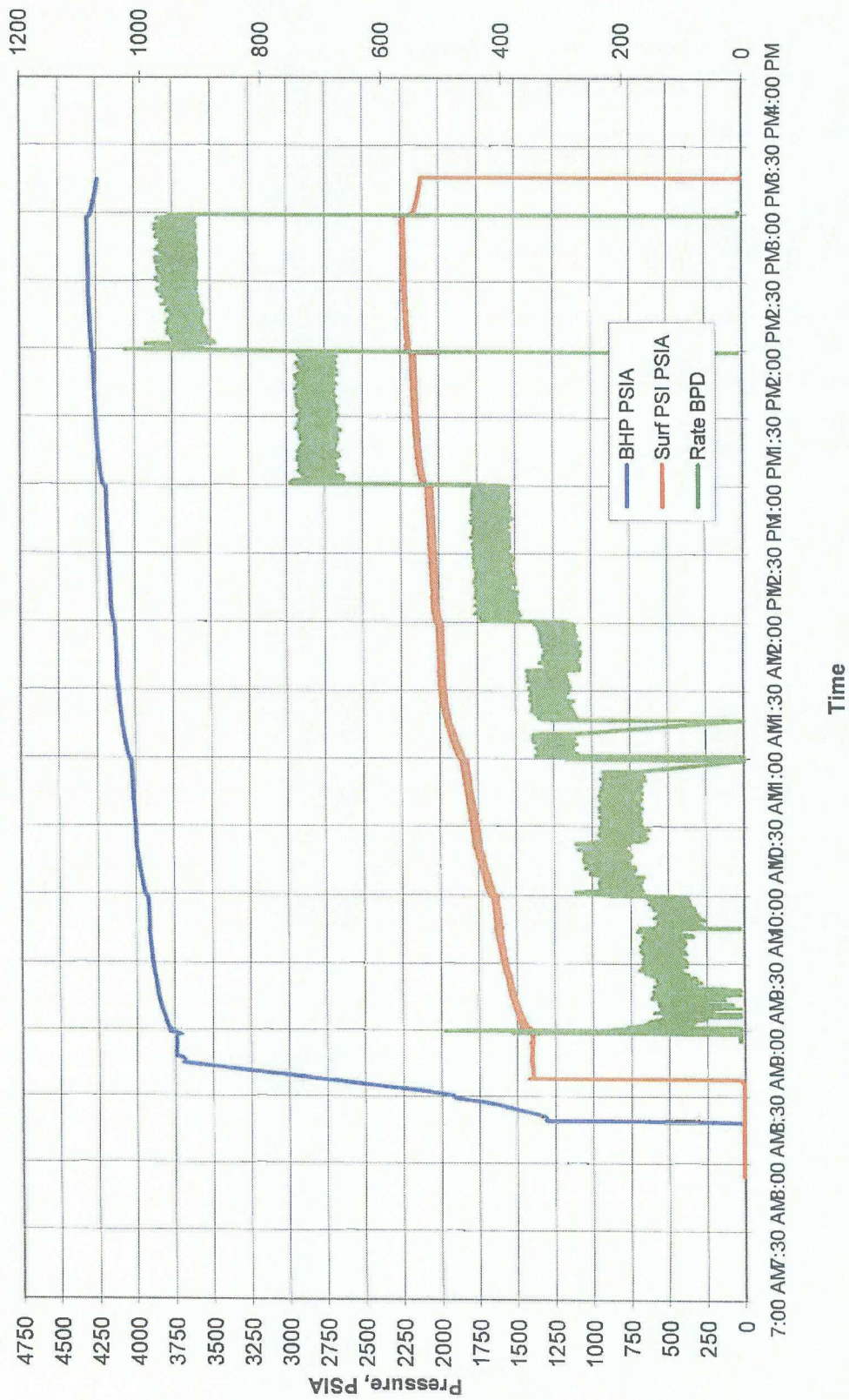
	S Time	E Time	D Time	Last Rate	Step B. H. Pressure	Surf	Cum	Delta	Avg.	Lower	Upper
			Min	BPD	PSIA	PSIA	BBL	BBL	BPD	Trend	Trend
1	8:48 AM	9:00 AM	12	0	3738.8	1402.3	0	0.00	0		
2	9:00 AM	10:00 AM	60	100	3920.6	1629.9	4.6	4.60	110	3920.6	
3	10:00 AM	11:00 AM	60	100	4025.9	1836.3	13	8.40	202	4025.9	
4	11:00 AM	12:00 PM	60	100	4132.6	1983.8	25.9	12.90	310	4132.6	
5	12:00 PM	1:00 PM	60	200	4187.7	2047.6	42.8	16.90	192		4268.3
6	1:00 PM	2:00 PM	60	200	4268.3	2182.5	71	28.20	542		4307.1
7	2:00 PM	3:00 PM	60	200	4307.1	2234.7	110	39.00	936		
8	3:00 PM	3:15 PM	15	-900	4240.6	1402.3	110	0.00	0		

1.06 3814.4
 0.194 4132.4

int point: 367.20554 BPD
 4203.6379 Psia



Chesapeake Energy Quail Queen # 1
Step Rate Test 11-18-2010





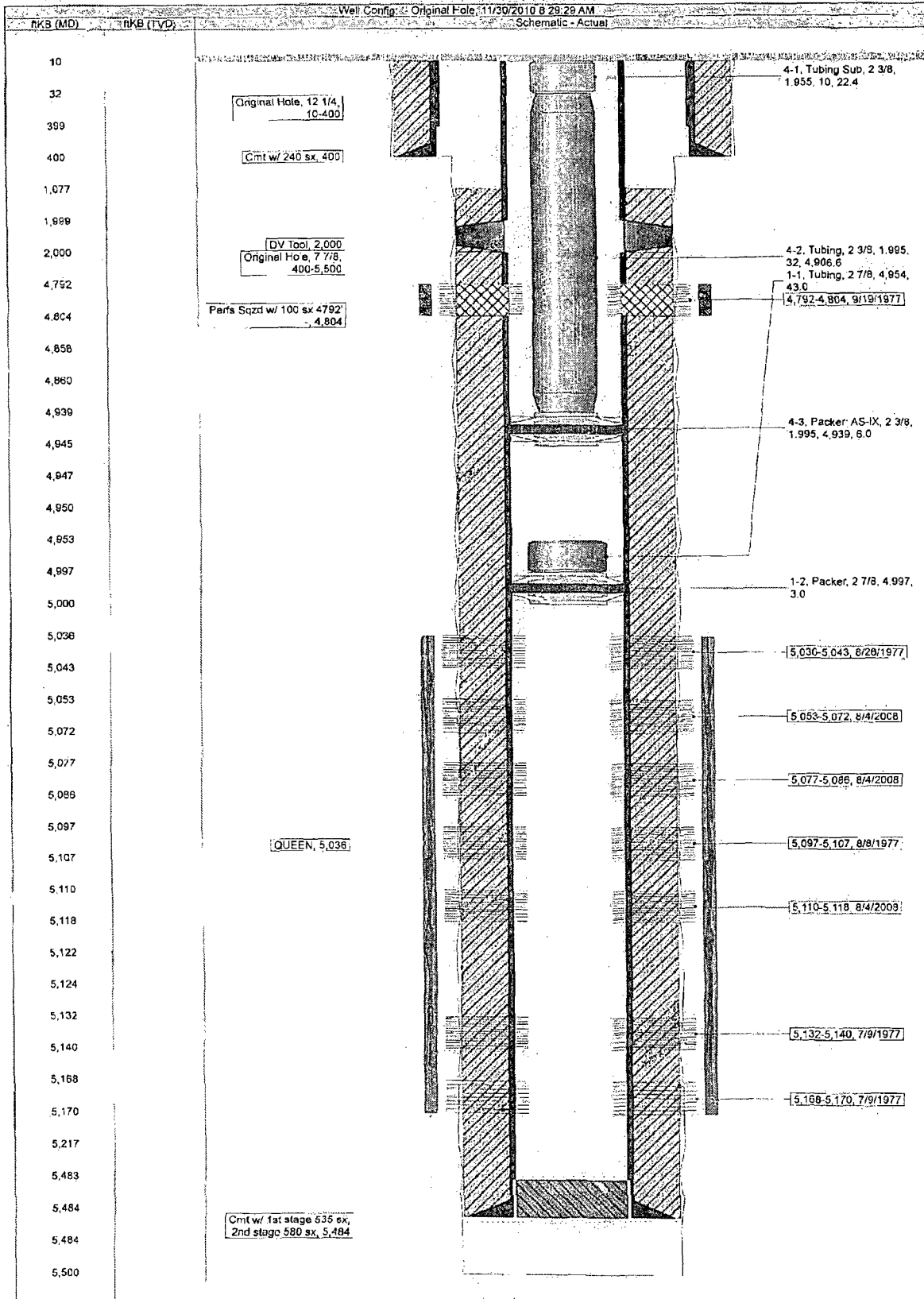
BLM Schematic

QUAIL QUEEN UNIT 1

CONFIDENTIAL

Field: QUAIL QUEEN
County: LEA
State: NEW MEXICO
Location: SEC 11, 19S-34E, 660 FSL & 1980 FEL
Elevation: GL 3,964.0 KB 3,974.0
KB Height: 10.0

Spud Date: 6/2/1977
Initial Compl. Date:
API #: 3002525536
CHK Property #: 891043
1st Prod Date: 8/31/1977
PBSD: Original Hole - 5217.0
TD: 5,500.0



Step Rate Test



Cardinal Surveys Company

November 19, 2010

Chesapeake Energy
Well: Quail Queen # 8
Field:
Lea County, New Mexico
SC 58731
File # 20082

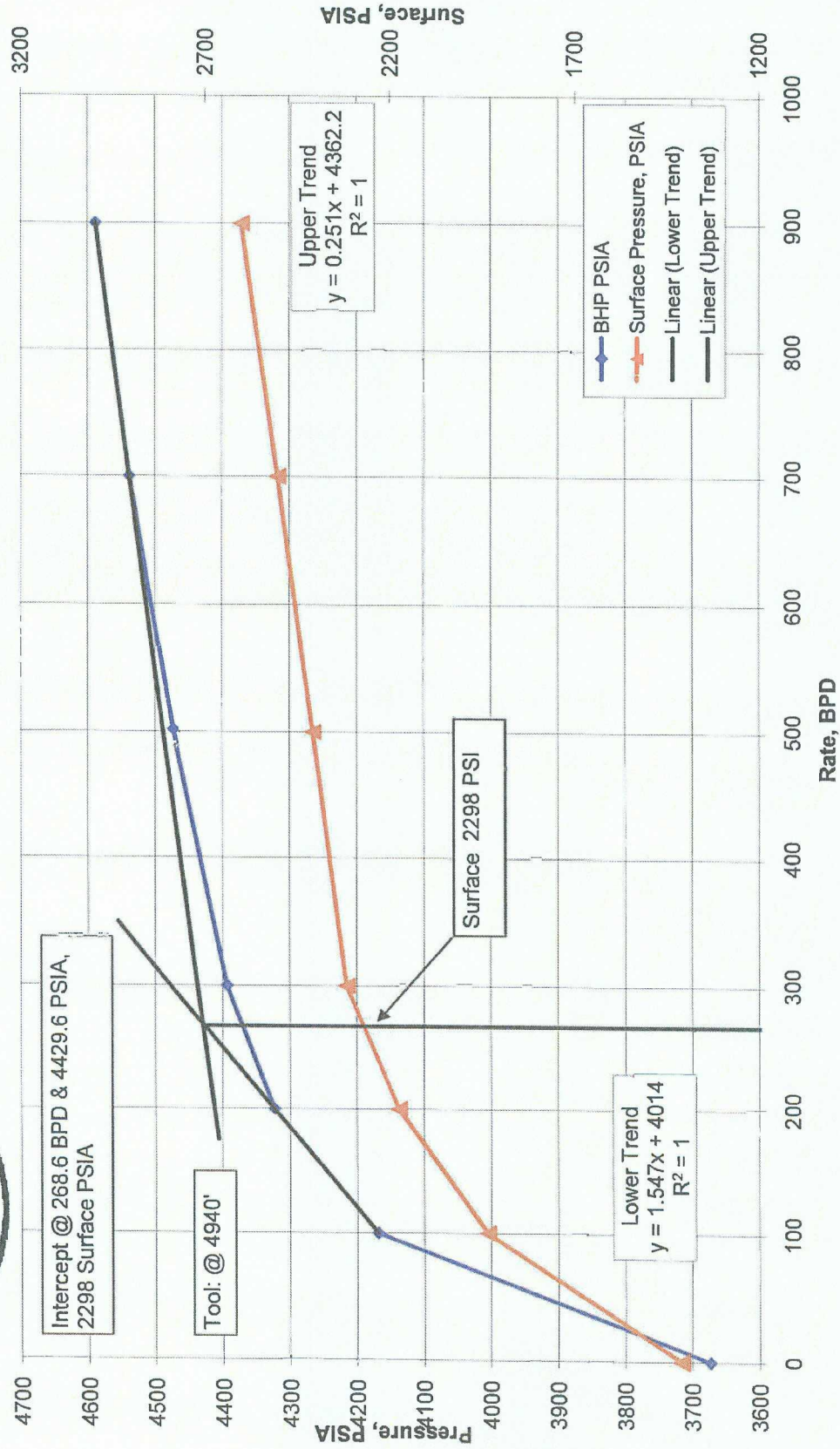
Intercept @ 268.6 BPD
& 4429.6 PSIA, 2298
Surface PSIA

Downhole PSI Tool Ser. No.
Surface PSI Gauge Ser. No.
Tool @ 4940'

	Start Time	End Time	Rate BPD	Comments
1	7:16 AM	8:00 AM		0 On Bottom
2	8:00 AM	9:00 AM	100	
3	9:00 AM	10:00 AM	200	
4	10:00 AM	11:00 AM	300	
5	11:00 AM	12:00 PM	500	
6	12:00 PM	1:00 PM	700	
7	1:00 PM	2:00 PM	900	
8	2:00 PM	2:15 PM		0 Fall Off

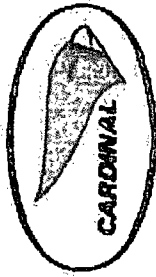


Chesapeake Energy Quail Queen # 8 Step Rate Test 11-19-2010



Step Rate Test

Chesapeake Energy
Quail Queen # 8
Field:
Lea County, New Mexico



	S Time	E Time	D Time Min	Last Rate BPD	Step B. H. Pressure BPD	PSIA	Surf PSIA	Cum BBL	Delta BBL	Avg. BPD	Lower Trend	Upper Trend
1	7:16 AM	8:00 AM	44	0	0	3673.1	1410.7	0	0.00	0		
2	8:00 AM	9:00 AM	60	100	100	4168.7	1936.4	4.2	4.20	101	4168.7	
3	9:00 AM	10:00 AM	60	200	100	4323.4	2177.1	13.1	8.90	214	4323.4	
4	10:00 AM	11:00 AM	60	300	100	4393.3	2318.4	25.8	12.70	305		
5	11:00 AM	12:00 PM	60	500	200	4473	2409.2	46.9	21.10	403		4537.9
6	12:00 PM	1:00 PM	60	700	200	4537.9	2503.8	75.9	29.00	379		4588.1
7	1:00 PM	2:00 PM	60	900	200	4588.1	2601.9	115.2	39.30	943		
8	2:00 PM	2:15 PM	15	0	-900	4291.7	2218.8	115.2	0.00	0		

1.547 4014
0.251 4362.2

int point: 268.67284 BPD
4429.6369 Psia



Chesapeake Energy Quail Queen # 8
Step Rate Test 11-19-2010



Time



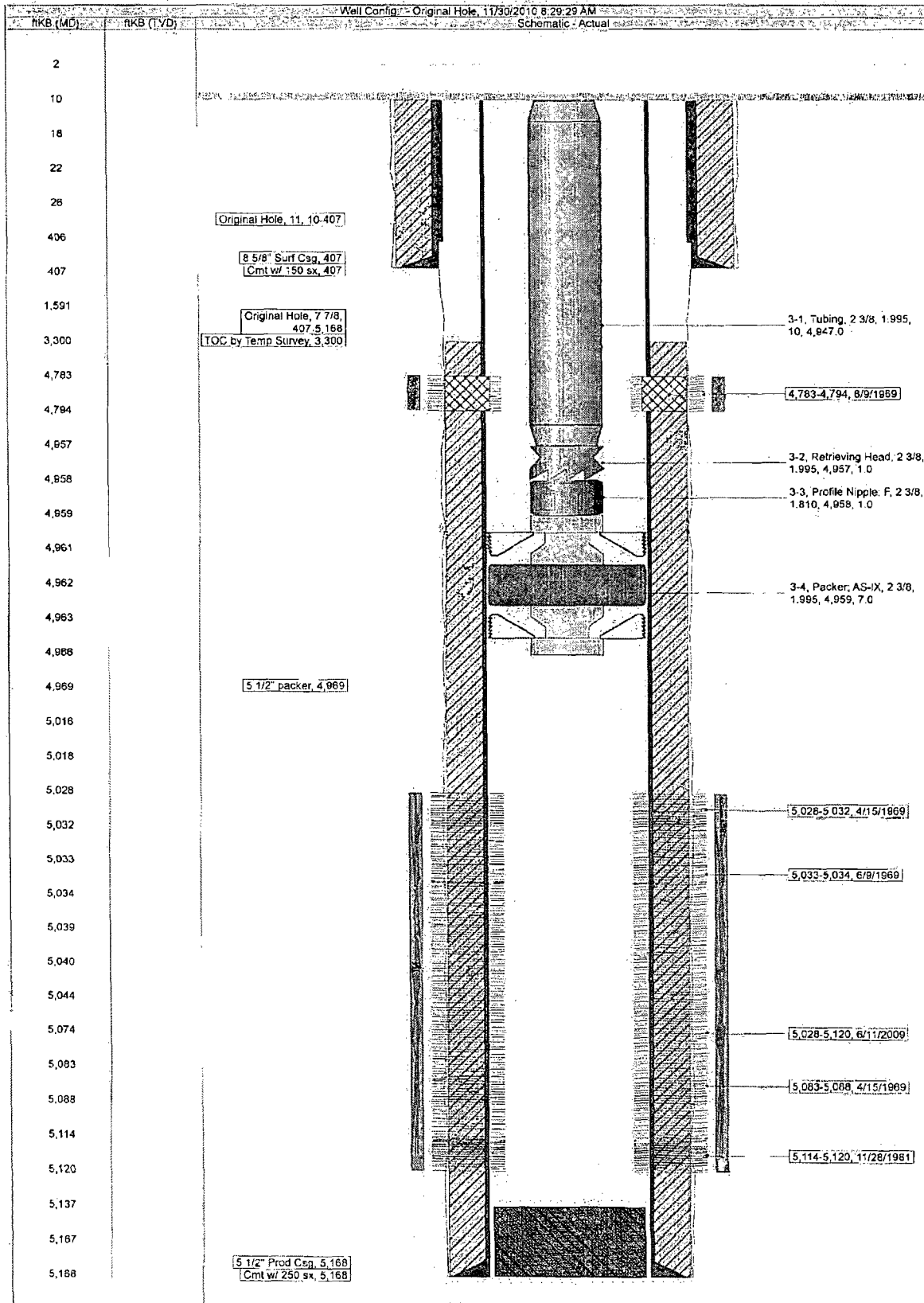
BLM Schematic

QUAIL QUEEN UNIT 8

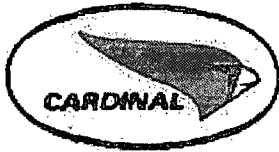
CONFIDENTIAL

Field: QUAIL QUEEN
County: LEA
State: NEW MEXICO
Location: SEC 11, 19S-34E, 2080 FSL & 1980 FWL
Elevation: GL 3,976.0 KB 3,986.0
KB Height: 10.0

Spud Date: 3/29/1969
Initial Compl. Date:
API #: 3002523031
CHK Property #: 891058
1st Prod Date: 1/31/1970
PBD: Original Hole - 5137.0
TD: 5,168.0



Step Rate Test



Cardinal Surveys Company

November 23, 2010

Chesapeake Energy
Well: Quail Queen # 11
Field:
Lea County, New Mexico
SC 59393
File # 20083

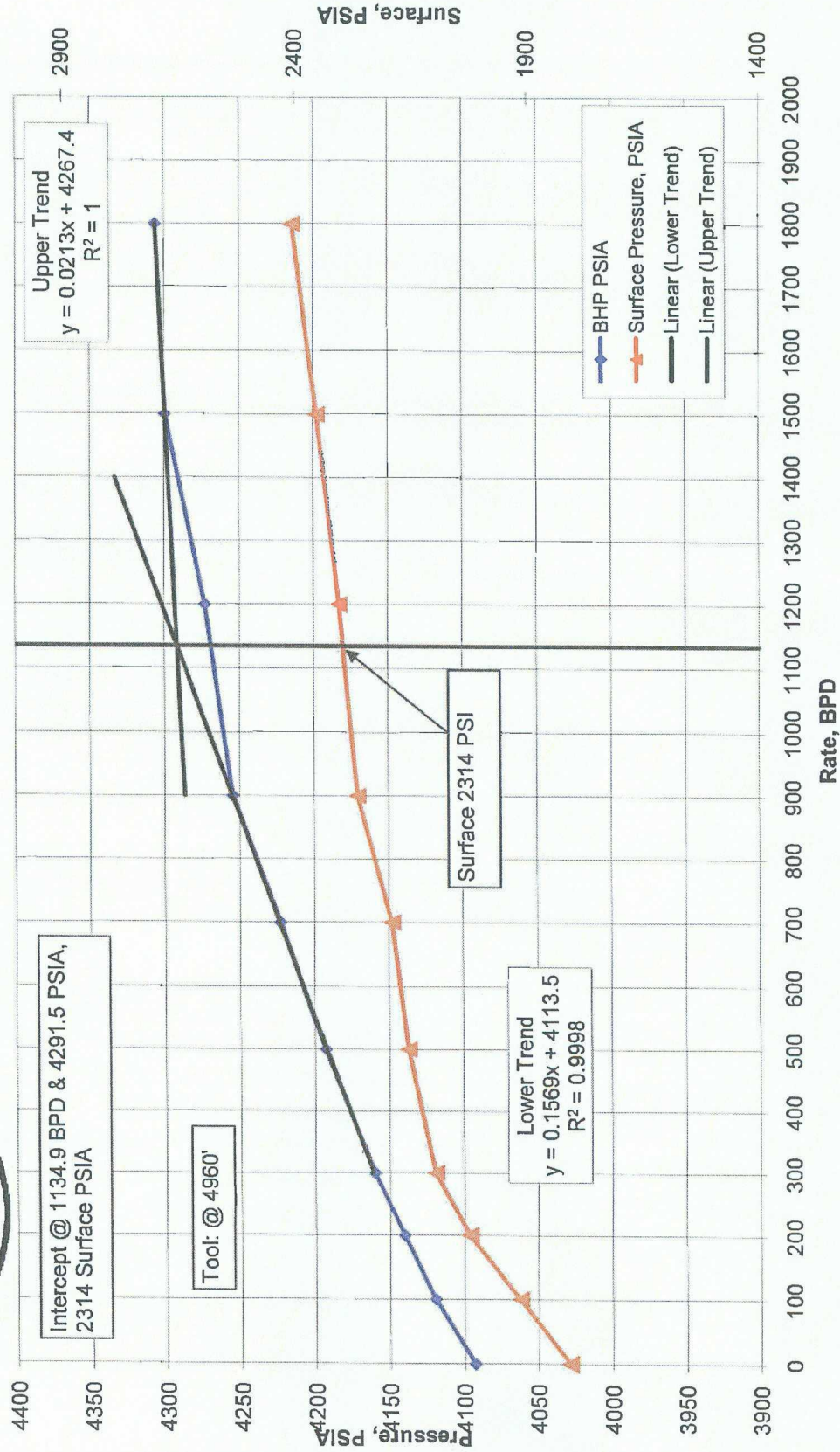
Intercept @ 1134.9 BPD
& 4291.5 PSIA, 2314
Surface PSIA

Downhole PSI Tool Ser. No.
Surface PSI Gauge Ser. No.
Tool @ 4960'

	Start Time	End Time	Rate BPD	Comments
1	7:53 AM	8:00 AM		0 On Bottom
2	8:00 AM	9:00 AM	100	
3	9:00 AM	10:00 AM	200	
4	10:00 AM	11:00 AM	300	
5	11:00 AM	12:00 PM	500	
6	12:00 PM	1:00 PM	700	
7	1:00 PM	2:00 PM	900	
8	3:15 PM	4:15 PM	1200	
9	4:15 PM	5:15 PM	1500	
10	5:15 PM	0.760417	1800	
11	6:15 PM	6:30 PM		0 Fall Off



Chesapeake Energy Quail Queen # 11 Step Rate Test 11-23-2010



Step Rate Test

Chesapeake Energy

Quail Queen # 11

Field:

Lea County, New Mexico



	S Time	E Time	D Time	Last Rate	Step B. H. Pressure	Surf	Cum	Delta	Avg.	Lower	Upper
			Min	BPD	PSIA	PSIA	BBL	BBL	BPD	Trend	Trend
1	7:53 AM	8:00 AM	7	0	4092.8	1811.5	0	0.00	0		
2	8:00 AM	9:00 AM	60	100	4119.5	1919	4.9	4.90	118		
3	9:00 AM	10:00 AM	60	200	4140.3	2027.9	13.5	8.60	206		
4	10:00 AM	11:00 AM	60	300	4160	2101.2	26.2	12.70	305	4160	
5	11:00 AM	12:00 PM	60	500	4192.8	2158.5	47.7	21.50	422	4192.8	
6	12:00 PM	1:00 PM	60	700	4223	2192.8	76.2	28.50	336	4223	
7	1:00 PM	2:00 PM	60	900	4254.5	2266.2	113.4	37.20	893	4254.5	
8	3:15 PM	4:15 PM	60	1200	4272.8	2305.6	180.9	67.50	720		4299.4
9	4:15 PM	5:15 PM	60	1500	4299.4	2352.7	247.7	66.80	1603		4305.8
10	5:15 PM	6:15 PM	60	1800	4305.8	2405.1	320	72.30	1735		
11	6:15 PM	6:30 PM	60	0	4257	2212.9	320	0.00	0		

0.1569 4113.5
0.0213 4267.4

int point: 1134.9558 BPD
4291.5746 Psia



Chesapeake Energy Quail Queen # 11
Step Rate Test 11-23-2010





BLM Schematic
QUAIL QUEEN UNIT 11

CONFIDENTIAL

Field: QUAIL QUEEN
County: LEA
State: NEW MEXICO
Location: SEC 11, 19S-34E, 990 FNL & 990 FEL
Elevation: GL 3,969.0 KB 3,981.0
KB Height: 12.0

Spud Date: 4/20/1980
Initial Compl. Date:
API #: 3002526707
CHK Property #: 891069
1st Prod Date: 7/1/1980
PBTD: Original Hole - 5150.0
TD: 6,200.0

