Submit 3 Copies To Appropriate District Office
District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Ave., 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-103
May 27, 2004

WELL API NO. 30-015-26764

5. Indicate Type of Lease STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
EAST LOVING SWD

1. Type of Well: Oil Well ☐ Gas Well ☐ OtherSWD

8. Well Number 1

2. Name of Operator
Chesapeake Operating Inc.

9. OGRID Number 147179

3. Address of Operator 2010 Rankin Hwy
Midland, TX 79701

10. Pool name or Wildcat
EAST LOVING; DELAWARE

Month - Year MAR : 4 2007 OCD - ARTESIA, NM

4. Well Location
Unit Letter A : 1157 feet from the NORTH line and 491 feet from the EAST line
Section 15 Township 23S Range 28E NMPM County EDDY

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3001 GR

Pit or Below-grade Tank Application ☐ or Closure ☐

Pit type _____ **Depth to Groundwater** _____ **Distance from nearest fresh water well** _____ **Distance from nearest surface water** _____

Pit Liner Thickness: _____ **mil** **Below-Grade Tank: Volume** _____ **bbls;** **Construction Material** _____

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER:	☐			OTHER:PERFORMED STEP RATE TEST	☒		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Chesapeake has performed a Step Rate Test on this well and we are requesting a permitted maximum surface pressure increase from 800 psi to 1150 psi. The Step Rate Test indicates no fracture is occurring down-hole until surface pressures reach 1200 psi.

Requires Approval of OCD Engineer Bureau. In Santa Fe.

Accepted for record
NMOCD

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☒.**

SIGNATURE _____ TITLE Regulatory Tech. DATE 03/13/2007

Type or print name Shay Stricklin E-mail address: sstricklin@chkenergy.com Telephone No. (432)687-2992

For State Use Only

APPROVED BY: _____ TITLE _____ DATE _____

Conditions of Approval (if any):

Step Rate Test

Cardinal Surveys Company

February 26, 2007

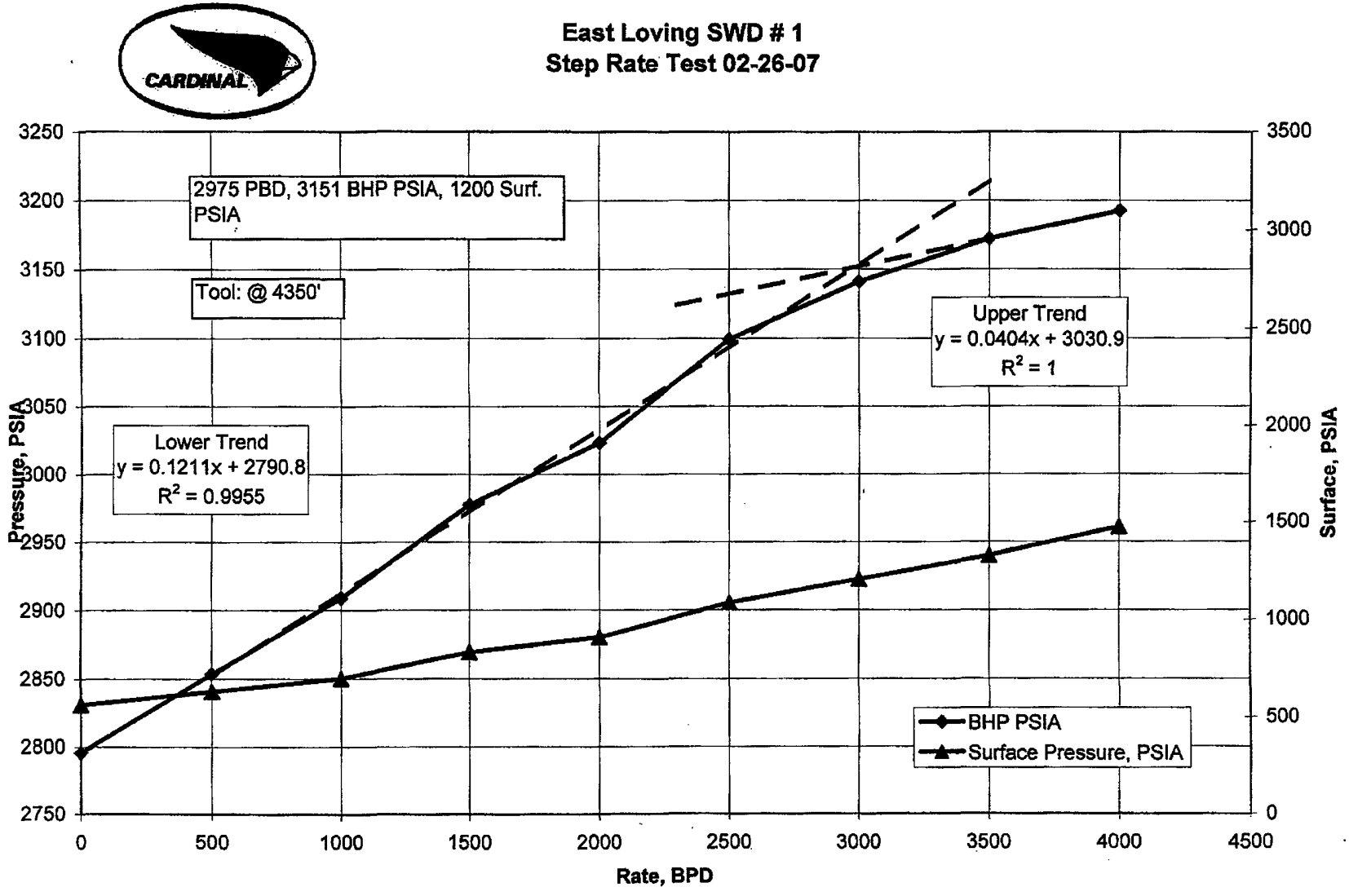
Chesapeake Operating Inc.
Well: East Loving SWD # 1
Field: E. Loving
Eddy County, NM

SC 56003

Fracture @ 2975 BPD,
3151 BHP PSIA, 1200
Surf PSIA

Downhole PSI Tool Ser. No. 71262
Surface PSI Gauge Ser. No. 10332
Tool @ 4600

	Start Time	End Time	Rate BPD	Comments
1	8:45 AM	9:00 AM	0	
2	9:00 AM	9:30 AM	500	
3	9:30 AM	10:00 AM	1000	
4	10:00 AM	10:30 AM	1500	
5	10:30 AM	11:00 AM	2000	
		11:15 AM		Tool Shorted
		1:15 PM		Restart Pump
8	1:15 PM	1:45 PM	2500	
9	1:45 PM	2:15 PM	3000	
10	2:15 PM	2:45 PM	3500	
11	2:45 PM	3:15 PM	4000	
12	3:15 PM	3:30 PM	0	

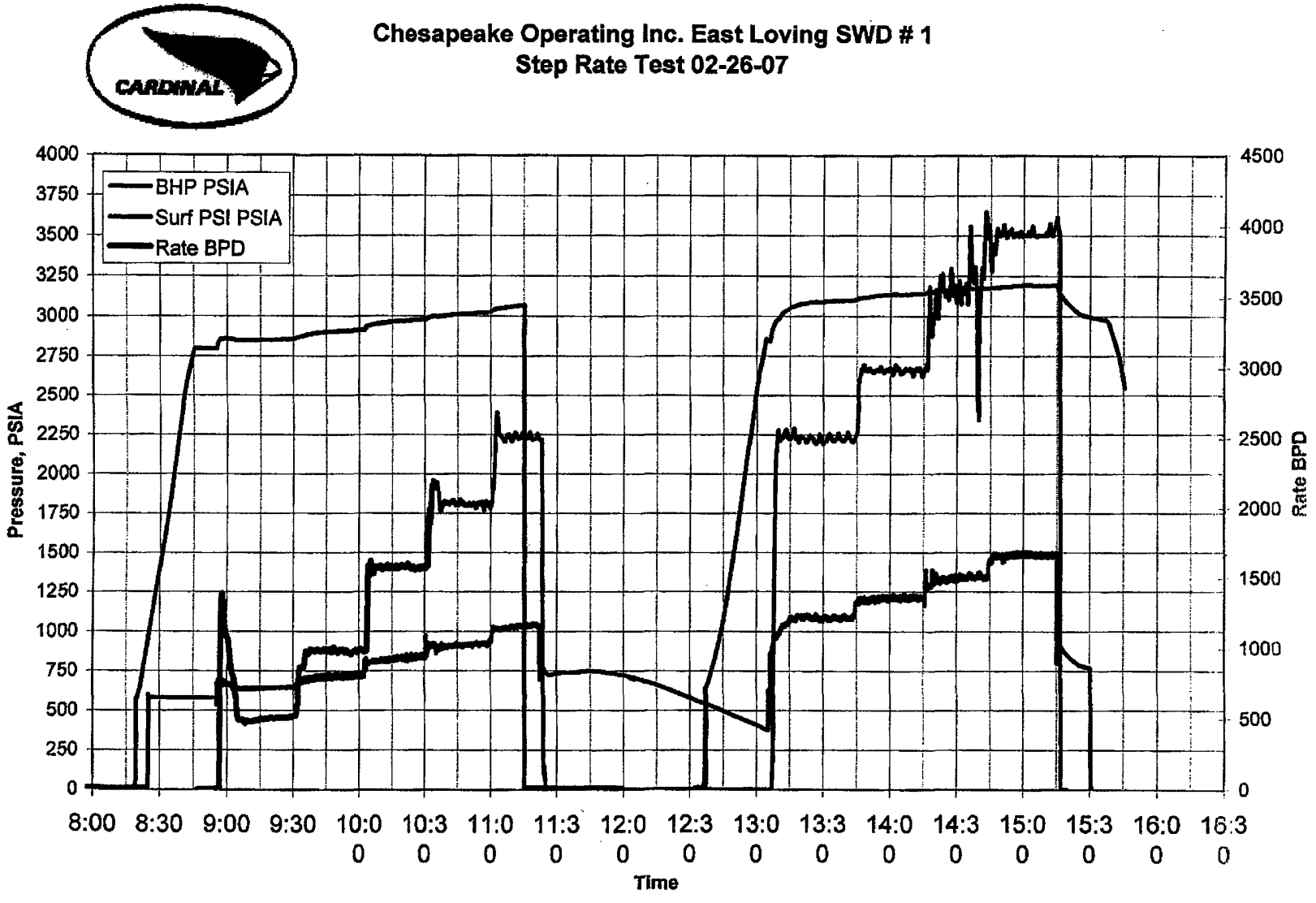

East Loving SWD # 1
Step Rate Test 02-26-07
CARDINAL
2975 PBD, 3151 BHP PSIA, 1200 Surf. PSIA
Tool: @ 4350'
Upper Trend
y = 0.0404x + 3030.9
R2 = 1
Lower Trend
y = 0.1211x + 2790.8
R2 = 0.9955
BHP PSIA
Surface Pressure, PSIA
Pressure, PSIA
Surface, PSIA
Rate, BPD
3250
3200
3150
3100
3050
3000
2950
2900
2850
2800
2750
3500
3000
2500
2000
1500
1000
500
0
0
500
1000
1500
2000
2500
3000
3500
4000
4500

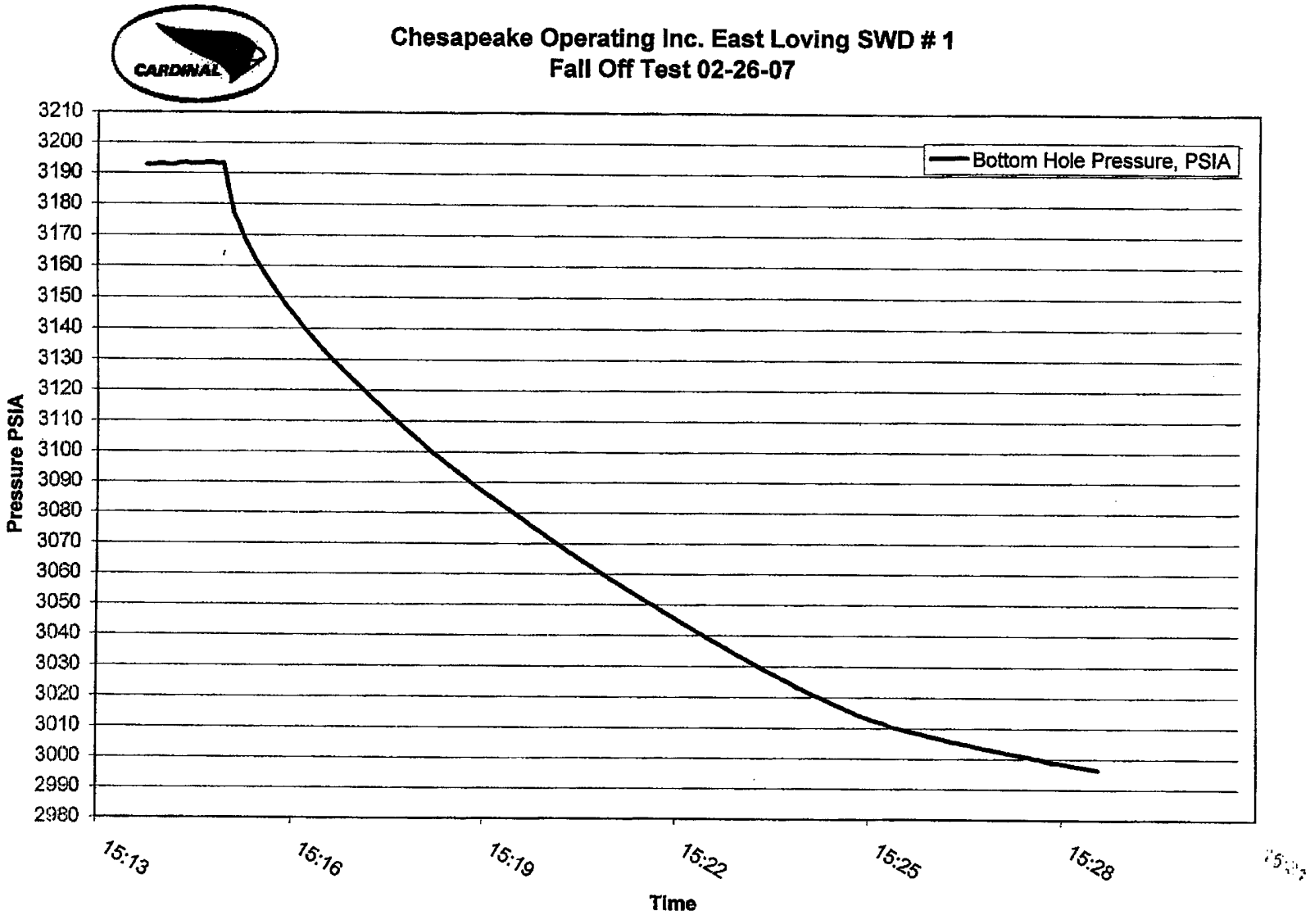
Step Rate Test

Chesapeake Operating Inc.
East Loving SWD # 1
Field: East Loving
Eddy County. NM

	S Time	E Time	D Time Min	Last Rate BPD	Step BPD	B. H. Pressure PSIA	Surf PSIA	Cum BBL	Delta BBL	Lower Trend	Upper Trend
1	8:45 AM	9:00 AM	15	0	0	2795.7	564.5	0	0		
2	9:00 AM	9:30 AM	30	500	500	2853.5	634.3	14.2	14.2	2853.5	
3	9:30 AM	10:00 AM	30	1000	500	2909	700.4	34.2	20	2909	
4	10:00 AM	10:30 AM	30	1500	500	2977.4	836.1	65	30.8	2977.4	
5	10:30 AM	11:00 AM	30	2000	500	3023.1	911.3	106.1	41.1	3023.1	
8	1:15 PM	1:45 PM	30	2500	500	3099.1	1087.7	211	104.9	3099.1	
9	1:45 PM	2:15 PM	30	3000	500	3140.9	1208.1	275.3	64.3		
10	2:15 PM	2:45 PM	30	3500	500	3172.3	1328.6	343.7	68.4		3172.3
11	2:45 PM	3:15 PM	30	4000	500	3192.5	1477.1	428	84.3		3192.5
12	3:15 PM	3:30 PM	15	0	-4000	2998.2	756.7	428	0		

	0.1211	2790.8
	0.0404	3030.9
Int Point:	2975	BPD
	3151.0988	Pressure


Chesapeake Operating Inc. East Loving SWD # 1
Step Rate Test 02-26-07
CARDINAL
BHP PSIA
Surf PSI PSIA
Rate BPD
Pressure, PSIA
Rate BPD
Time
4000
3750
3500
3250
3000
2750
2500
2250
2000
1750
1500
1250
1000
750
500
250
0
4500
4000
3500
3000
2500
2000
1500
1000
500
0
8:00
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
15:00
15:30
16:00
16:30


Chesapeake Operating Inc. East Loving SWD # 1
Fall Off Test 02-26-07
CARDINAL
Bottom Hole Pressure, PSIA
Pressure PSIA
3210
3200
3190
3180
3170
3160
3150
3140
3130
3120
3110
3100
3090
3080
3070
3060
3050
3040
3030
3020
3010
3000
2990
2980
15:13
15:16
15:19
15:22
15:25
15:28
Time

STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 10307
Order No. R-9509

APPLICATION OF BIRD CREEK RESOURCES, INC. FOR SALT WATER DISPOSAL, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on May 16, 1991, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 22nd day of May, 1991, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) The applicant, Bird Creek Resources, Inc., seeks authority to dispose of produced salt water into the East Loving-Delaware Pool in the perforated interval from approximately 4,000 feet to 4,450 feet in its proposed East Loving SWD Well No. 1 to be drilled 1157 feet from the North line and 491 feet from the East line (Unit A) of Section 15, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico.

(3) According to evidence presented by the applicant, injection into the Cherry Canyon member of the Delaware formation should have no detrimental effect on wells producing from the Brushy Canyon member of the Delaware formation within the subject pool.

(4) Although the Division received two objections to the application from various landowners prior to the hearing, none appeared at the hearing and presented evidence and testimony.

(5) No offset operator appeared and/or objected to the application.

(6) Injection should be accomplished through 2 7/8-inch fiberglass tubing installed in a packer located at approximately 3,950 feet; the casing-tubing annulus should be filled with an inert fluid; and a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(7) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(8) The injection well or system should be equipped with a pressure limiting switch or other acceptable device which will limit the surface pressure on the injection well to no more than 800 psi.

(9) The Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected fluid from the Cherry Canyon member of the Delaware formation.

(10) The operator should notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

(11) The operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(12) Approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Bird Creek Resources, Inc., is hereby authorized to drill and utilize its East Loving SWD Well No. 1 located 1157 feet from the North line and 491 feet from the East line (Unit A) of Section 15, Township 23 South, Range 28 East, NMPM, Eddy County, New Mexico, to dispose of produced salt water into the East Loving-Delaware Pool, injection to be accomplished through 2 7/8-inch fiberglass tubing installed in a packer set at approximately 3,950 feet, with injection into the perforated interval from approximately 4,000 feet to 4,450 feet.

PROVIDED HOWEVER THAT, the casing-tubing annulus shall be filled with an inert fluid and a pressure gauge or approved leak detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

PROVIDED FURTHER THAT, prior to commencing injection operations, the casing in the subject well shall be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(2) The injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the surface pressure on the injection well to no more than 800 psi.

(3) The Director of the Division shall be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected fluid from the Cherry Canyon member of the Delaware formation.

(4) The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment and of the mechanical integrity pressure test in order that the same may be witnessed.

(5) The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(6) The operator shall immediately notify the supervisor of the Division's Artesia district office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(7) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702 through 706, 708 and 1120 of the Division Rules and Regulations.

(8) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

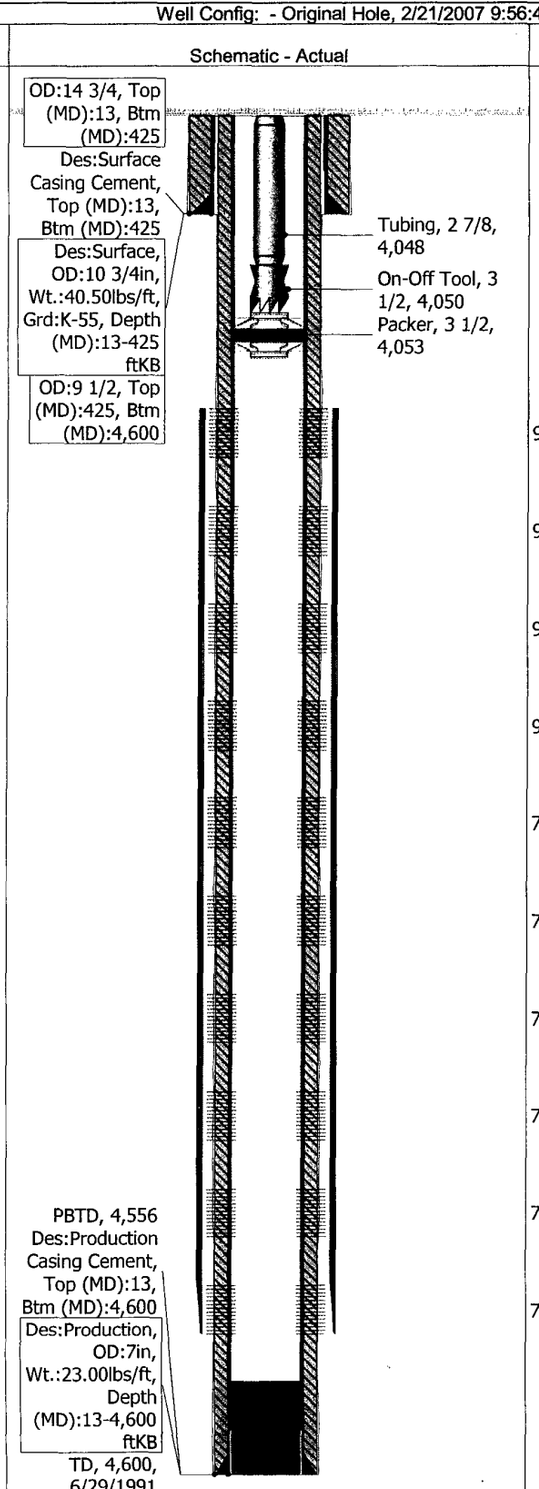
Current Wellbore Schematic

EAST LOVING SWD 1

Field: East Loving
County: EDDY
State: NEW MEXICO
Location: SEC 15-23S-28E, 1157 FNL & 491 FEL
Elevation: GL 3,001.00 KB 3,014.00
KB Height: 13.00

Spud Date: 6/24/1991
API #: 3001526764
CHK Propterty #: 891227
1st Prod Date: 7/11/1991
PBTD: Original Hole - 4556.0
TD: 4,600.0

Well Config: - Original Hole, 2/21/2007 9:56:49 AM



Column List - Actual

Date	Top (MD)	Btm (MD)
9/13/1991	4,216	4,230
9/13/1991	4,280	4,298
9/13/1991	4,327	4,352
9/13/1991	4,377	4,399
7/12/1991	4,407	4,415
7/12/1991	4,428	4,454
7/12/1991	4,462	4,470
7/12/1991	4,482	4,496
7/12/1991	4,503	4,512
7/12/1991	4,517	4,537

Date	Event
7/13/1991	Acdz with 5000.0 gal of 15% NeFe, Acid. Interval: 4,407.0 ftKB- 4,537.0 ftKB. ISIP - 900.0 psi; PST - 775.0 psi; Max - <Max Treal Pressure?>; Avg - <Avg Treat Pressure?> Acidization
9/13/1991	Acdz with 4000.0 gal of 15% NeFe, Acid. Interval: 4,216.0 ftKB- 4,537.0 ftKB. ISIP - <ISIP?>; PST - <Final Shut-in Pressure?>; Max - <Max Treat Pressure?>; Avg - <Avg Treat Pressure?> Acidization
9/13/1991	Frac with 31500.0 gal of 40# X Link Gel, Gelled Acid. Interval: 4,216.0 ftKB - 4,399.0 ftKB. ISIP - 1,220.0 psi; PST - <Final Shut-in Pressure?>; Max - <Max Treat Pressure?>; Avg - <Avg Treat Pressure?>. Total prop amt: Proppant Bulk Sand 108000 lb
9/13/1991	Frac with 39000.0 gal of 40# X Link Gel, Gelled Acid. Interval: 4,216.0 ftKB - 4,399.0 ftKB. ISIP - 1,220.0 psi; PST - <Final Shut-in Pressure?>; Max - <Max Treat Pressure?>; Avg - <Avg Treat Pressure?>. Total prop amt: Proppant Bulk Sand 108000 lb
6/26/1992	Acdz with 3000.0 gal of 15% HCl, Acid. Interval: 4,216.0 ftKB- 4,537.0 ftKB. ISIP - <ISIP?>; PST - <Final Shut-in Pressure?>; Max - <Max Treat Pressure?>; Avg - <Avg Treat Pressure?> Acidization
7/5/1993	Acdz with 1000.0 gal of 15% HCl, Acid. Interval: 4,216.0 ftKB- 4,537.0 ftKB. ISIP - <ISIP?>; PST - <Final Shut-in Pressure?>; Max - <Max Treat Pressure?>; Avg - <Avg Treat Pressure?> Acidization
7/13/1993	Tubing - Production set at 4,053.0ftKB on 7/13/1993 00:00
11/13/2003	Acdz with 2000.0 gal of 15% HCl, Acid. Interval: 4,216.0 ftKB- 4,537.0 ftKB. ISIP - 1,100.0 psi; PST - 200.0 psi; Max - <Max Treat Pressure?>; Avg - <Avg Treat Pressure?> Acidization
12/10/2004	Acdz with 2000.0 gal of 15% HCl, Acid. Interval: 4,216.0 ftKB- 4,537.0 ftKB. ISIP - 1,350.0 psi; PST - 150.0 psi; Max - <Max Treat Pressure?>; Avg - <Avg Treat Pressure?> Acidization
8/13/2005	Acdz with 4000.0 gal of 20% HCl, Acid. Interval: 4,216.0 ftKB- 4,537.0 ftKB. ISIP - 825.0 psi; PST - 775.0 psi; Max - 2,011.0 psi; Avg - 1,600.0 psi Acidization

Cement

Start Date	String	Wellbore	Stg No.	Fluid	Amount (sacks)	Class	Yield (ft³/sack)	Density (lb/gal)	Comment
6/25/1991	Surface, 425.0ftKB	Original Hole			350	C			2% CaCl
7/1/1991	Production, 4,600.0ftKB	Original Hole		Lead	1,100	C			1/4 pps flocele, 18% NaCl
7/1/1991	Production, 4,600.0ftKB	Original Hole		Tail	200	C			1/4 pps flocele, 10% NaCl

Report Printed: 2/21/2007