

ABOVE THIS LINE FOR DIVISION USE ONLY

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



0201

**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 \_\_\_\_\_

[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.**

_____	_____	_____	_____
Print or Type Name	Signature	Title	Date
_____			_____
e-mail Address			

RECEIVED

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

Month-Year MAR 22 2007 ARTESIA, NM

OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

MAR 26 2007

WELL API NO. 30-015-26764
5. Indicate Type of Lease STATE [ ] FEE [X]
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name EAST LOVING SWD
8. Well Number 1
9. OGRID Number 147179
10. Pool name or Wildcat EAST LOVING; DELAWARE
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3001 GR

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.)
1. Type of Well: Oil Well [X] Gas Well [ ] Other [ ]
2. Name of Operator Chesapeake Operating Inc.
3. Address of Operator 2010 Rankin Hwy Midland, TX 79701
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
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

2007 MAR 15 PM 3 41

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 [ ]
TEMPORARILY ABANDON [ ] CHANGE PLANS [ ]
PULL OR ALTER CASING [ ] MULTIPLE COMPL [ ]

REMEDIAL WORK [ ] ALTERING CASING [ ]
COMMENCE DRILLING OPNS. [ ] P AND A [ ]
CASING/CEMENT JOB [ ]

OTHER: [ ]

OTHER: PERFORMED STEP RATE TEST [X]

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.

800psi-Limit

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 [X].

SIGNATURE [Signature] TITLE Regulatory Tech. DATE 03/13/2007

Type or print name Shay Stricklin E-mail address: sstricklin@chkenegy.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

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

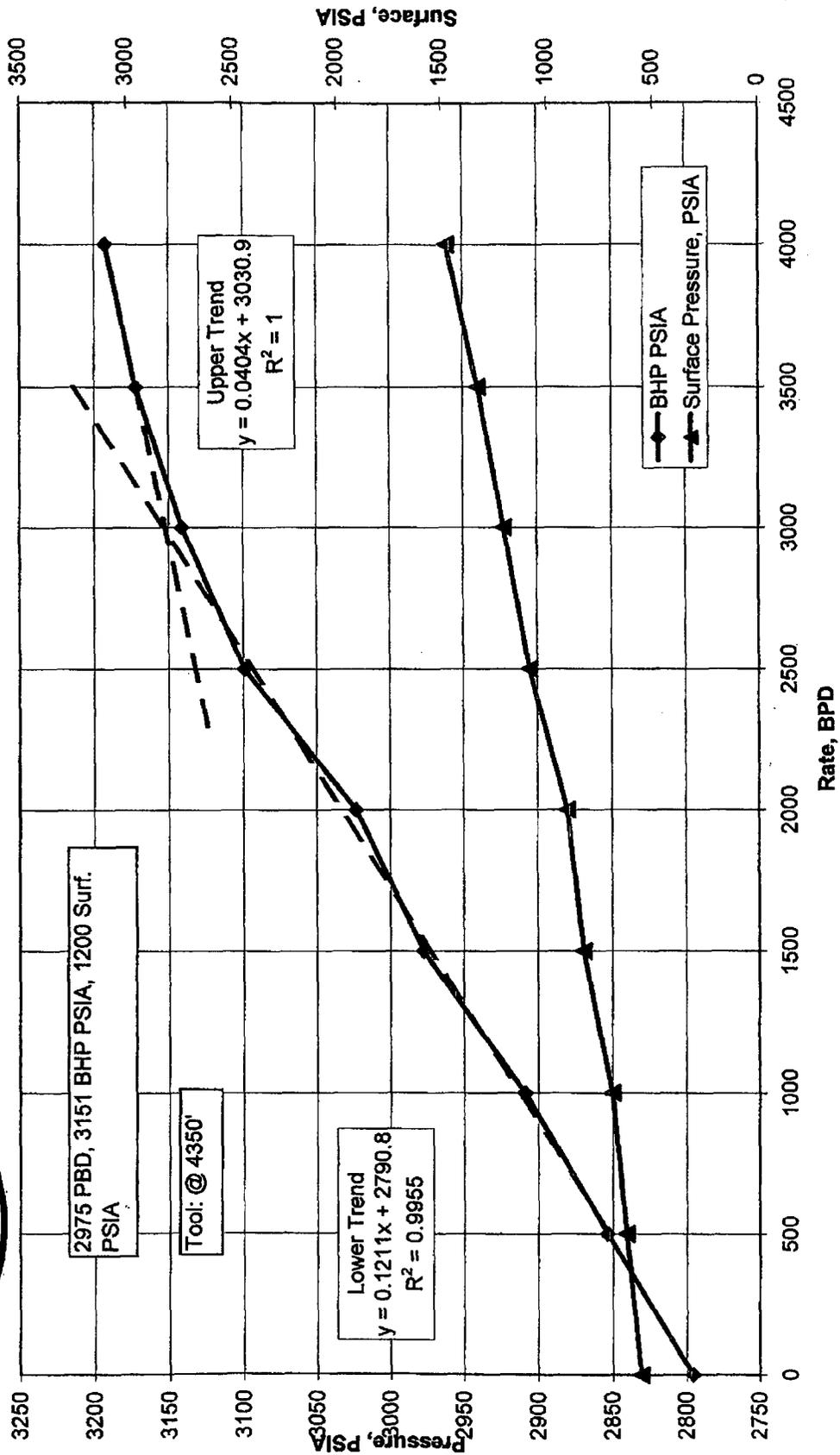
SC 56003

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



**Step Rate Test**



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

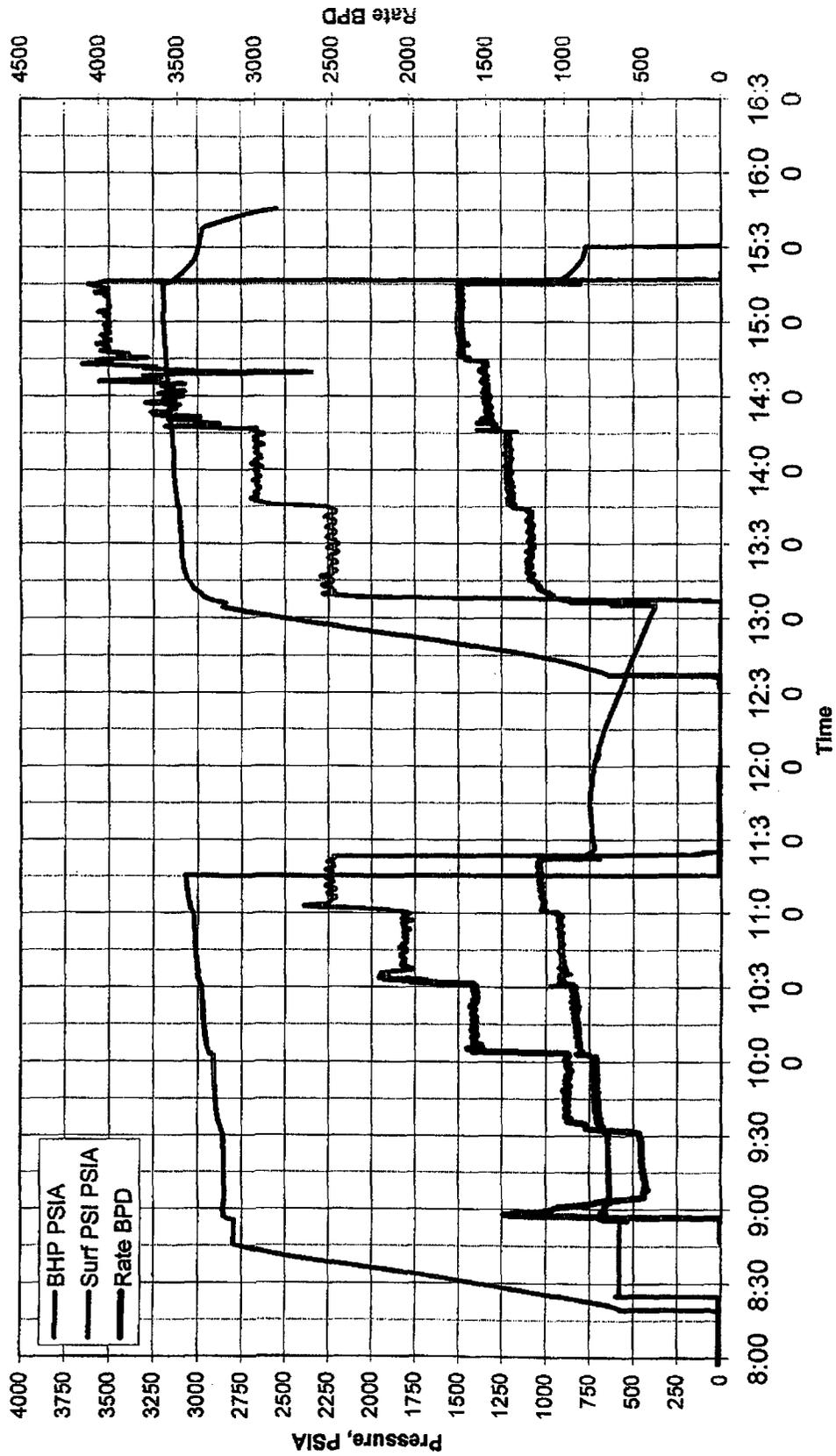
	S Time	E Time	D Time		Last Rate BPD	Step B. H. Pressure		Surf PSIA	Cum BBL	Delta BBL	Lower Trend	Upper Trend
			Min			BPD	PSIA					
1	8:45 AM	9:00 AM	15		0		2795.7	564.5	0	0		
2	9:00 AM	9:30 AM	30		500		2863.5	634.3	14.2	14.2	2853.5	
3	9:30 AM	10:00 AM	30		1000		2909	700.4	34.2	20	2909	
4	10:00 AM	10:30 AM	30		1500		2977.4	836.1	65	30.8	2977.4	
5	10:30 AM	11:00 AM	30		2000		3023.1	911.3	106.1	41.1	3023.1	
8	1:15 PM	1:45 PM	30		2500		3099.1	1087.7	211	104.9	3099.1	
9	1:45 PM	2:15 PM	30		3000		3140.9	1208.1	275.3	64.3		3172.3
10	2:15 PM	2:45 PM	30		3500		3172.3	1328.6	343.7	68.4		3192.5
11	2:45 PM	3:15 PM	30		4000		3192.5	1477.1	428	84.3		3192.5
12	3:15 PM	3:30 PM	15		0		2998.2	756.7	428	0		

0.1211 2790.8  
 0.0404 3030.9

Int Point: 2975 BPD  
 3151.0988 Pressure

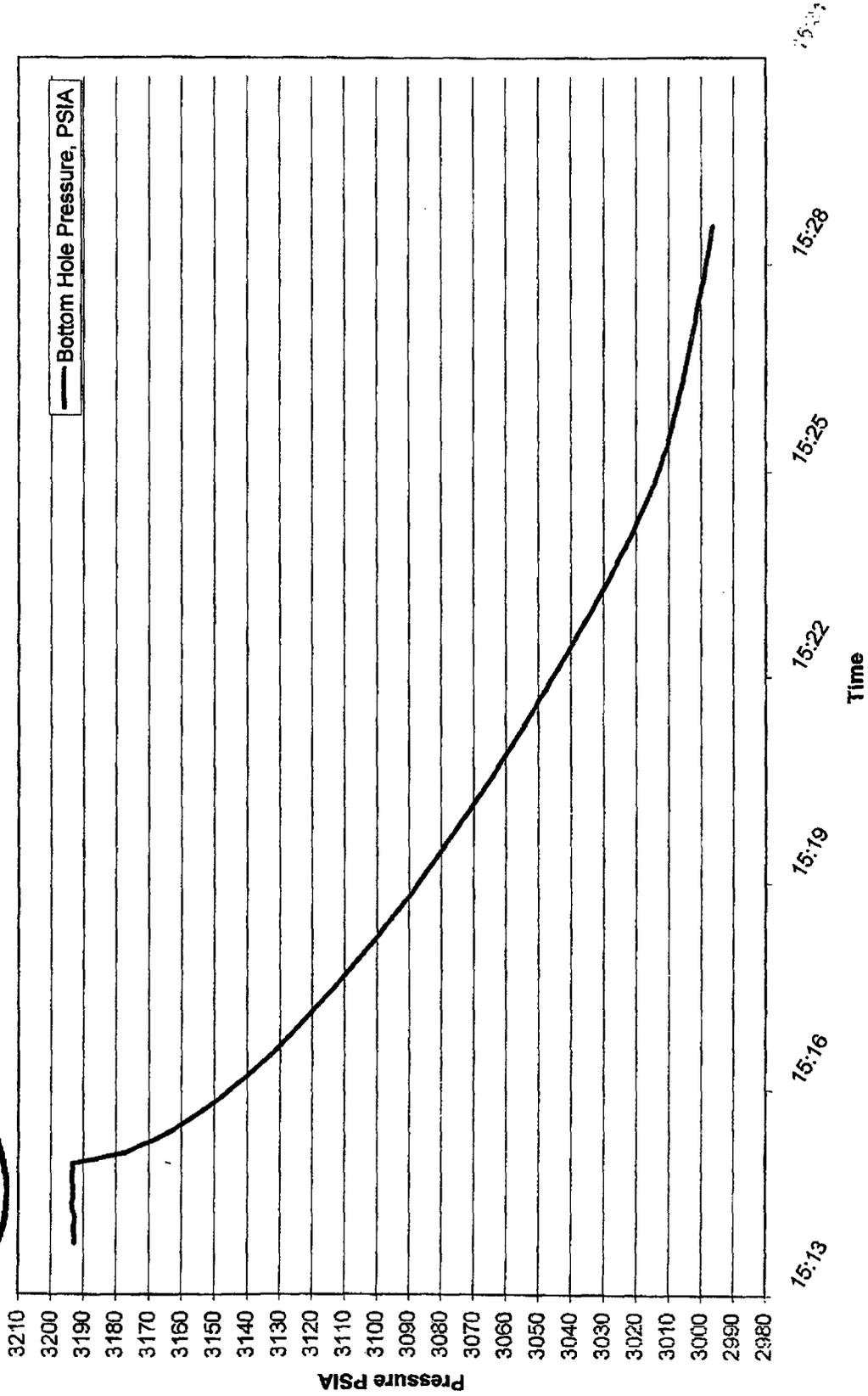


Chesapeake Operating Inc. East Loving SWD # 1  
Step Rate Test 02-26-07





Chesapeake Operating Inc. East Loving SWD # 1  
Fall Off Test 02-26-07



**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.

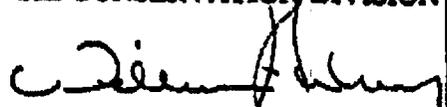
(7) The applicant shall conduct disposal operations and submit monthly reports in accordance with Rules 702 through 706, 708 and 1120 of the Division Rules and Regulations.

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

CASE NO. 10307  
Order No. R-9509  
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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

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 Property #: 891227  
1st Prod Date: 7/11/1991  
PBSD: Original Hole - 4556.0  
TD: 4,600.0

Well Config: - Original Hole, 2/21/2007 9:56:49 AM			Date	Event
ftKB (MD)	Schematic - Actual	Column List - Actual		
		Date Top (MD) Btm (MD)		
13	OD:14 3/4, Top (MD):13, Btm (MD):425		7/13/1991	Acadz 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 Treat Pressure?>; Avg - <Avg Treat Pressure?> Acidization
424	Des:Surface Casing Cement, Top (MD):13, Btm (MD):425		9/13/1991	Acadz 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
425			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
4,048	Des:Surface, OD:10 3/4in, Wt.:40.50lbs/ft, Grd:K-55, Depth (MD):13-425 ftKB	Tubing, 2 7/8, 4,048	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
4,050		On-Off Tool, 3 1/2, 4,050	9/13/1991	Acadz 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
4,053		Packer, 3 1/2, 4,053	7/5/1993	Acadz 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
4,216	OD:9 1/2, Top (MD):425, Btm (MD):4,600		9/13/1991	Tubing - Production set at 4,053.0ftKB on 7/13/1993 00:00
4,230			11/13/2003	Acadz 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
4,280			7/12/1991	Acadz 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
4,298			7/12/1991	Acadz 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
4,327			7/12/1991	
4,352			7/12/1991	
4,377			7/12/1991	
4,399			7/12/1991	
4,407			7/12/1991	
4,415			7/12/1991	
4,428			7/12/1991	
4,454			7/12/1991	
4,462			7/12/1991	
4,470			7/12/1991	
4,482			7/12/1991	
4,496			7/12/1991	
4,503			7/12/1991	
4,512	PBSD, 4,556		7/12/1991	
4,517	Des:Production Casing Cement, Top (MD):13, Btm (MD):4,600		7/12/1991	
4,537	Des:Production, OD:7in, Wt.:23.00lbs/ft, Depth (MD):13-4,600 ftKB		7/12/1991	
4,556				
4,599				
4,600	TD, 4,600, 6/29/1991			

Start Date	String	Wellbore	Stg No.	Fluid	Amount (sacks)	Class	Yield (ft <sup>3</sup> /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