BK ENERGY COMPANY

810 South Cincinnati, Ste. 110
Tulsa, Oklahoma 74119
(918) 582-3855

April 12, 1991

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, N.M. 87504-2088

ATTN: Mr. William J. LeMay

RE: Form C-108, Application for Salt Water Disposal
Bird Creek Resources, Inc.
Proposed East Loving SWD Well No. 1
Unit A, 1157' FNL, 491' FEL
Section 15, T-23-S, R-28-E, N.M.P.M.
Eddy County, New Mexico

Dear Mr. LeMay,

BK Energy, as agent for the applicant, Bird Creek Resources, Inc., respectfully requests administrative approval for the proposed disposal well.

All required information is attached to the C-108. If additional information is needed, please contact me at the letterhead address.

Yours truly,

Brad D. Burks

Brad D. Burks, P.E. 16172
for Bird Creek Resources, Inc.

BDB:sw

Attachments

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Bird Creek Resources, Inc.

Address: 810 South Cincinnati, Suite 110 Tulsa, OK 74119

Contact party: Brad Burks Phone: 918-582-3855

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Brad Burks Title Agent for B.C.R., Inc.

Signature: Brad Burks Date: 4-12-91

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

(1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.

(2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.

(3) A description of the tubing to be used including its size, lining material, and setting depth.

(4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

(1) The name of the injection formation and, if applicable, the field or pool name.

(2) The injection interval and whether it is perforated or open-hole.

(3) State if the well was drilled for injection or, if not, the original purpose of the well.

(4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.

(5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

(1) The name, address, phone number, and contact party for the applicant;

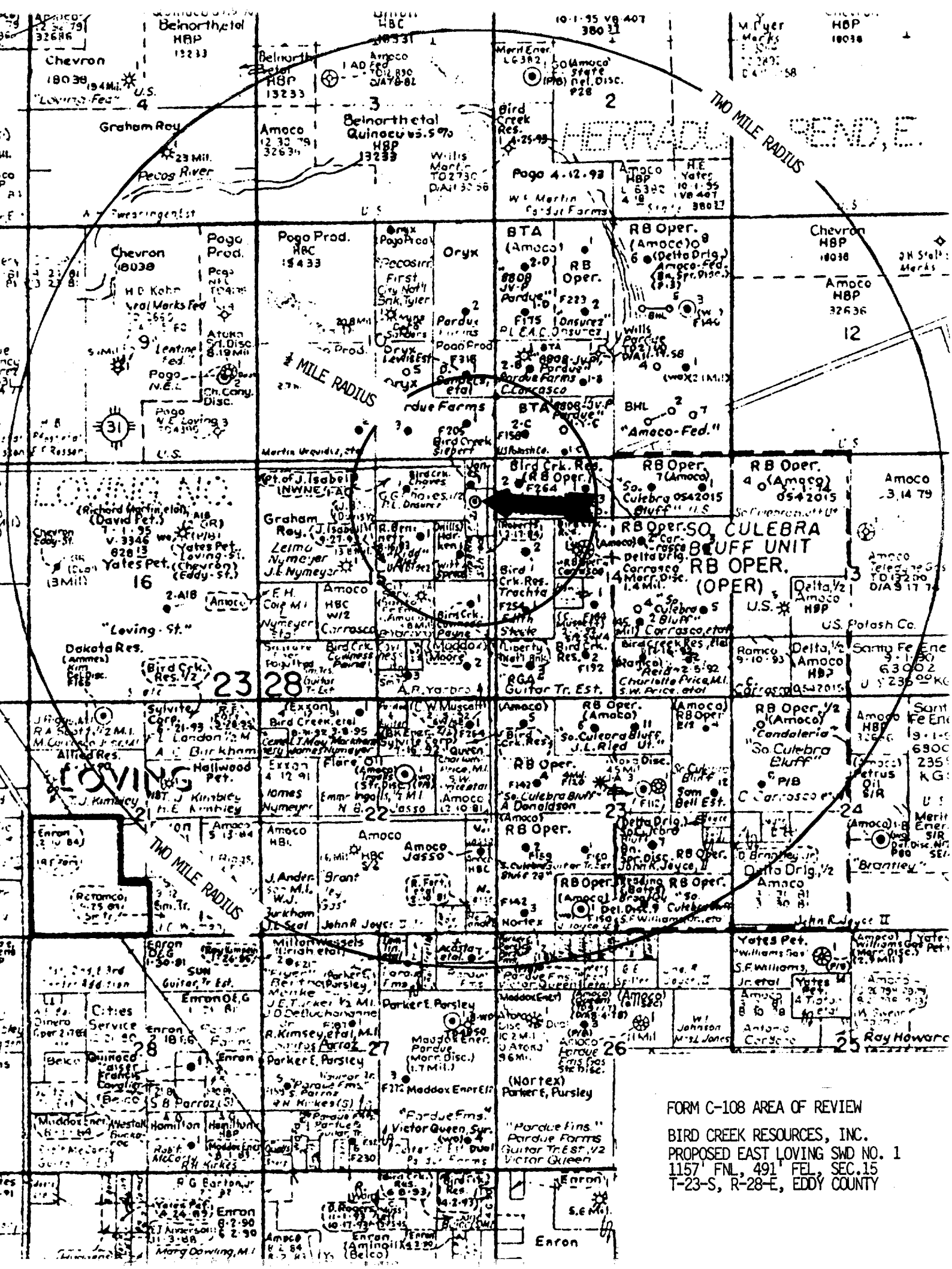
(2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;

(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.



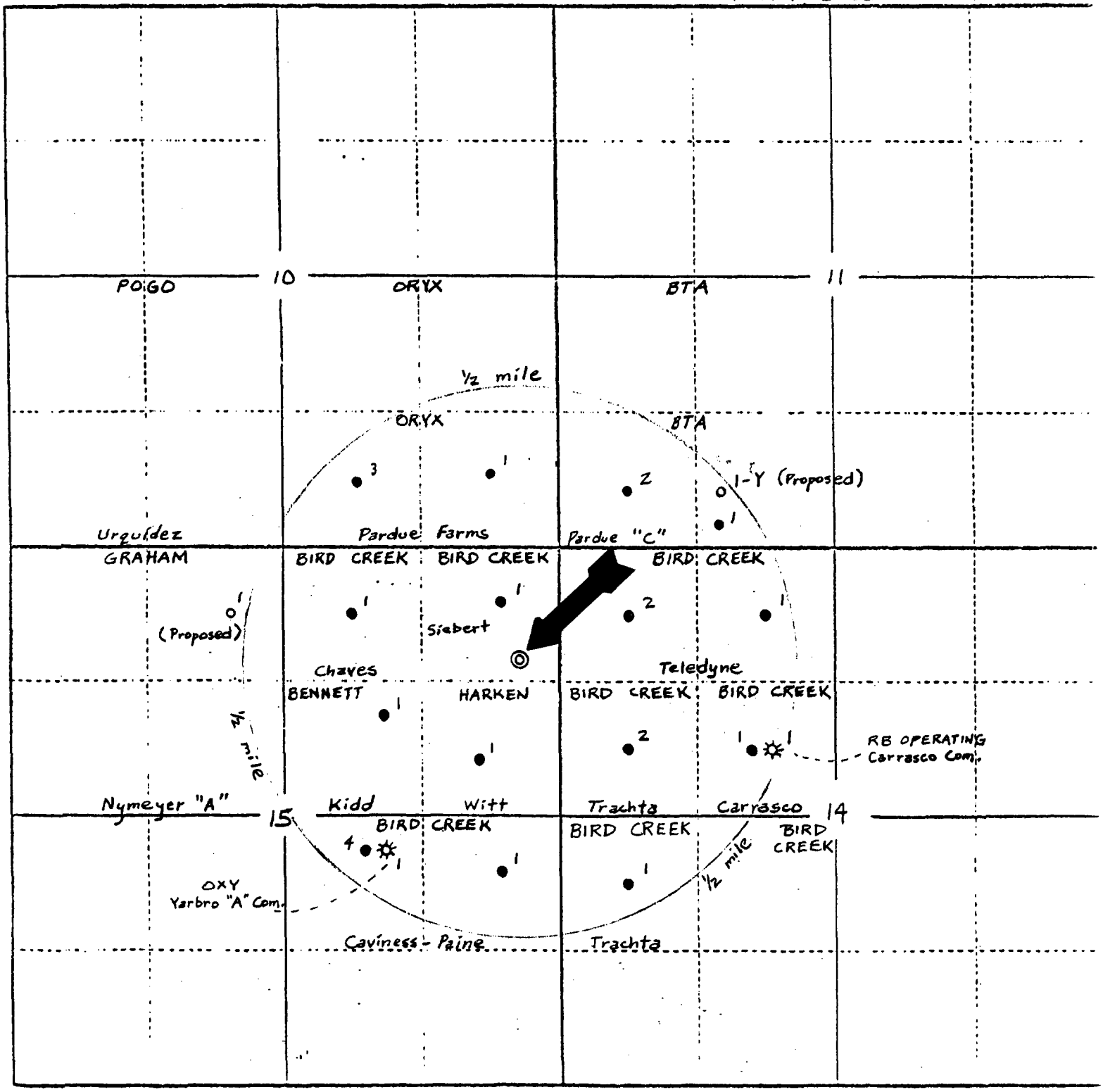
FORM C-108 AREA OF REVIEW

BIRD CREEK RESOURCES, INC.
PROPOSED EAST LOVING SWD NO. 1
1157' FNL, 491' FEL, SEC.15
T-23-S, R-28-E, EDDY COUNTY

Township 23-S Range 28-E County Eddy State New Mexico

4-Section Plat — Form 45

FORM C-108 AREA OF REVIEW



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

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
Bird Creek Resources, Inc.	EAST LOVING SWD	1

Unit Letter	Section	Township	Range	County
A	15	23 SOUTH	28 EAST NMPM	EDDY

Actual Footage Location of Well:
491 feet from the EAST line and 1157 feet from the NORTH line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3001.1			Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

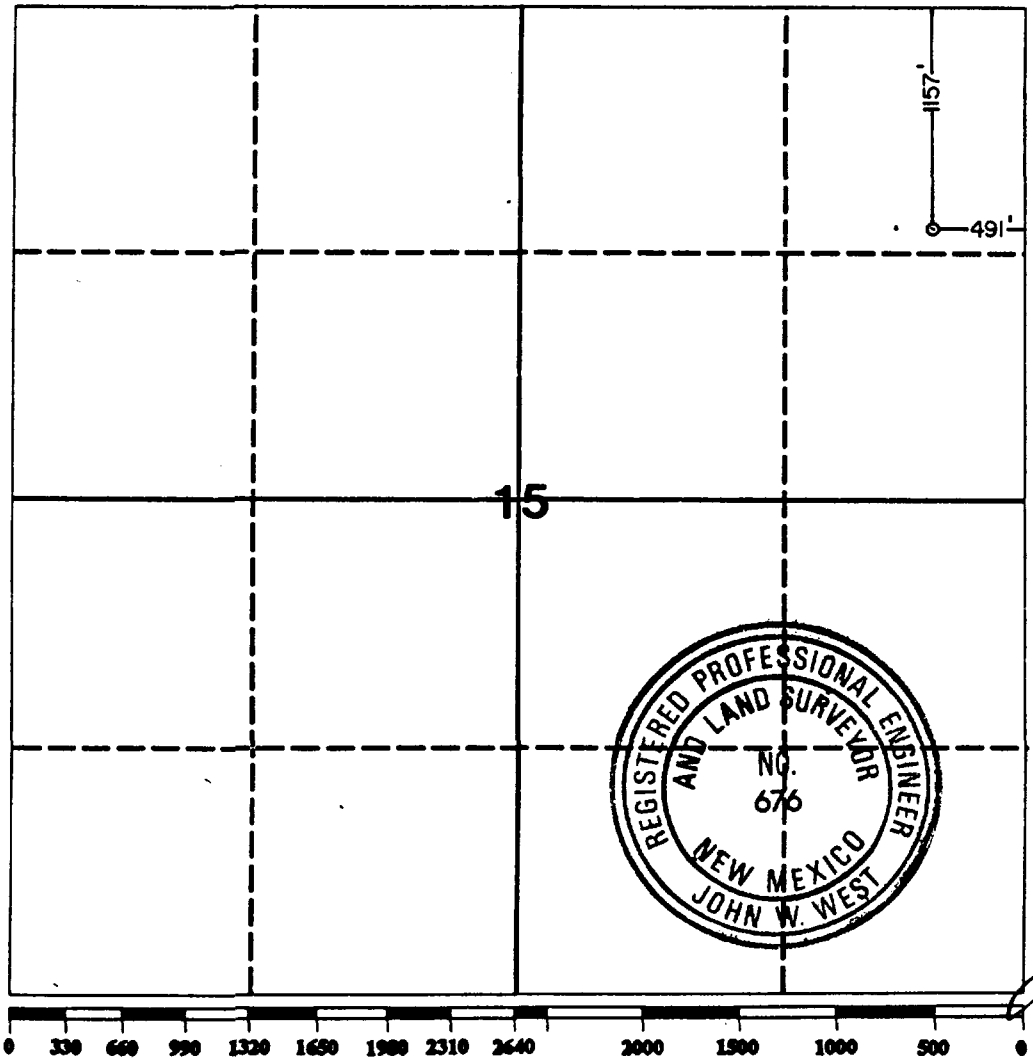
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein in true and complete to the best of my knowledge and belief.

Signature
Bill M. Burks

Printed Name
Bill M. Burks

Position
Agent

Company
Bird Creek Resources, Inc.

Date
4-15-91

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 supervison, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed
4-4-91

Signature & Seal of Professional Surveyor
John W West

Certificate No. JOHN W. WEST, 676
RONALD J. EIDSON, 3239

128630

FORM C-108, APPLICATION FOR SWD
WELL DATA

OPERATOR:	Bird Creek Resources, Inc.
WELL NAME:	East Loving SWD Well No. 1
PROPOSED LOCATION:	Unit A, 1157' FNL, 491' FEL Section 15, T-23-S, R-28-E, N.M.P.M. Eddy County, New Mexico
PROPOSED CASINGS:	10 3/4", 40.5# J-55, STC csg. @ 0-400', 12 1/4" hole Cemented w/ 150 sxs. class "C" cmt. Circulate cement to surface 7", 20# J-55, LTC csg. @ 0-4500', 9 1/2" hole Cement in 1 stage Lead w/ 540 sxs 50-50 Poz - "H" cmt. (0-2400') Tail w/ 440 sxs. class "C" cmt. (2400'-4500') Circulate cement to surface
PROPOSED TUBING:	2 7/8" 1.77# Smith fiberglass tubing @ 0-3950' 1500 PSIG WP, 0.23" wall, ID 2.43", un-lined Specification sheet attached
PROPOSED PACKER:	Baker 7" x 2 7/8" Loc-Set packer @ 3950' Full bore w/ on-off seal tool Internally and externally plastic coated
INJECTION FORMATION:	Delaware (Cherry Canyon Sands) East Loving Delaware Field Perforations, 2 spf, @ 4000-4450, chosen from logs Well is proposed to drill as SWD well
OVERLYING ZONES:	Delaware (Cherry Canyon Sands) @ 3650-70' Loving Cherry Canyon Field; oil production Only one well within 2 mile radius area Pogo's NEL Well No. 2 Unit I, NE/SE/4 Section 9 T-23-S R-28-E
UNDERLYING ZONES:	Delaware (Brushy Canyon Sands) @ 6000-6200' East Loving Delaware Field; oil production Numerous wells within 2 mile radius area Secs. 10, 11, 13, 14, 15, 22, 23, 24, 26, 27, 34 T-23-S R-28-E
PROPOSED STIMULATION:	Perforations shot off logs to be run All perfs will be acidized w/50 gallons per ft. Perfs will be sand fractured if warranted
LOGS:	Logs will be run and submitted upon completion of well

FORM C-108, WELLBORE SCHEMATIC
PROPOSED

Bird Creek Resources, Inc.
East Loving SWD No. 1
Unit A, 1157' FN, 491' FE
Sec. 15, T-23-S, R-28-E
Eddy County, New Mexico

Elevation 3001' GL

12 1/4" hole

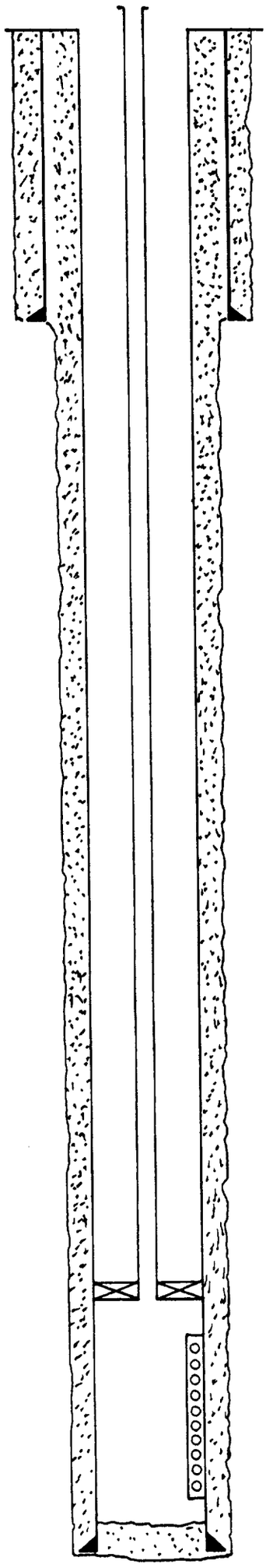
10 3/4", 40.5# J-55, csg. @ 0-400'
150 sxs., cmt. circulated

Formations

Alluvium	0-250'
Anhydrite, salts	250-2575'
Delaware sands	
Bell Canyon	2575-4075'
Cherry Canyon	4075-4930'

2 7/8", 1.77# Fiberglass tbg.@ 0-3950'
Backside loaded w/ treated water

9 1/2" hole



7" x 2 7/8" Baker Loc-set pkr. @ 3950'
IPC, EPC, w/ on-off seal tool

4000'

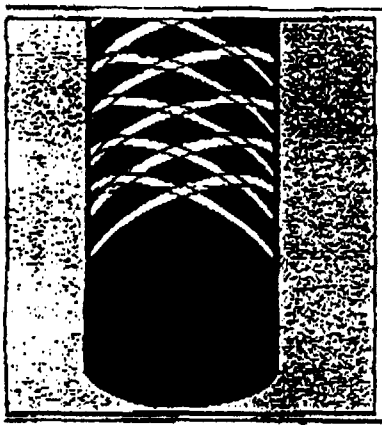
Delaware (Cherry Canyon) perfs

4450'

PBTD 4460'

7", 20# J-55, csg. @ 0-4500'
980 sxs., cmt. circulated

TD 4500'



Smith
Fiberglass
Products

Product Data

SDT™ 1510HP Downhole Tubing

Description

Downhole Tubing (SDT) 1510HP is a high performance fiberglass reinforced tubing. It is manufactured from anhydride cured epoxy resin and is filament wound using a balanced dual angle design. It comes standard with conventional API 8 round EUE long form (short form on 7" product) threaded and coupled end connections. Though it is normally unlined, SDT 1510HP can be lined to suit specifications.
SDT 1510HP is rated for pressures up to 1,500 psig and for use in temperatures up to 200°F (93°C). It is available in random lengths of 30 feet.

Dimensions & Weights

Size	Nominal I.D.		Nominal O.D.		Nominal Wall Thickness		Make-Up Length		Nominal Coupling O.D.		Weight		Fill Capacity	
	in	mm	in	mm	in	mm	in	mm	in	mm	lb/ft	kg/m	bbl/1,000 ft	liters/m
1½	1.50	38	1.77	45	.14	3.6	2.1	53	2.7	69	0.71	1.06	2.2	1.1
2⅜	2.00	51	2.38	60	.19	4.8	2.6	66	3.3	84	1.22	1.82	3.9	2.0
2⅞	2.43	62	2.89	73	.23	5.8	2.9	74	3.9	99	1.77	2.63	5.7	3.0
3½	3.00	76	3.51	89	.26	6.6	3.1	79	4.6	117	2.45	3.65	8.7	4.5
4½	4.00	102	4.64	118	.32	8.1	3.4	86	5.8	147	3.92	5.83	15.5	8.1
7	5.84	148	6.90	175	.53	13.5	3.1	79	8.2	208	9.38	13.97	33.1	17.3

Pipe Performance Ratings

Size	Pressure Rating		Tensile Rating		Collapse Rating		Ultimate Burst[1]		Ultimate Collapse[1]		Ultimate Tensile[1]	
	psig	bar	lb	kg	psig	bar	psig	bar	psig	bar	lb	kg
1½	1,500	103.4	6,650	3,114	1,100	75.9	4,800	331.0	3,300	227.6	24,000	10,909
2⅜	1,500	103.4	11,700	5,318	1,200	82.8	5,800	400.0	3,600	248.3	41,400	18,818
2⅞	1,500	103.4	15,900	7,227	1,200	82.8	5,500	379.3	3,600	248.3	49,700	22,593
3½	1,500	103.4	23,200	10,545	1,100	75.9	5,500	379.3	3,250	224.1	78,400	35,636
4½	1,500	103.4	33,000	15,000	900	62.1	5,000	344.8	2,700	186.2	103,000	46,818
7	1,500	103.4	55,500	25,227	1,100	75.9	4,600	317.2	3,300	227.6	167,000	75,909

[1]Calculated from random lab tests. All measured across the joint.
If the service temperature exceeds 160°F, use the following percentages of the published ratings.

170°F — 95%
180°F — 84%
190°F — 77%
200°F — 70%

If only the bottom hole temperature exceeds 160°F, it is not necessary to use these percentages along the entire length of the tubing string.

Pup Joints	1½" thru 7"/2' thru 10' lengths

NOTE: Smith Fiberglass Products manufactures a variety of special fittings. Consult fittings section for ratings, details, and more complete listings. Contact a Smith Fiberglass Products representative for your fittings needs.

Typical Mechanical & Physical Properties	Units	Value	Test Method
Density	lb/in³ (gm/cm³)	0.073 (2.02)	ASTM D792
Axial Tensile Modulus	psi (N/m²)	3.25×10^6 (2.25×10^{10})	ASTM D2105
Compressive Strength	psi (N/m²)	1.4×10^4 (9.71×10^7)	ASTM D695
Flow Factor, Hazen-Williams	—	150	Manufacturer
Thermal Conductivity	BTU-in/ft²-hr-°F (cal,gm-cm/hr-cm²-°C)	2.5 (3.10)	ASTM D177
Coefficient of Thermal Expansion	(in/1,000 ft)/°F	0.06	ASTM D696
Rockwell M Hardness	—	90	Manufacturer
Hoop Tensile Modulus	psi (N/m²)	3.50×10^6 (2.42×10^{10})	Manufacturer
Poisson's Ratio (Axial Tension)	—	0.16	Manufacturer

Minimum Bending Radius at 500 psi

Size	Tensile	Minimum Bending Radius	Tensile	Minimum Bending Radius	Tensile	Minimum Bending Radius	Tensile	Minimum Bending Radius
in	lb	ft	lb	ft	lb	ft	lb	ft
1½	1,700	70	3,400	100	5,200	200	6,850	300
2⅜	2,900	80	5,900	120	8,800	240	11,700	360
2⅞	4,000	95	8,000	140	11,900	280	15,900	420
3½	5,800	115	11,600	170	17,400	340	23,200	510
4½	8,300	150	16,500	220	24,800	440	33,000	660
7	13,900	215	27,800	320	41,600	640	55,500	960

Minimum Bending Radius at 1,500 psi

Size	Tensile	Minimum Bending Radius	Tensile	Minimum Bending Radius	Tensile	Minimum Bending Radius	Tensile	Minimum Bending Radius
in	lb	ft	lb	ft	lb	ft	lb	ft
1½	1,700	70	3,400	100	5,200	200	6,850	300
2⅜	2,900	80	5,900	120	8,800	240	11,700	360
2⅞	4,000	95	8,000	140	11,900	280	15,900	420
3½	5,800	115	11,600	170	17,400	340	23,200	510
4½	8,300	150	16,500	220	24,800	440	33,000	660
7	13,900	215	27,800	320	41,600	640	55,500	960

Consult installation guide ("A guide to installation and testing of fiberglass surface pipe, tubing and casing") for proper installation techniques.

IMPORTANT NOTICE: We have prepared this literature as a guide only. Although we believe the information contained herein is accurate and reliable, this information shall not be construed to constitute or extend any representation, warranty or guarantee, whether express or implied, or an inducement of infringement of patent including any warranty. Smith Fiberglass Products reserves the right to update products and/or data as necessary without notice.

SMITH FIBERGLASS

Smith Fiberglass Products Inc.
A Subsidiary of A.O. Smith Corporation
2700 W. 65th Street
Little Rock, AR 72209
Phone 501-568-4010
TWX 910-722-7377 A O SMITH LR
FAX 501-568-4465

FORM C-108 APPLICATION FOR SWD
PROPOSED OPERATION

AVERAGE INJECTION: 1400 Bbls. produced water per day
Injection pressure 750 PSIG

MAXIMUM INJECTION: 2000 BWPD @ 800 PSIG

SYSTEM TYPE: Open system to allow transport vehicles to unload brine water from newly completed wells in this field.

WATER SOURCE: The produced water to be disposed of comes from wells in the East Loving Delaware Field (Brushy Canyon Sand) @ 6000-6200'. Produced water will originate from Bird Creek's wells in this field, as well as from other non-operated wells in this field. Analysis of the Brushy Canyon water is attached.

No compatibility problems should exist between the produced water (Brushy Canyon Sand) and the receiving zone water (Cherry Canyon Sand). Waters from the Brushy Canyon and Cherry Canyon Sands are characterized by high salinities and high total dissolved solids.

The receiving interval does not produce hydrocarbons within two miles of the proposed disposal well.

FRESH WATER: Fresh water in the study area exists in alluvial deposits from the surface to no deeper than 250'. Water wells in the area are no deeper than 100'. Since drinking water is available to area residents on the Malaga Water Users System, most water wells are used for stock and crop irrigation needs.

GEOLOGY: The Delaware formation is appproximately 3600' thick in this area, and is locally subdivided into three major sand members. These are, from top to bottom:

Bell Canyon	2575-4075'
Cherry Canyon	4075-4930'
Brushy Canyon	4930-6130'

All three members are characterized as being composed predominantly of quartz, very fine grained and unconsolidated. Shales, dolomite, and limestone are interbedded in the sands. Formation waters are similar in all three members, highly saline with total dissolved solids approaching 300,000 ppm. No fresh water appears to exist in the Delaware, and the Delaware is vertically separated from fresh surface water by 2400' of evaporites.

DELAWARE PRODUCED WATER ANALYSIS

THE WESTERN COMPANY OF NORTH AMERICA
WATER ANALYSIS

ANALYSIS NO: 910401D

GENERAL INFORMATION

OPERATOR:	BIRDCREEK RESOURCES		
WELL:	CAVINESS PAINE #4	DEPTH:	
FIELD:		DATE SAMPLED:	4/1/91
FORMATION:	DELAWARE	DATE RECEIVED:	4/1/91
COUNTY:	EDDY	SUBMITTED BY:	REECO
STATE:	NM	WORKED BY:	C. M. SIZEMORE
		PHONE:	505-392-5556

SAMPLE DESCR: 20% EMULSION.

PHYSICAL AND CHEMICAL DETERMINATIONS

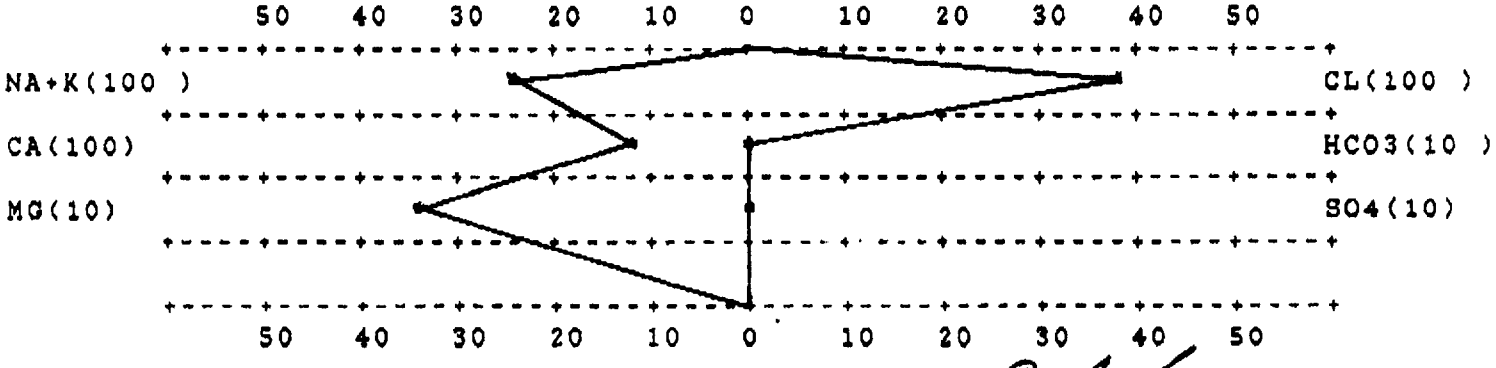
SPECIFIC GRAVITY: 1.185 AT 78 DEG. F PH = 6.00

IRON:	NOT DETERMINED		SULFATE:	371	PPM
FE2+:	100	PPM			
SODIUM+POTASS:	68695	PPM	CHLORIDE:	140896	PPM
			SODIUM CHLORIDE (CALC):	232268	PPM
CALCIUM:	22301	PPM	BICARBONATE:	124	PPM
MAGNESIUM:	3896	PPM	TOT. HARDNESS AS CACO3:	71794	PPM
PHOSPHATE:	NOT DETERMINED		TOT. DISSOLVED SOLIDS:	281881	PPM

RESISTIVITY (CALCULATED): 0.044 OHM/METER @ 75 DEGREES F.

REMARKS:

STIFF TYPE PLOT (IN MEQ/L)



ANALYST C. M. SIZEMORE

DELAWARE PRODUCED WATER ANALYSIS

ALPINE LABS, INC.

PETROLEUM INDUSTRY CHEMICALS

LABORATORY WATER ANALYSIS

COMPANY:	BIRD CREEK RESOURCES	PH:	5.590
WELL NO:	R.G.A.) #2&3 BATTERY	SULFIDE AS H2S:	
COUNTY:		CARBON DIOXIDE:	
STATE:			
DATE SAMPLED:	11-29-90	SPECIFIC GRAVITY:	1.155
TIME SAMPLED:		DISSOLVED OXYGEN:	
SAMPLE LOCATION:		WATER B/D:	
SAMPLED BY:	RAY HARDIN		

CATIONS	Mg/L	ME/L	ANIONS	Mg/L	ME/L
Calcium	23,000	1,150	Bicarbonate	73	1
Magnesium	2,074	170	Sulfate	283	6
Sodium	62,451	2,715	Chloride	143,000	4,028
Total Hardness	66,000				
Barium	0				

Total Dissolved Solids: 230,934 Mg/L

Iron: 53 Mg/L

CaCO3 Scaling Tendency:

Stability index @:	80°F	-0.15
	100°F	0.14
	120°F	0.33
	160°F	1.32

CaSO4 Scaling Tendency:

Ksp Temperature Used: 90 °F

Calculated Saturation: 5.84 ME/L

C a S O 4 I S I N D I C A T E D .

P.O. BOX 69337 ODESSA, TEXAS 79769 (915) 381-2595

FRESH WATER ANALYSIS

P O BOX 1468
MONAHANS TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

708 W INDIANA
MIDLAND TEXAS 7970.
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 291173
SAMPLE RECEIVED 2-20-91
RESULTS REPORTED 2-21-91

COMPANY _____ LEASE _____
FIELD OR POOL Loving, East (Delaware)
SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM

SOURCE OF SAMPLE AND DATE TAKEN:

NO. 1 Sample #1 - windmill.
NO. 2 Sample #2 - Joe Trachta's house water well.
NO. 3 Sample #3 - irrigation well N. of Tony Onsurez' house. 2-16-91
NO. 4 Sample #3-A - irrigation well N. of Tony Onsurez' house. 2-20-91

REMARKS:

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0111	1.0023	1.0102	1.0070
pH When Sampled				
pH When Received	7.23	7.65	6.61	6.43
Bicarbonate as HCO_3	327	166	22	137
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	3,900	945	3,925	3,275
Calcium as Ca	870	242	890	830
Magnesium as Mg	419	83	413	292
Sodium and/or Potassium	2,435	287	2,058	1,398
Sulfate as SO_4	3,093	560	2,667	2,400
Chloride as Cl	4,048	604	3,977	2,628
Iron as Fe	3.2	1.5	78.8	90.4
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids, Calculated	11,192	1,942	10,027	7,684
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	0.580	3.22	0.630	0.840
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks	Legal Description
Sample #1	SE/SW, Sec 14, T-23S, R-28E
Sample #2	NE/SE, Sec 15, T-23S, R-28E
Sample #3	NW/NW, Sec 11, T-23S, R-28E
Sample #3-A	NW/NW, Sec 11, T-23S, R-28E

Form No. 3

By _____

FRESH WATER ANALYSIS

P O. BOX 1468
MONAHANS, TEXAS 79756
PH 943-3234 OR 563-1040

Martin Water Laboratories, Inc.

709 W INDIANA
MIDLAND, TEXAS 79701
PHONE 683-4521

RESULT OF WATER ANALYSES

LABORATORY NO. 291173 (Page 2)
SAMPLE RECEIVED 2-20-91
RESULTS REPORTED 2-21-91

COMPANY _____ LEASE _____
FIELD OR POOL Loving, East (Delaware)
SECTION ___ BLOCK ___ SURVEY ___ COUNTY Eddy STATE NM
SOURCE OF SAMPLE AND DATE TAKEN:
NO. 1 Sample #4 - Pecos River.
NO. 2 Sample #5 - windmill @ Frank London's house.
NO. 3 Sample #6 - irrigation well @ Lionel Onsurez' leased farm.
NO. 4 Sample #7 - irrigation well on Lawrence Nymeyer's fee surface.
REMARKS: 4. Surface leased & farmed by Reed Kimbley.

CHEMICAL AND PHYSICAL PROPERTIES	NO. 1	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0050	1.0063	1.0052	1.0062
pH When Sampled				
pH When Received	6.78	6.79	6.69	6.83
Bicarbonate as HCO_3	134	234	327	293
Supersaturation as $CaCO_3$				
Undersaturation as $CaCO_3$				
Total Hardness as $CaCO_3$	1,700	2,650	2,880	3,100
Calcium as Ca	412	768	740	792
Magnesium as Mg	163	177	250	272
Sodium and/or Potassium	554	835	971	905
Sulfate as SO_4	1,387	1,893	2,133	2,187
Chloride as Cl	959	1,633	1,775	1,811
Iron as Fe	0.56	4.1	1.6	0.40
Barium as Ba				
Turbidity, Electric				
Color as Pt				
Total Solids Calculated	3,608	5,541	6,197	6,260
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen,				
Hydrogen Sulfide	0.0	0.0	0.0	0.0
Resistivity, ohms/m at 77° F.	1.79	1.19	1.08	1.06
Suspended Oil				
Filtrable Solids as mg/l				
Volume Filtered, ml				

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks	Legal Description
Sample #4	SE/NE, Sec 21, T-23S, R-28E
Sample #5	NE/NE, Sec 21, T-23S, R-28E
Sample #6	NE/SW, Sec 15, T-23S, R-28E
Sample #7	SE/NE, Sec 15, T-23S, R-28E

The undersigned certifies the above to be true and correct to the best of his knowledge and belief.

Form No. 3

By _____
Waylan C. Martin, M.A.

FORM C-108, APPLICATION FOR SWD

AFFIDAVIT

The undersigned, as agent for the applicant Bird Creek Resources, Inc., does hereby testify that available geologic and engineering data have been examined and has found no evidence of open faults or any other hydrologic connection between the disposal zone and any known underground source of drinking water.

Brad D. Burks

Brad D. Burks, P.E. 16172
Agent, Bird Creek Resources, Inc.
Date: 4-15-91

FORM C-108, APPLICATION FOR SWD
LAND STATUS

SURFACE OWNER:

Bird Creek Resources, Inc.
810 South Cincinnati, Suite 110
Tulsa, OK 74119

(918) 582-3855

OFFSET OPERATORS
IN 1/2 MILE AREA:

BTA Oil Producers
104 S. Pecos
Midland, TX 79701

R.C. Bennett
P.O. Box 264
106 N. Marienfeld
Midland, TX 79702

Oxy USA
P.O. Box 50250
Midland, TX 79710

Graham Royalty, Inc.
5429 LBJ Freeway
Suite 550
Dallas, TX 75240

Harken Exploration Company
P.O. Box 10626
Heritage Center
500 N. Loraine, Suite 1050
Midland, TX 79702

Oryx Energy Company
P.O. Box 2880
5656 Blackwell
Dallas, TX 75221

Pogo Producing Company
P.O. Box 10340
600 United Bank Bldg.
Midland, TX 79702-7340

RB Operating Company
Two Warren Place
6120 S. Yale, Suite 1700
Tulsa, OK 74136

Carlsbad Current-Argus
Carlsbad, NM

Trucks and Vans 30

1988 JEEP COMANCHE: 29,000 miles, new tires, excellent condition. Call 885-0220.

1991 Nissan pickup: Take over payments. Loaded. 885-0375.

Four Wheel Drive.....31

1988 TOYOTA 4X4: Extra cab pickup, fully loaded. Excellent condition. For more information call 885-1343.

Autos for Sale.....32

1974 CUTE VOLKSWAGEN BUG; New upholstry, new paint. $2,300 phone 885-0972.

1982 Honda Accord, four door, air conditioner, new engine. $2,500. 885-8931.

1983 Buick LeSabre, 1980 Oldsmobile 98, both are good clean cars. Make offers or trade. 887-7260.

READ THE CLASSIFIED!

Autos for Sale.....32

1984 CHRYSLER 5TH AVENUE: super shape, 62,000 one owner miles. Plush interior, good tires. $3,950 firm. 885-2880.

1974 International Jeep, new tires $1,000. 1979 Lincoln Versaile $1,800. 1981 310 Datsun, new engine and tires, new paint and upholstery $2,800. Call 887-5951 or come by 2203 Iris.

1987 BUICK SKYLARK: four door. 885-1876. $5,000.

1987 Toyota 4x4, A-1 condition. $6,995. Call after 4 p.m. 887-1338.

1989 Honda Accord, two door, black, 38,000 miles, excellent condition, $10,500. Call 887-3369.

1990 Pontiac Sunbird LE auto, two tone, 7,600 miles, loaded. Must sell. 887-0175.

FOR A SPEEDY SALE PLACE YOUR AUTO IN THE CURRENT-ARGUS 887-5501

Legals 100

April 16, 1991

Bird Creek Resources, Inc. proposes to drill a well for the purpose of disposing produced formation water. Location will be 1157 ft. FNL, 491 ft. FEL, Section 18, T-23-S, R-28-E, Eddy County. Water will be disposed of into the Delaware Formation at 4000-4500 ft. at maximum rate of 2000 BPD, 500 PSIG. The contact is Brad Burk, 110 S. Cincinnati, Suite 11, Tulsa, OK 74119. Phone - 918-582-9855. Interested parties must file objections or requests for hearing with the Oil Conservation Division, Box 2088, Santa Fe, NM 87501 within 15 days.

April 16, 1991

NOTICE TO BIDDERS

BID NO. 91-16

Notice is hereby given that sealed bids will be received by the City of Carlsbad, New Mexico at the office of the City Purchasing Department of said City until May 3, 1991, at 2:30 p.m. for one (1) 1991 street sweeper.

Specifications may be obtained at the office of the City Purchasing Department by prospective bidders.

Notice is further given that the City Council reserves the right to reject any or all bids received, and in the case of ambiguity or lack of clearness, to determine the best bid or to reject the same.

/s/ Don R. Patterson
City Administrator

Notice is hereby given that sealed bids will be received by the City of Carlsbad, New Mexico at the office of the City Purchasing Department of said City until May 3, 1991, at 3:00 p.m. for one (1) 1991 animal control cage.

Specifications may be obtained at the office of the City Purchasing Department by prospective bidders.

Notice is further given that the City Council reserves the right to reject any or all bids received, and in the case of ambiguity or lack of clearness, to determine the best bid or to reject the same.

/s/ Don R. Patterson
City Administrator

April 8, 16, 1991

IN THE DISTRICT COURT OF EDDY COUNTY STATE OF NEW MEXICO

IN THE MATTER OF THE LAST WILL AND TESTAMENT OF

LUKE H. CASEY, deceased.

No. PB-91-34-S

NOTICE OF HEARING

THE STATE OF NEW MEXICO TO: DENNIS DEAN CASEY, ALL UNKNOWN HEIRS OF LUKE H. CASEY, deceased; and, ALL UNKNOWN PERSONS CLAIMING ANY LIEN UPON, RIGHT, TITLE OR INTEREST IN AND TO THE ESTATE OF THE DECEDENT.

representative, and Letters Testamentary be issued to Petitioner.

Hearing has been set to consider the Petition on the 8th day of May, 1991, at 8:30 o'clock a.m. in the District Court, Eddy County Courthouse, Carlsbad, New Mexico.

ROSENBERG & DAVIS, P.O. Box 1597, Carlsbad, New Mexico, are attorneys for Petitioner.

RICHARD LUKE CASEY
1088 Elk Mountain
Green River, WY 82935

April 8, 16, 1991

IN THE DISTRICT COURT OF EDDY COUNTY STATE OF NEW MEXICO

IN THE MATTER OF THE GUARDIANSHIP AND CONSERVATORSHIP OF

ACE PIKE, an alleged incapacitated person.

No. PB-89-118-W

NOTICE TO CREDITORS

The undersigned has been authorized to have the powers and duties of a Personal Representative in this matter. All persons having claims against this estate are required to present their claims within two (2) months after the date of the first publication of this Notice, or be forever barred.

ROSENBERG & DAVIS, P.O. Box 1597, Carlsbad, New Mexico 88221-1597, are

Negoti

WASHINGTON (AP) — Fr
their unions pledged to keep o
a midnight strike deadline toni
say a coast-to-coast walkout ap

The nation's 235,000 freight
walk off their jobs early We
unions representing them have
new contracts settling a three-
wages, health care and work ru

Such a walkout, which woul
1982, would strand passengers,
goods and idle hundreds of tho
road workers.

A four-day rail strike in 198
down the nation's rail system a
ger trains around the country.
cials estimated the walkout co
omy up to $1 billion a day.

Congress has the authority to
transportation strike, but lawm
cated they would not interfere u
bargaining have been exhaustc
under way.

On Monday, President Bus
unions and freight carriers close
publicly noting the disarray su
cause.

State thrift losses: $300 mi

ALBUQUERQUE (AP) —
failed New Mexico savings
loans accounted for most of the $
million lost by the state's thrift
1990, a report says.

ABQ Bank and Sandia Fe
Savings reported combined losse
about $280 million last year, w
the combined losses of all the fr
New Mexico thrifts controlled by
federal Resolution Trust Corp.
$303.3 million, the report says.

Nearly all of the losses rest
from bad debts and operating
penses written off by the RTC.

The report compiled by Shes

Environ

TABULATION OF DATA OF WELLS IN AREA OF REVIEW

FORM C-108, APPLICATION FOR SWD
BIRD CREEK RESOURCES, INC.
PROPOSED EAST LOVING SWD NO. 1
T-23-S, R-28-E, EDDY COUNTY

OPERATOR	WELL NAME & NO.	LOCATION	TYPE WELL	TD	COMPLETION	CONSTRUCTION
Oryx	Pardue Farms No. 3	660' FS & 1930' FE Unit O, Section 10	Oil Producer	6,200'	Perfs: 6014-6086' IPF: 230 BO Comp: 11-7-90	8 5/8" @ 503' w/400 sx, circ 5 1/2" @ 6200' w/1795 sx, circ
Orxy	Pardue Farms No. 1	780' FS & 660' FE Unit P, Section 10	Oil Producer	6,200'	Perfs: 6052-6128' IPF: 205 BO Comp: 8-19-90	8 5/8" @ 503' w/ 400 sx, circ 5 1/2" @ 6200' w/ 1795 sx, circ
BTA	Pardue "C" No. 2	560' FS & 660' FW Unit M, Section 11	Oil Producer	6,250'	Perfs: 6031-6140' IPF: 158 BO Comp: 3-8-90	8 5/8" @ 527' w/ 400 sx - Circ 5 1/2" @ 6250' w/ 1317 sx - Circ
BTA	Pardue "C" No. 1	176' FS & 1550' FW Unit N, Section 11	SI Oil Producer; proposed SWD	6,250'	Perfs: 6041-6114' IPF: 150 BO Comp: 5-17-90	8 5/8" @ 535' w/ 400 sx Circ 5 1/2" @ 6250' w/ 1500 sx TOC @ 1000'
Bird Creek	Teledyne No. 1	660' FN & 1980' FW Unit C, Section 14	Oil Producer	6,210'	Perfs: 6062-6143' IPF: 233BO Comp: 1-13-90	8 5/8" @ 518' w/ 350 sx, circ 5 1/2" @ 6205' w/ 2350 sx, circ

TABULATION OF DATA OF WELLS IN AREA OF REVIEW

FORM C-108, APPLICATION FOR SWD
BIRD CREEK RESOURCES, INC.
PROPOSED EAST LOVING SWD NO. 1
T-23-S, R-28-E, EDDY COUNTY

OPERATOR	WELL NAME & NO.	LOCATION	TYPE WELL	TD	COMPLETION	CONSTRUCTION
Bird Creek	Teledyne No. 2	660' FN & 660' FW Unit D, Section 14	Oil Producer	6,187'	Perfs: 6014-6096' IPF: 264 BO Comp: 5-25-90	8 5/8" @ 500' w/350 sx, circ 5 1/2" @ 6187' w/1720 sx, circ
Bird Creek	Trachta No. 2	1980' FN & 660' FW Unit E, Section 14	Oil Producer	6,222'	Perfs: 6072-6133' IPF: 240 BO Comp: 9-14-90	8 5/8" @ 514' w/310 sx, circ 5 1/2" @ 6221' w/1490 sx TOC @ 310'
Bird Creek	Carrasco No. 1	1980' FN & 1880' FW Unit F, Section 14	Oil Producer	6,420'	Perfs: 6086-6190' IPF: 282 BO Comp: 7-15-89	8 5/8" @ 520' w/550 sx, circ 5 1/2" @ 6420 w/1245 sx, circ
RB Operating	Carrasco Com. No. 1	1980' FN & 1980' FW Unit F, Section 14	Gas Producer	13,100'	Perfs: 12,502-514' IPF: 1450 MCFPD Comp: 4-15-79	16" 475', 550 sx, circ 10 3/4" 3130', 3700 sx, circ 7 5/8" 10,655, 2400 sx TOC @ 2630' 4 1/2" 13, 100, 500 sx
Bird Creek	Chaves No. 1	660' FN & 1980' FE Unit B, Section 15	Oil Producer	6,211'	Perfs: 6058-6101' IPF: 240 BO Comp: 10-22-90	8 5/8" @ 518' w/310 sx, circ 5 1/2" @ 6210' w/1625 sx, circ
Bird Creek	Siebert No. 1	535' FN & 535' FE Unit A, Section 15	Oil Producer	6,219'	Perfs: 6059-6131' IPF: 295 BO Comp: 6-16-90	8 5/8" @ 510' w/350 sx, circ 5 1/2" @ 6219'w/2050 sx, circ

TABULATION OF DATA OF WELLS IN AREA OF REVIEW

FORM C-108, APPLICATION FOR SWD
BIRD CREEK RESOURCES, INC.
PROPOSED EAST LOVING SWD NO. 1
T-23-S, R-28-E, EDDY COUNTY

OPERATOR	WELL NAME & NO.	LOCATION	TYPE WELL	TD	COMPLETION	CONSTRUCTION
Bennett	Kidd No. 1	1650' FN & 1650' FE Unit G, Section 15	Oil Producer	6,400'	Perfs: 6056-6112' IPF: 350 BO Comp: 1-10-91	8 5/8" @ 525' w/325 sx, circ 5 1/2" @ 6400' w/1175 sx, circ
Harken	Witt No. 1	2080' FN & 800' FE Unit H, Section 15	Oil Producer	6,250'	Perfs: 6034-6123' IPF: 65 BO, 720 MCF Comp: 11-5-90	8 5/8" @ 488' w/300 sx, circ 5 1/2" @ 6250' w/1300 sx, circ
Bird Creek	Caviness Paine #1	2105' FS & 560' FE Unit I, Section 15	Oil Producer	6,245'	Perfs: 6059-6130' IPF: 180 BO Comp: 7-2-90	8 5/8" @ 515' w/310 sx, circ 5 1/2" @ 6246' w/1650 sx, circ
Bird Creek	Caviness Paine #4	2310' FS & 1650' FE Unit J, Section 15	Oil Producer	6,352	Perfs: 6089-6131' IPF: 72 BO Comp: 3-28-91	8 5/8" @ 501' w/310 sx, circ 5 1/2" @ 6352' w/1600 sx, circ
Bird Creek	Trachta No. 1	1980' FS & 660' FW Unit L, Section 14	Oil Producer	6,200'	Perfs: 6049-6149' IPF: 254 BO Comp: 5-14-90	8 5/8" @ 500' w/350 sx, circ 5 1/2" @ 6200' w/2200 sx, circ
Oxy	Yarbro "A" Com. No. 1	2310' FS & 1650' FE Unit J, Section 15	SI Gas Producer	12,875'	Perfs: 11,592-825' IPF: 3814 MCFPD Comp: 9-15-82	10 3/4" @ 2455', 1650 sx, circ 7 5/8" @ 10,640', 2445 sx, circ 5" @ 10,155-12,875', 325 sx