

DATE IN 1-11-10	SUSPENSE	ENGINEER Jernell	LOGGED IN 1-11-10	TYPE IPT	PTG-W APP NO. 1001153093
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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



Chesapeake

ADMINISTRATIVE APPLICATION CHECKLIST

QQU 3, 12/14

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 _____

[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.

Shannon Glancy
Print or Type Name

Signature

Production Engineer
Title

1-6-09
Date

shannon.glancy@chk.com
e-mail Address

IPI = 358
IPI = 244
WF = 791
Case 12272
R-12952-B
Queen
Pool code 96117



RECEIVED

2010 JAN 11 PM 1 33

Operations Department

1-11-10

PTG-W 1001153093

1/06/09

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	Current Limit	Fracture Pressure	Requested Inj. Pressure Limit	SRT Date
QQU #3	3002526221	1000 psi	1388 psi	1333 psi	12/10/09
QQU #12	3002522841	1000 psi	1212 psi	1162 psi	12/11/09
QQU #14	3002525493	1000 psi	1260 psi	1210 psi	12/14/09

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,

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

Chesapeake Energy Corporation

6100 N. Western Ave. • Oklahoma City, OK 73118 • P.O. Box 18496 • Oklahoma City, OK 73154-0496
405.848.8000 • fax 405.879.7930

CURRENT WELLBORE SCHEMATIC



WELL: QUAIL QUEEN UNIT 3
FIELD: QUAIL QUEEN
COUNTY: LEA STATE: NEW MEXICO
LOCATION: 1,841.0 FSL & 759.0 FEL SEC 11, BLK ,
ELEVATION: 3,960.00 GR -- 3,970.00 RKB
TD: 5,600.0 PBDT: Original Hole - 5450.0

PROP #: 891045
API: 3002526221
SPUD DATE: 2/14/1979
RIG RELEASE:
FIRST SALES:
WELLBORE TYPE:

Well Config: - Original Hole, 12/28/2009 11:10:11

Schematic - Actual

8 5/8" 24# & 32# J-55 Surf Csg
8 5/8in, J-55, 10-1,850 ftKB
Cmt w/ 575 sx. Circ w/ 45 sx

TOC by Vol Calc

Perfs @ 5002'-5096'

PBDT, 5,450

Cast Iron Bridge Plug, 3 3/4in, 5,490 ftKB, W/40' CMT. ON TOP OF CIBP

4 1/2" 10.5# J-55 Prod Csg
4 1/2in, 10.50lbs/ft, J-55, 10-5,600 ftKB
TD, 5,600
Cmt w/ 550 sx

Casing String: Production

Set Depth (ftKB)	5,600.0	Wellbore	Original Hole	String Top Connection			
Item Description	OD (in)	ID (in)	Drift (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Btm (ftKB)
Casing Joints	4 1/2	4.052		10.50	J-55	10.0	5,599.0
Float Shoe	4 1/2					5,599.0	5,600.0

Perforations

Date	Zone	Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Phasing (")
3/27/1979		5,002.0	5,008.0	2.0	
6/4/2009	QUEEN, Original Hole	5,002.0	5,096.0	3.0	6C
3/27/1979		5,090.0	5,096.0	2.0	
3/6/1979		5,532.0	5,540.0	2.0	

Tubing String: Tubing - Production

Set Depth (ftKB)	4,942.1	Wellbore	Original Hole	Run Date	6/8/2009		
Item Description	OD (in)	ID (in)	Wt (lbs/ft)	Grade	Top Thread	Top (ftKB)	Btm (ftKB)
Tubing	2 3/8	1.995	4.70	J-55	EUE	10.0	4,934.1
On-Off	2 3/8	1.810	0.00	"F"	EUE	4,934.1	4,936.1
Packer	2 3/8		4.00		EUE	4,936.1	4,942.1

Stimulations

Stim Details

Type	Date	Zone	Top (ftKB)	Bottom (ftKB)
Acidizing	6/5/2009	QUEEN, Original Hole	5,002.0	5,096.0

Stim Details

Type	Date	Zone	Top (ftKB)	Bottom (ftKB)
Acidizing	6/5/2009	QUEEN, Original Hole	5,002.0	5,096.0

Stim Details

Type	Date	Zone	Top (ftKB)	Bottom (ftKB)
Sand Frac	3/28/1979		5,002.0	5,096.0

Additive	Note	Sand Size	Amount	Units
		20/40	34,500.0	lb

Stim Details

Type	Date	Zone	Top (ftKB)	Bottom (ftKB)
Acidizing	3/27/1979		5,002.0	5,008.0

Stim Details

Type	Date	Zone	Top (ftKB)	Bottom (ftKB)
Acidizing	3/27/1979		5,090.0	5,096.0

Stim Details

Type	Date	Zone	Top (ftKB)	Bottom (ftKB)
Sand Frac	3/8/1979		5,532.0	5,540.0

Additive	Note	Sand Size	Amount	Units
		20/40	16,500.0	lb

Stim Details

Type	Date	Zone	Top (ftKB)	Bottom (ftKB)
Acidizing	3/7/1979		5,532.0	5,540.0

Attachments

Date	Type 1	Description
4/4/2008	Procedure Packet	Quail State 3Y Conv to Inj

R-12952 ordered Quail state #3
"Isolate or squeeze off perforations below 5350 feet"
"all perforations above and below the unitized interval are squeezed"

Date	Event
3/6/1979	PERF Grayburg @ 5532'-40' w/ 2 jspf, 16 holes.
3/7/1979	ACDZ w/ 1000 gal 15% NeFe.
3/8/1979	FRAC w/ 25,700 gal gld wtr & 16,500# 20/40 sd.
3/27/1979	PERF Penrose @ 5002'-08' w/ 2 jspf, 12 holes. PERF Penrose 5090'-96' w/ 2 jspf, 12 holes. ACDZ 5002'-5008' w/ 750 gal 15% NeFe. ACDZ 5090'-96' w/ 750 gal 15% NeFe. FRAC 5002'-96' w/ 30000 gal gld wtr & 34500# 20/40 sd.
5/6/1992	Packer depth unknown.
6/4/2009	CIBP @ 5490'. PERF Queen @ 5002-08, 5012-34, 42-50, 58-60, 70-80, & 5090-96 w/ 3 jspf, 162 holes. Dump 3 sx cmt on CIBP.
6/5/2009	ACDZ 5002-5096 w/ 5000 gal 15% NeFe.

Step Rate Test



Cardinal Surveys Company

December 10, 2009

ChesapeakeEnergy
Quail Queen # 3
Field:
Lea County, New Mexico
SC 59131
File # 19634

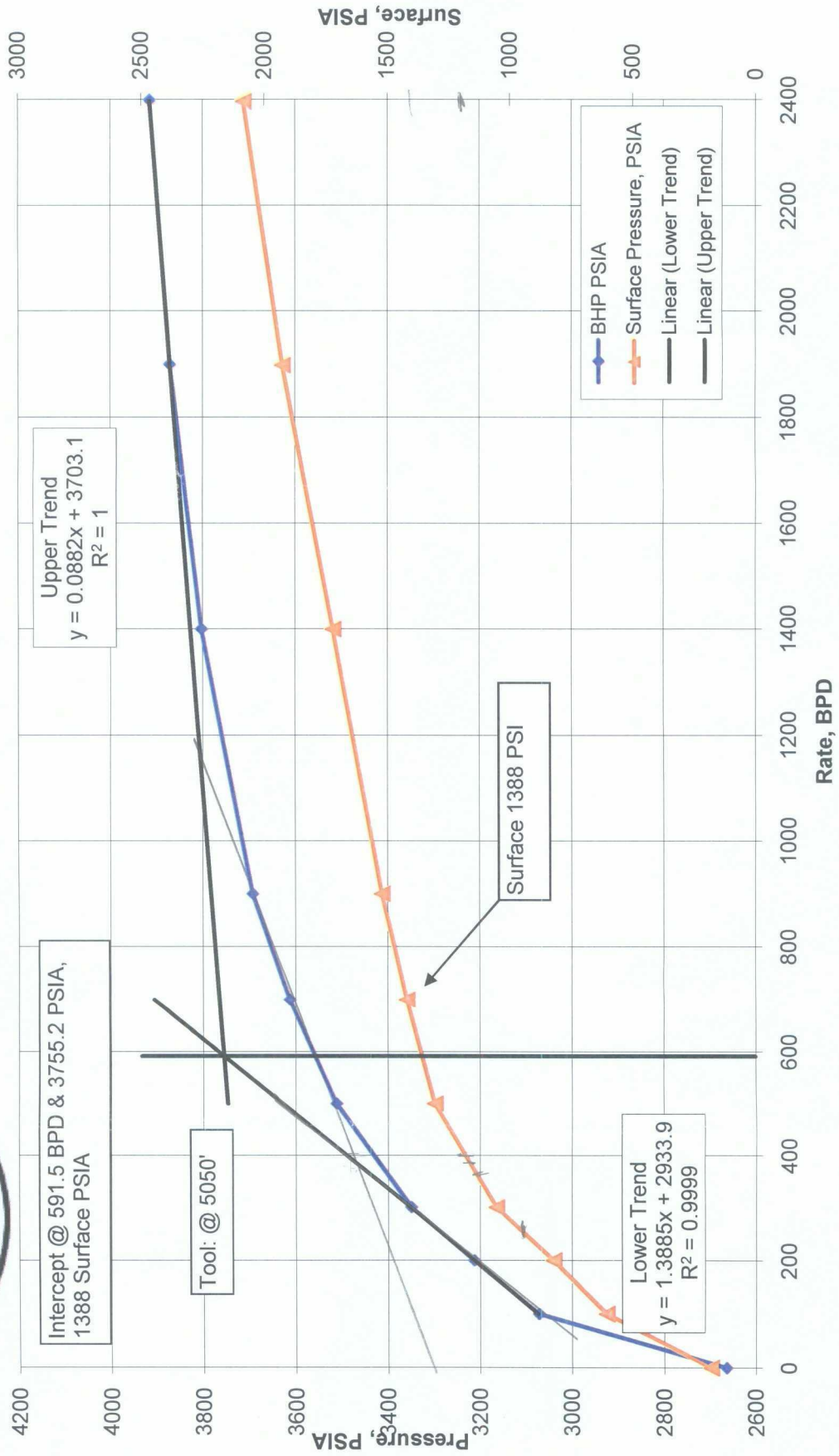
Intercept @ 591.5 BPD
& 3755.2 PSIA, 1388
Surface PSIA

Downhole PSI Tool Ser. No.
Surface PSI Gauge Ser. No.
Tool @ 5050'

	Start Time	End Time	Rate BPD	Comments
1	8:40 AM	9:00 AM		0 On Bottom
2	9:00 AM	9:30 AM	100	
3	9:30 AM	10:00 AM	200	
4	10:00 AM	10:30 AM	300	
5	10:30 AM	11:00 AM	500	
6	11:00 AM	11:30 AM	700	
7	11:30 AM	12:00 PM	900	
8	12:00 PM	12:30 PM	1400	
9	12:30 PM	1:00 PM	1900	
10	1:00 PM	0.5625	2400	
11	1:30 PM	1:45 PM		0 Fall Off

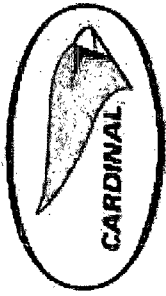


Chesapeake Energy Quail Queen # 3 Step Rate Test 12-10-2009



Step Rate Test

Chesapeake Energy
Quail Queen # 3
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	BPD	PSIA	PSIA	BBL	BBL	BPD	Trend	Trend
1	8:40 AM	9:00 AM	20	0	0	2664.9	187.6	0	0.00	0		
2	9:00 AM	9:30 AM	30	100	100	3072	612.4	2.9	2.90	139	3072	
3	9:30 AM	10:00 AM	30	200	100	3213	827.7	7	4.10	197	3213	
4	10:00 AM	10:30 AM	30	300	100	3349.7	1061.2	13.2	6.20	298	3349.7	
5	10:30 AM	11:00 AM	30	500	200	3511.8	1312.5	24.2	11.00	230		
6	11:00 AM	11:30 AM	30	700	200	3612.8	1425.6	38.9	14.70	178		
7	11:30 AM	12:00 PM	30	900	200	3692	1525.9	58.1	19.20	922		
8	12:00 PM	12:30 PM	30	1400	500	3802.5	1723	87.1	29.00	1392		
9	12:30 PM	1:00 PM	30	1900	500	3870.7	1928.2	127	39.90	1915		
10	1:00 PM	1:30 PM	30	2400	500	3914.8	2085.7	177.5	50.50	2424		
11	1:30 PM	1:45 PM	30	0	-2400	3747.9	1544.4	177.5	0.00	0		
												3870.7
												3914.8

1.3885 2933.9
0.0882 3703.1

int point: 591.55579 BPD
3755.2752 Psia

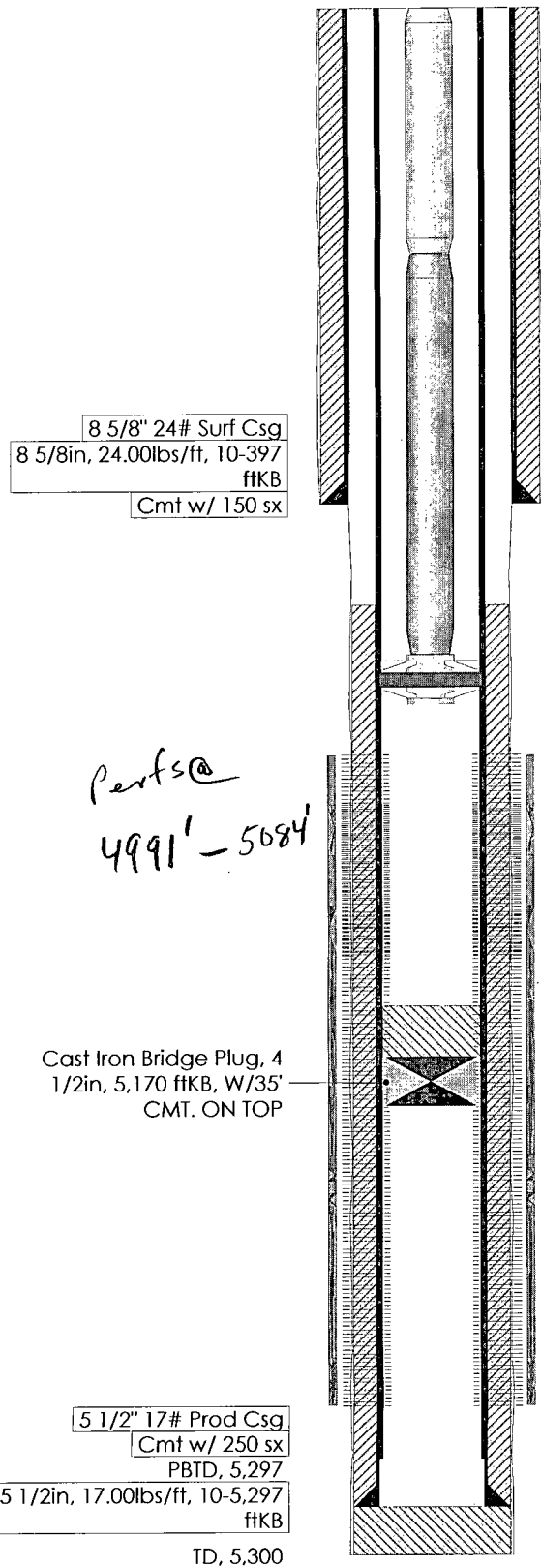
CURRENT WELLBORE SCHEMATIC



WELL: QUAIL QUEEN UNIT 12
FIELD: QUAIL QUEEN
COUNTY: LEA STATE: NEW MEXICO
LOCATION: 1,980.0 FNL & 1,980.0 FEL SEC 11, BLK ,
ELEVATION: 3,973.00 GR -- 3,983.00 RKB
TD: 5,300.0 PBDT: Original Hole - 5297.0

PROP #: 891040
API: 3002522841
SPUD DATE: 11/22/1968
RIG RELEASE:
FIRST SALES:
WELLBORE TYPE:

Well Config: - Original Hole, 12/28/2009 11:10:1
Schematic - Actual



Casing String: Production							
Set Depth (ftKB)		Wellbore			String Top Connection		
5,297.0		Original Hole					
Item Description	OD (in)	ID (in)	Drift (in)	Wt (lbs/ft)	Grade	Top (ftKB)	Btm (ftKB)
Casing Joints	5 1/2	4.892		17.00		10.0	5,296.0
Float Shoe	5 1/2					5,296.0	5,297.0
Perforations							
Date	Zone			Top (ftKB)	Btm (ftKB)	Shot Dens (shots/ft)	Phasing (°)
5/26/2009	QUEEN, Original Hole			4,991.0	5,084.0	3.0	60
12/9/1968				4,992.5	5,234.5	2.0	
Tubing String: Tubing - Production							
Set Depth (ftKB)		Wellbore			Run Date		
4,925.0		Original Hole			5/29/2009		
Item Description	OD (in)	ID (in)	Wt (lbs/ft)	Grade	Top Thread	Top (ftKB)	Btm (ftKB)
Tubing ...	2 3/8	1.995	4.70	J-55	EUE	10.0	20.0
Tubing ...	2 3/8	1.995	4.70	J-55	EUE	20.0	4,916.0
Packer	2 3/8		5.00	A-SET	EUE	4,916.0	4,925.0
Stimulations							
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Acidizing	5/26/2009	QUEEN, Original Hole		4,991.0		5,084.0	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Sand Frac	12/13/1968			4,992.5		5,004.5	
Additive	Note	Sand Size		Amount		Units	
Bulk Sand		20/40		20,000.0		lb	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Acidizing	12/13/1968			5,183.0		5,185.0	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Sand Frac	12/13/1968			5,054.0		5,054.0	
Additive	Note	Sand Size		Amount		Units	
Bulk Sand		20/40		10,000.0		lb	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Acidizing	12/13/1968			5,054.0		5,054.0	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Acidizing	12/13/1968			4,992.5		5,004.5	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Sand Frac	12/13/1968			5,183.0		5,185.0	
Additive	Note	Sand Size		Amount		Units	
Bulk Sand		20/40		10,000.0		lb	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Acidizing	12/12/1968			4,992.5		5,234.5	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Acidizing	12/12/1968			5,231.0		5,234.5	
Stim Details							
Type	Date	Zone		Top (ftKB)		Bottom (ftKB)	
Sand Frac	12/12/1968			4,992.5		5,234.5	
Additive	Note	Sand Size		Amount		Units	
Bulk Sand		20/40		10,000.0		lb	
Attachments							
Date	Type 1	Description					
4/4/2008	Procedure Packet	Pennzoil State 1 Conv to Inj					

old Pennzoil State #1

Well History	
Date	Event
12/9/1968	PERF @ 4992.5', 94', 5000', 02.5', 04.5' w/ 2 1/2 jsf & 54', 183', 185', 231', 234.5' w/ 2 jsf.
12/12/1968	ACDZ & FRAC 5231'-234.5' w/ 500 gal acid w/ 10,000 gal mod brine, 10,000# 20/40 sd. ACDZ & FRAC 5183'-5185'w/ 500 gal acd, 10,000 gal brine, &10,000# 20/40 sd. ACDZ & FRAC 5054' w/ 500 gal acid, 10,000 gal mod birne & 10,000# 20/40 sd. ACDZ & FRAC 4992.5'-5004.5' w/ 500 gal acid, 20,000 gal mod brine & 20,000# 20/40 sd.
11/13/1995	No other tbg info except it is 2 3/8".
5/22/2009	CIBP @ 5170' w/ 4 sx cmt.
5/26/2009	PERF Queen @ 4991-5006, 5014-28, 5046-58, 5076-84 w/ 3 jsf, 159 holes. ACDZ 4991-5084 w/ 5000 gal 15% NeFe.

Step Rate Test



Cardinal Surveys Company

December 11, 2009

Chesapeake Energy
Quail Queen # 12
Field:
Lea County, New Mexico
SC 59132
File # 19641

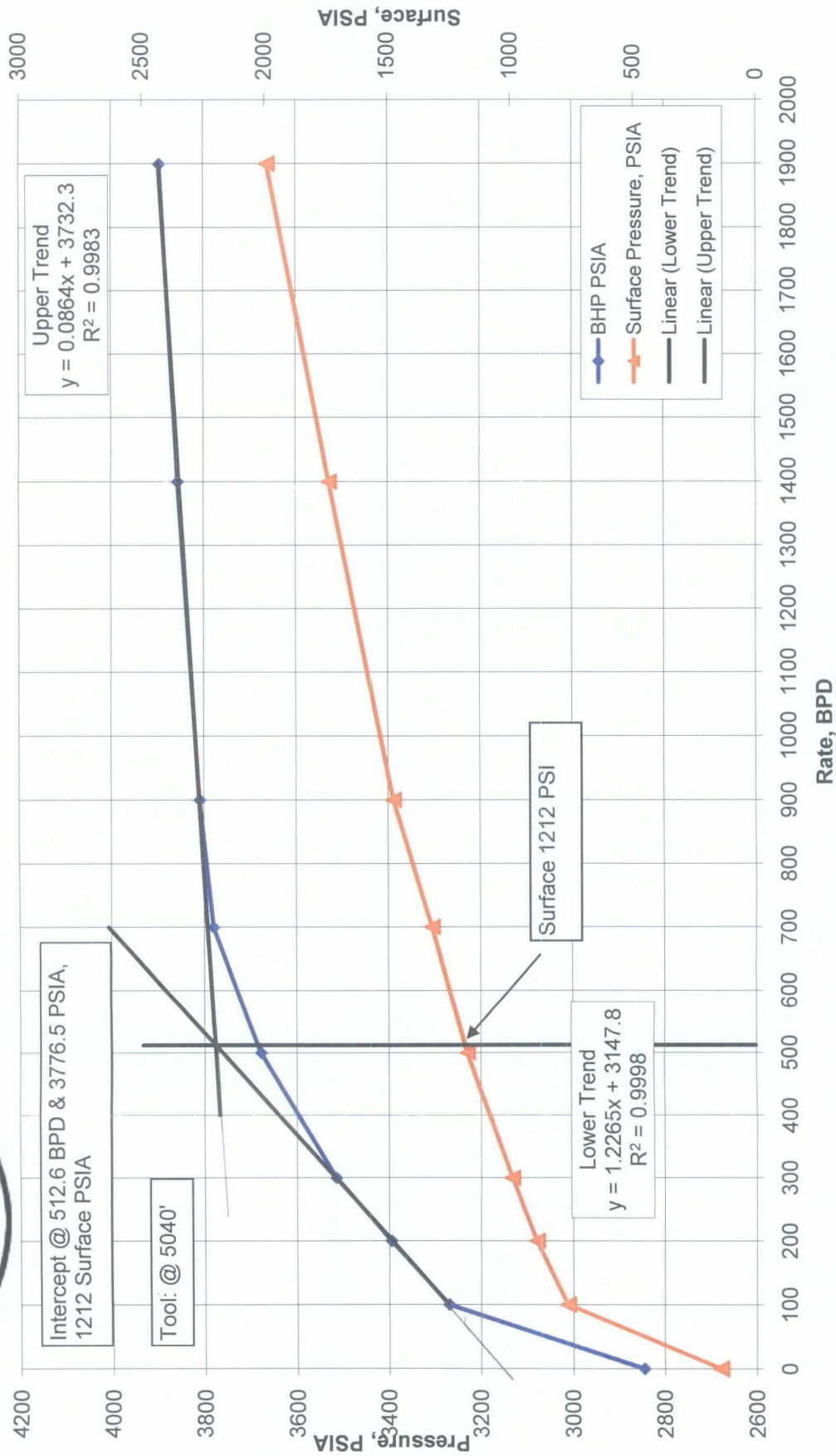
Intercept @ 512.6 BPD
& 3776.5 PSIA, 1212
Surface PSIA

Downhole PSI Tool Ser. No.
Surface PSI Gauge Ser. No.
Tool @ 5040'

	Start Time	End Time	Rate BPD	Comments
1	7:42 AM	8:42 AM		0 On Bottom
2	8:45 AM	9:15 AM	100	
3	9:15 AM	9:45 AM	200	
4	9:45 AM	10:15 AM	300	
5	10:15 AM	10:45 AM	500	
6	11:00 AM	11:15 AM	700	
7	11:15 AM	11:45 AM	900	
8	11:45 AM	12:15 PM	1400	
9	12:15 PM	12:45 PM	1900	
10	12:45 PM	1:00 PM		0 Fall Off



Chesapeake Energy Quail Queen # 12 Step Rate Test 12-11-2009

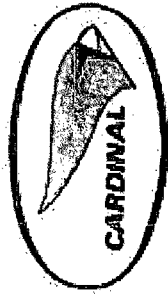


Step Rate Test

Chesapeake Energy
Quail Queen # 12

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	BPD	PSIA	PSIA	BBL	BBL	BPD	Trend	Trend
1	7:42 AM	8:42 AM	60	0	0	2845.1	145.9	0	0.00	0		
2	8:45 AM	9:15 AM	30	100	100	3269.5	772.5	3.6	3.60	173	3269.5	
3	9:15 AM	9:45 AM	30	200	100	3395.1	897.7	7.5	3.90	187	3395.1	
4	9:45 AM	10:15 AM	30	300	100	3514.8	998.6	13.7	6.20	298	3514.8	
5	10:15 AM	10:45 AM	30	500	200	3678.1	1180.7	24.1	10.40	202		
6	10/1900	11:15 AM	30	700	200	3779.2	1321.1	38.9	14.80	211		
7	11:15 AM	11:45 AM	30	900	200	3809	1478.5	57.7	18.80	902		3809
8	11:45 AM	12:15 PM	30	1400	500	3855.3	1739.3	87	29.30	1406		3855.3
9	12:15 PM	12:45 PM	30	1900	500	3895.4	1990.3	128.7	41.70	2002		3895.4
10	12:45 PM	1:00 PM	30	0	-1900	3670	1464	128.7	0.00	0		

1.2265 3147.8
0.0864 3732.3

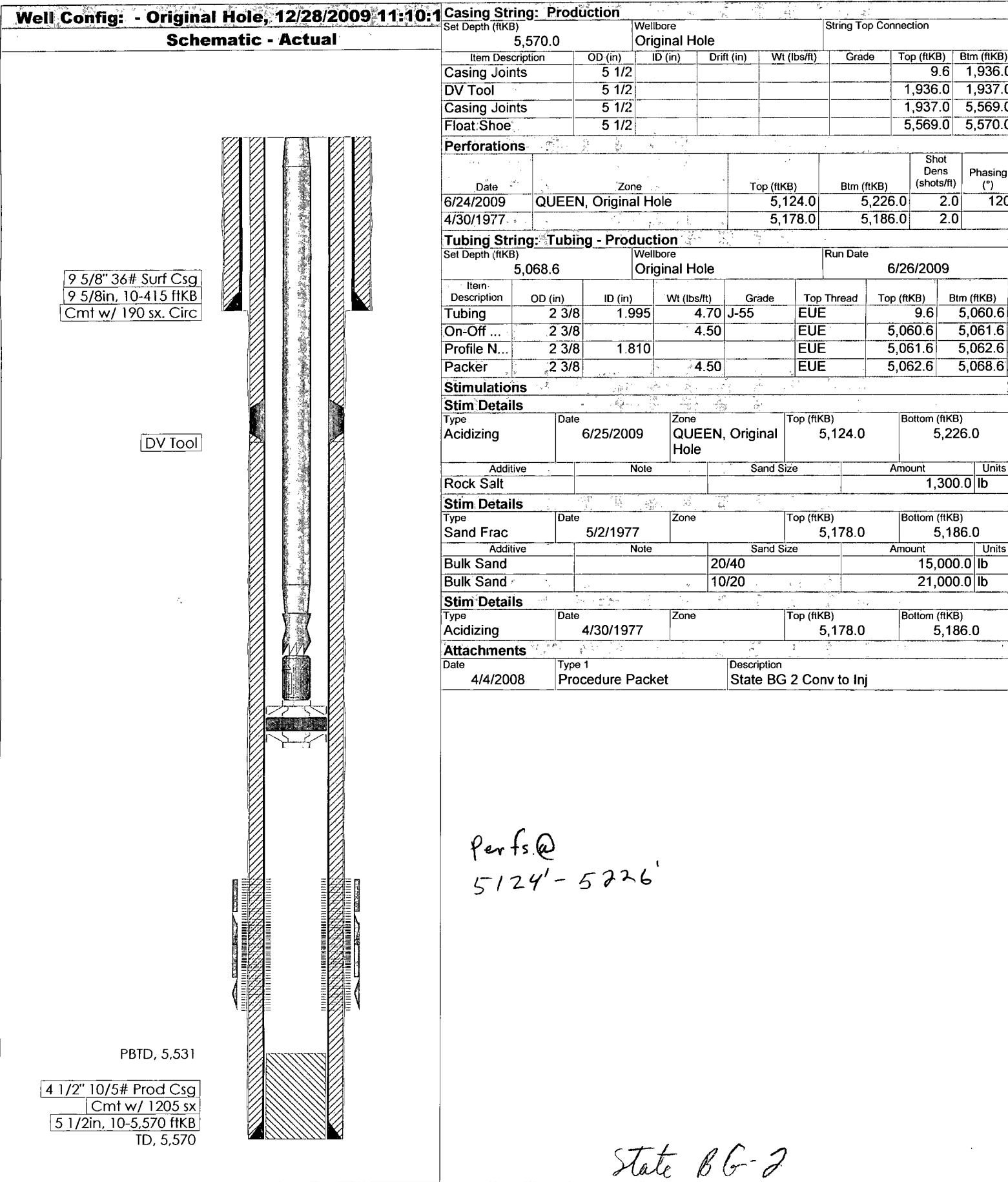
int point: 512.67433 BPD
3776.5951 Psia

CURRENT WELLBORE SCHEMATIC



WELL: QUAIL QUEEN UNIT 14
FIELD: QUAIL QUEEN
COUNTY: LEA STATE: NEW MEXICO
LOCATION: 1,980.0 FNL & 1,680.0 FEL SEC 14, BLK ,
ELEVATION: 3,957.40 GR -- 3,967.00 RKB
TD: 5,570.0 PBDT: Original Hole - 5531.0

PROP #: 891056
API: 3002525493
SPUD DATE: 3/28/1977
RIG RELEASE:
FIRST SALES:
WELLBORE TYPE:



Well History	
Date	Event
4/30/1977	PERF @ 5178'-86' w/ 2 jspf, 16 holes. ACDZ w/ 1000 gal 15% NeFe.
5/2/1977	FRAC w/ 20000 gal gld wtr, 15000# 20/40 sd & 21000# 10/20 sd.
6/24/2009	Convert to Inj: PERF Queen @ 5124-36, 41-54, 59-69, 78-86, 5204-06, 14-26 w/ 2 jspf, 114 holes.
6/25/2009	ACDZ perfs from 5124-5226 w/ 5000 gal 15% NeFe in 4 stages.

Step Rate Test



Cardinal Surveys Company

December 14, 2009

Chesapeake Energy
Quail Queen # 14
Field:
Lea County, New Mexico
SC 59133
File # 19642

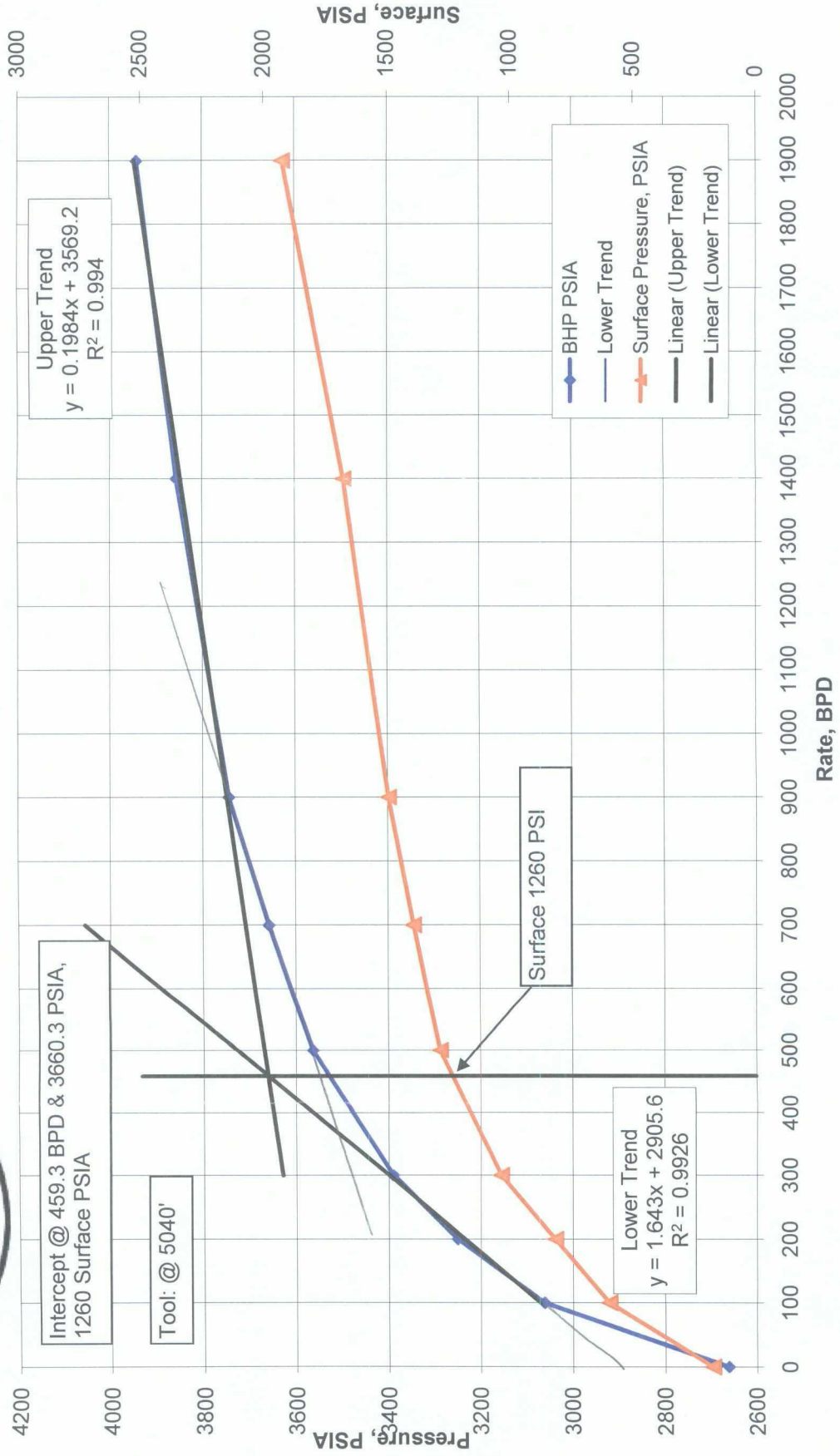
Intercept @ 459.3 BPD
& 3660.3 PSIA, 1260
Surface PSIA

Downhole PSI Tool Ser. No.
Surface PSI Gauge Ser. No.
Tool @ 5175'

	Start Time	End Time	Rate BPD	Comments
1	7:15 AM	7:55 AM		0 On Bottom
2	8:00 AM	8:30 AM	100	
3	8:30 AM	9:00 AM	200	
4	9:00 AM	9:30 AM	300	
5	9:30 AM	10:00 AM	500	
6	1/0/1900	10:30 AM	700	
7	10:30 AM	11:00 AM	900	
8	11:00 AM	11:30 AM	1400	
9	11:30 AM	12:00 PM	1900	
10	12:00 PM	12:15 PM		0 Fall Off

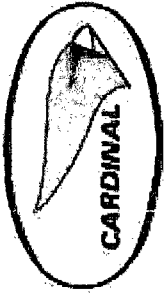


Chesapeake Energy Quail Queen # 14 Step Rate Test 12-14-2009



Step Rate Test

Chesapeake Energy
Quail Queen # 14
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	BPD	PSIA	PSIA	BBL	BBL	BPD	Trend	Trend
1	7:15 AM	7:55 AM	40	0	0	2661.8	180.7	0	0.00	0		
2	8:00 AM	8:30 AM	30	100	100	3061.7	603.2	2.8	2.80	134	3061.7	
3	8:30 AM	9:00 AM	30	200	100	3250.5	821.5	7.1	4.30	206	3250.5	
4	9:00 AM	9:30 AM	30	300	100	3390.3	1041.9	13.4	6.30	302	3390.3	
5	9:30 AM	10:00 AM	30	500	200	3563.6	1290	27.6	14.20	379		
6	10:00 AM	10:30 AM	30	700	200	3657.7	1396.4	37.1	9.50	-226		
7	10:30 AM	11:00 AM	30	900	200	3743.3	1496	56	18.90	907		3743.3
8	11:00 AM	11:30 AM	30	1400	500	3855.9	1677.9	85.3	29.30	1406		3855.9
9	11:30 AM	12:00 PM	30	1900	500	3941.7	1924	127.8	42.50	2040		3941.7
10	12:00 PM	12:15 PM	30	0	-1900	3709	1532	127.8	0.00	0		

1.643 2905.6
0.1984 3569.2

int point: 459.36591 BPD
3660.3382 Psia