RELEASE 11-16-92

RECEIVED
'92 NO 2 AM 9 54

BK ENERGY COMPANY

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

October 30, 1992

Mr. William J. LeMay
State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

RE: Form C-108, Application for Salt Water Disposal
Bird Creek Resources, Inc.
Proposed BKE SWD Well No. 1
Unit H, 2310' FNL & 860' FEL
Section 13 T23S R27E NMPM
Eddy County, New Mexico

Dear Mr. LeMay:

Bird Creek Resources, Inc. respectfully requests administrative approval for the proposed disposal well. The well is currently a marginal oil producer.

Enclosed is Form C-108 and required data, including proof of publication. Copies of this application have been sent to "offset" operators via return receipt mail. Upon receiving proof of delivery, the receipts will be forwarded to your office.

Sincerely,

Gary Mayfield

Gary Mayfield
Agent, Bird Creek Resources, Inc.

GM:sw

Attachments

1 TOTAL C PGS

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, Oklahoma 74119

Contact party: Brad D. Burks, Operations Mgr. 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: Gary Mayfield Title Agent/Petroleum Engineer

Signature: Gary Mayfield Date: Oct. 30, 1992

* 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.

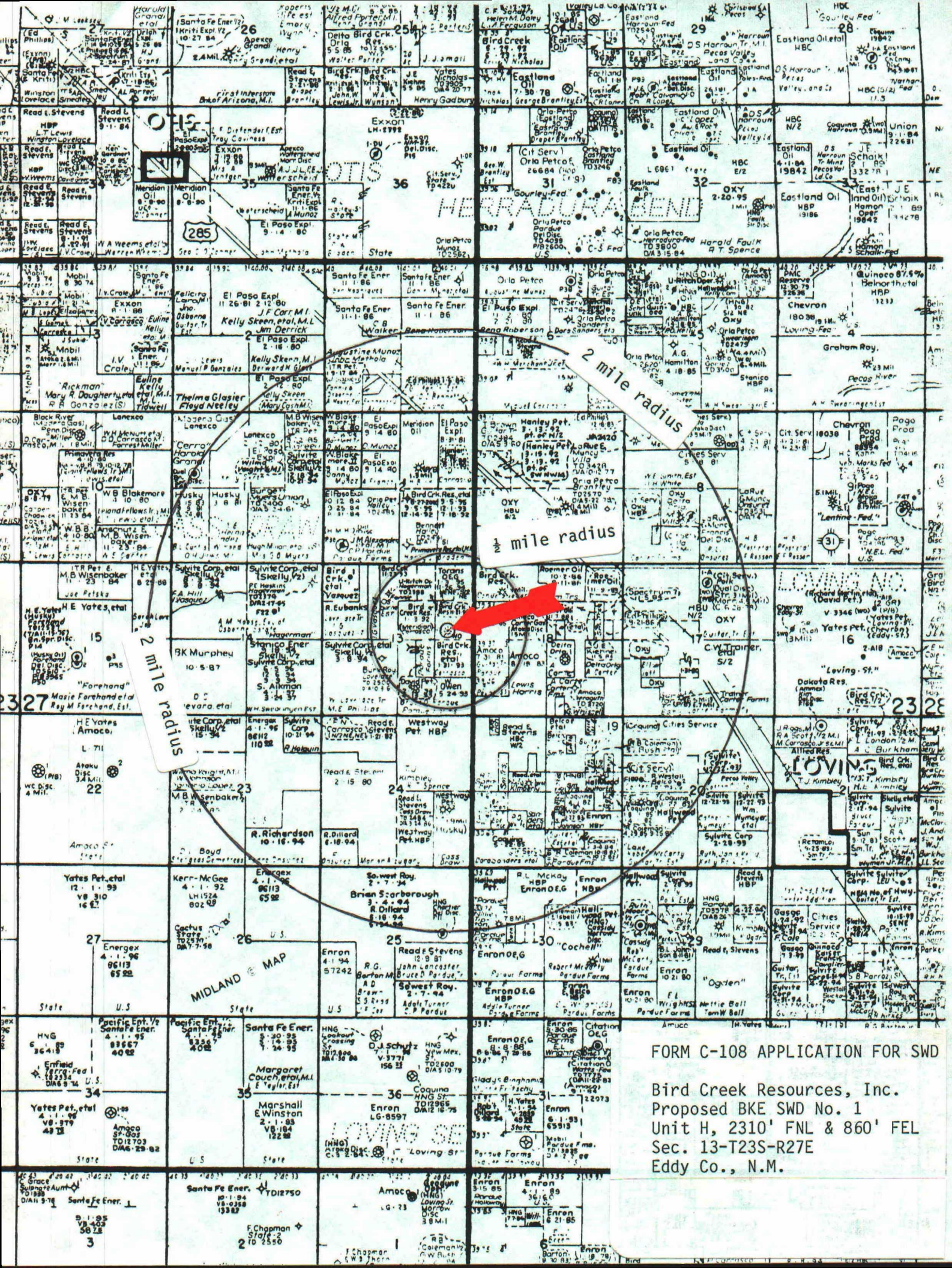
NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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, APPLICATION FOR SWD
WELL DATA

OPERATOR:	Bird Creek Resources, Inc.
CURRENT WELL NAME:	BKE No. 1
PROPOSED WELL NAME:	BKE SWD No. 1
LOCATION:	Unit H, 2310' FNL & 860' FEL Section 13 T23S R27E, NMPM Eddy Co., N.M.
CURRENT CASINGS:	13.375" 48# @ 0-405', cement circulated to surface. 9.625" 36# @ 0-3512', cement circulated to surface. 7" 26# @ 3380 - 10,811', TOC @ 3400'.
PROPOSED TUBING:	3.5" 2.45# Smith fiberglass tubing @ 0-3950', 1500# WP, 0.26" wall, ID 3.00", unlined; specification sheet attached.
PROPOSED PACKER:	Baker 7" x 3.5" Lok-Set Packer @ 3950'. Full bore w/ on-off seal tool. Internally and externally plastic coated.
INJECTION FORMATION:	Delaware (Cherry Canyon Sands @ 3510'-4700'). Perforations, 2 spf @ 4000 - 4340', chosen from current logs. Well to be converted from a Delaware producer (Brushy Canyon Sand - perfs @ 5695-5827') to SWD with CIBP @ 5650' and 35' cement on top.
OVERLYING ZONES:	Delaware Cherry Canyon Sands (top @ 3510') and Bell Canyon Sands (2390'-3510'). No known production from the Delaware exists in the area of review. No fresh water appears to exist in the Delaware. Salt - Section above the Delaware for approximately 2200'. No known fresh water exists in this interval. Alluvial deposits - surface to approximately 200'. Fresh water for drinking purposes possibly exists in this interval.

UNDERLYING ZONES:	Delaware - Remaining Cherry Canyon Sand interval and Brushy Canyon Sands (top @ 4700') immediately underlie the injection intervals. No fresh water appears to exist in these intervals. No known oil and gas production exists from these intervals in offset wells within the area of review.
PROPOSED STIMULATION:	Perforations shot from current logs. All perfs will be acidized with 50 gallons per ft. and sand fractured if necessary.
LOGS:	Copies of logs were submitted to the Commission on initial completion. A copy of the injection interval on open hole logs is attached.


2 mile radius
½ mile radius
2 mile radius
HERRADURA BEND
MIDLAND MAP
LOVING
285
FORM C-108 APPLICATION FOR SWD
Bird Creek Resources, Inc.
Proposed BKE SWD No. 1
Unit H, 2310' FNL & 860' FEL
Sec. 13-T23S-R27E
Eddy Co., N.M.

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

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

Form C-102
Revised 1-1-89

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.	BKE SWD	1

Unit Letter	Section	Township	Range	County
H	13	23S	27E NMPM	Eddy

Actual Footage Location of Well:
2310 feet from the North line and 860' feet from the East line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3053'	Delaware	Undesignated	40 Acres

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

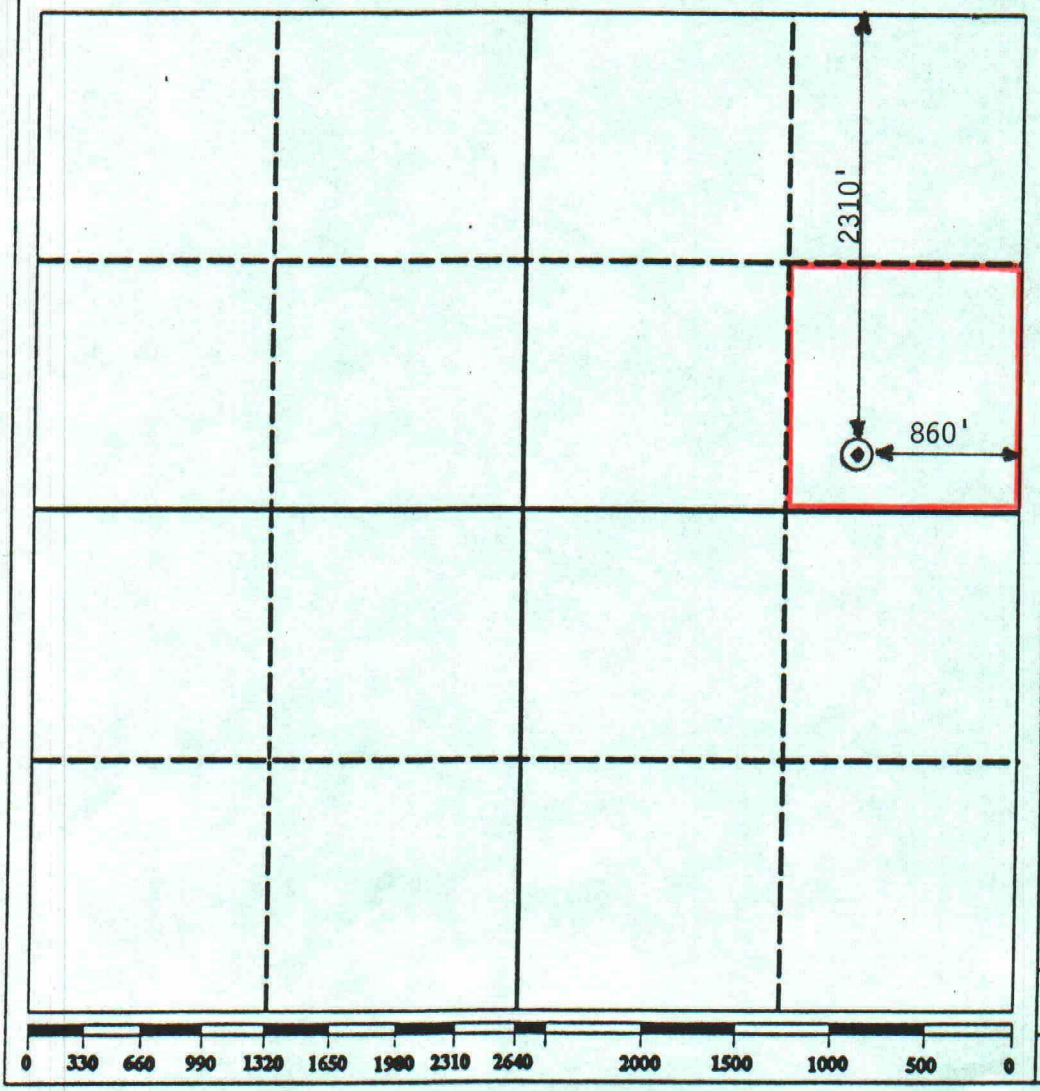
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

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: Gary Mayfield

Printed Name: Gary Mayfield

Position: Agent/Petroleum Engineer

Company: Bird Creek Resources, Inc.

Date: Oct. 30, 1992

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.

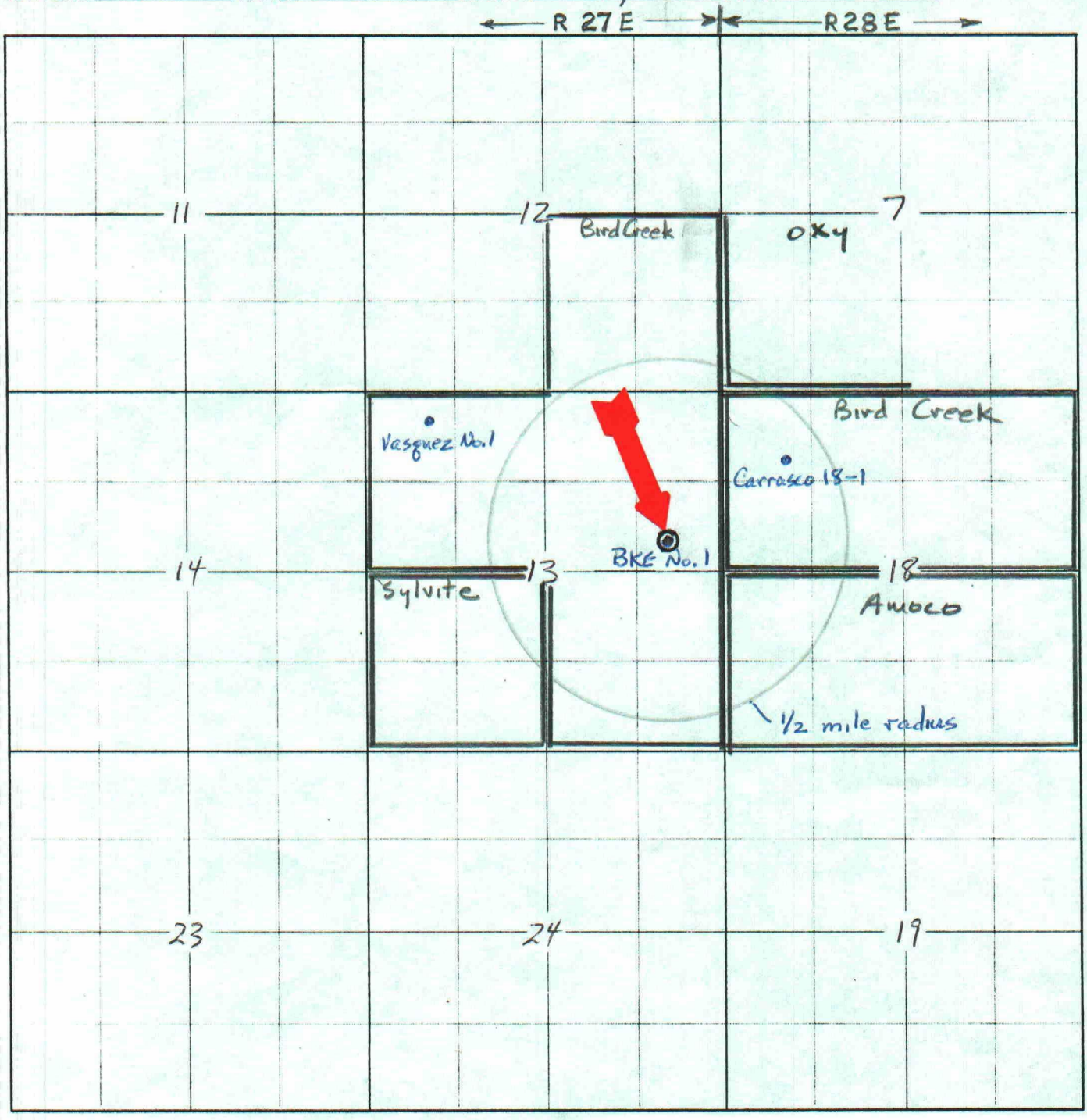
Date Surveyed

Signature & Seal of Professional Surveyor

Certificate No.

Kraftbill 918 BOX 800 TULSA OK 74101
NINE-SECTION PLAT
Scale: 1 inch = 2200 feet
Printed in U. S. A.

TOWNSHIP 23 S RANGE 27 E & 28 E COUNTY Eddy STATE N. M.



PRINTED IN U.S.A.

Form C-108 Application For SWD
Area of Review: T23S-R27E & R28E
Bird Creek Resources, Inc.
Proposed BKE SWD No. 1
Sec. 13-T23S-R27E
Eddy Co., N.M.

TABULATION OF DATA OF WELLS IN AREA OF REVIEW

FORM C-108, APPLICATION FOR SWD
BIRD CREEK RESOURCES, INC.
PROPOSED BKE SWD NO. 1
T23S, R27E & R28E, EDDY COUNTY, NEW MEXICO

OPERATOR	WELL NAME AND NO.	LOCATION	TYPE WELL	TD	CURRENT COMPLETION	CONSTRUCTION
Bird Creek Resources	Carrasco 18-1	Unit D 990' FN & 990' FW Sec. 18-T23S-R28E	Gas Producer	12,650'	Perfs: 11,180-224' IPF: 3.1 mmcf Comp: 7-25-84	20" @ 437' W/750 sx, circ. 13 3/8" @ 2386' w/2600 sx, circ. 9 5/8" @ 10,642' w/900 sx, TOC 6763' 5 1/2" @ 12,650' w/800 sx, TOC 8487'

Note: Since no cement exists across the injection interval in the Carrasco 18-1, a pressure monitoring device will be installed on the bradenhead.

FORM C-108 APPLICATION FOR SWD
PROPOSED OPERATION

AVERAGE INJECTION: 2500 bbls. produced water per day.
Injection pressure 750 psig.

MAXIMUM INJECTION: 3500 bbls. produced water per day @ 800 psig.

SYSTEM TYPE: Open system to permit transport vehicles to unload.

WATER SOURCE: Produced water from area wells (primarily from the Delaware Sand formation - analysis attached) is the water source for this salt water disposal well.

No compatibility problems are anticipated between the produced water being disposed and the receiving zone water. Waters from both are similar, characterized by high salinities and high total dissolved solids.

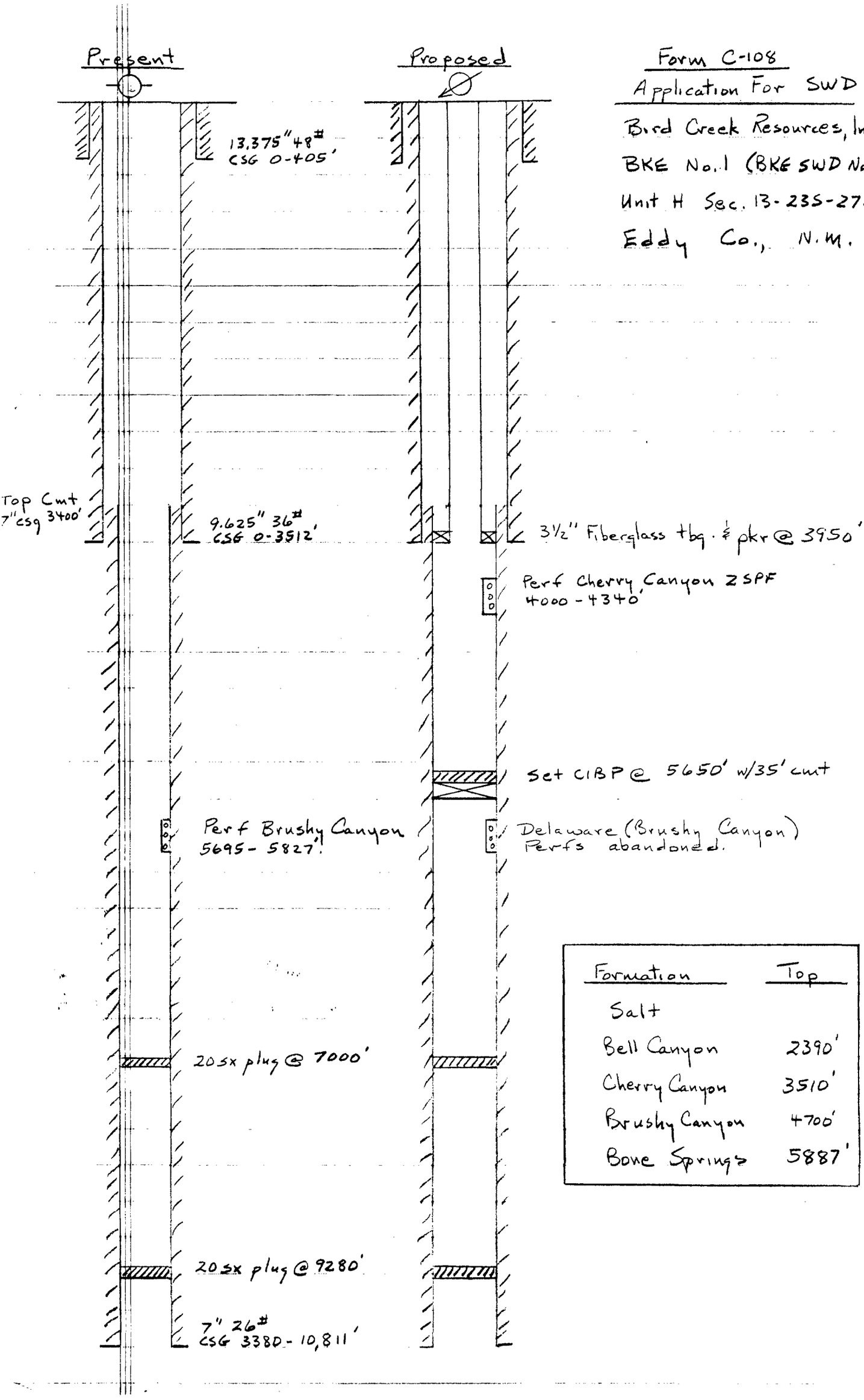
The receiving interval does not produce hydrocarbons within two miles of the proposed disposal well.

FRESH WATER: Fresh water in the study area exists in alluvial deposits from the surface to no deeper than 250'.

GEOLOGY: The Delaware formation is approximately 3500' thick, and is locally subdivided into three major sand members:

Bell Canyon	2390'- 3510'
Cherry Canyon	3510'- 4700'
Brushy Canyon	4700'- 5887'

All three sands are characterized as being composed predominantly of quartz, very fine grained and unconsolidated. Shale, dolomite, and limestone are interbedded in the sands. Formation waters are similar in all three sands, highly saline with total dissolved solids approaching 300,000 ppm. No fresh waters appear to exist in the Delaware, and it is vertically separated from fresh surface water by 2500' of evaporites.



Form C-108
Application For SWD

Bird Creek Resources, Inc.
BKE No. 1 (BKE SWD No 1)
Unit H Sec. 13-23S-27E
Eddy Co., N.M.

Formation	Top
Salt	
Bell Canyon	2390'
Cherry Canyon	3510'
Brushy Canyon	4700'
Bone Springs	5887'

Dresser Atlas

DRESSER

Dual Laterolog
Micro Laterolog
Gamma Ray

R

BKE SWD #1
Sec. 13-23S-27E
Eddy Co., N.M.

Formerly:
Carrasco Com. #1

Perf interval: 4006'-4346'

RECEIVED
AUG 27 1982
O. C. D.
ARTESIA, OFFICE

COMPANY [illegible]

WELL [illegible]

FIELD [illegible]

COUNTY EDDY STATE [illegible]

LOCATION [illegible]

Other Services

SEC [illegible] TWP [illegible] RGE [illegible]

Permanent Datum	[illegible]	Elev [illegible]	
Log Measured from	[illegible]	Ft Above Permanent Datum	
Drilling Measured from	[illegible]		

Date	5-10-82	6-11-82	5-10-82
Run No.	ONE	TWO	THREE
Service Order	13013	13023	12276
Depth Driller	4346	10,000	12,611
Depth Logger	4341	10,011	12,613
Bottom Logged Interval	4316	10,000	12,610
Top Logged Interval	300	3750	10,000
Casing Driller	13 3/8 @ 400	8 5/8 @ 3510	[illegible]
Casing Logger	406	3506	10,613
Bit Size	12	8 3/4	6 1/8
Type Fluid in Hole	BRINE	CUT BRINE	XC POLYMER/BRINE
Density and Viscosity	10.1 28	9.6 28	11.0 40
pH and Fluid Loss	8 - cc	11 - cc	9.0 - cc
Source of Sample	PIT	CIRC	PIT
Rm @ Meas Temp	.66 @ 68°F	.095 @ 54°F	.058 @ 70°F
Rmf @ Meas Temp	.047 @ 66°F	.076 @ 54°F	.046 @ 70°F
Rmc @ Meas Temp	- @ °F	- @ °F	- @ °F
Source of Rmf and Rmc	MEAS	MEAS	MEAS
Rm @ BHT	.0405 @ 98°F	.035 @ 144°F	.024 @ 181°F
Time Since Circ	6 HOURS	10 HOURS	6.5 HOURS
Max Rec Temp	98°F	144°F	181°F
Equip. Location	6328 HOBBS	6328 HOBBS	6263 HOBBS
Recorded By	BROWN	BROWN	[illegible]
Witnessed By	[illegible]	[illegible]	[illegible]

ILLEGIBLE

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

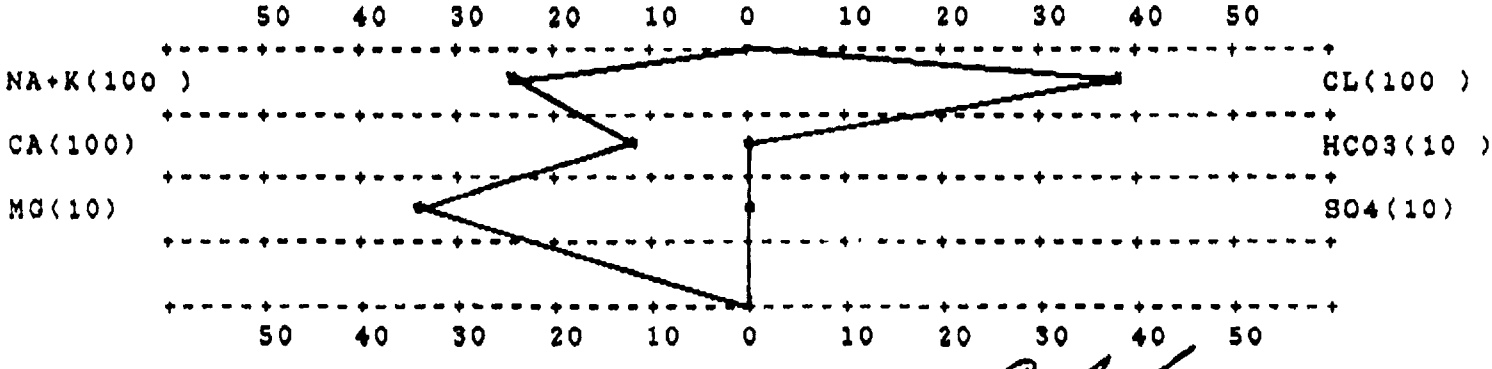
SPECIFIC GRAVITY: 1.185 AT 78 DEG. F PH = 6.00

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

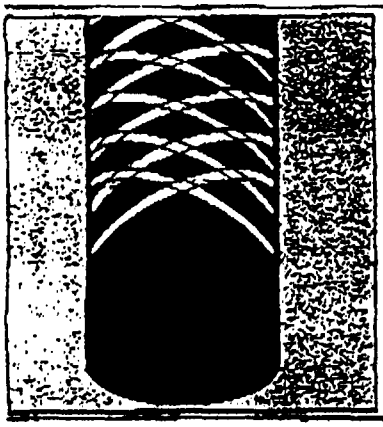
CaSO4 Scaling Tendency:

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



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	6,850	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 in	Tensile lb	Minimum Bending Radius ft	Tensile lb	Minimum Bending Radius ft	Tensile lb	Minimum Bending Radius ft	Tensile lb	Minimum Bending Radius 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

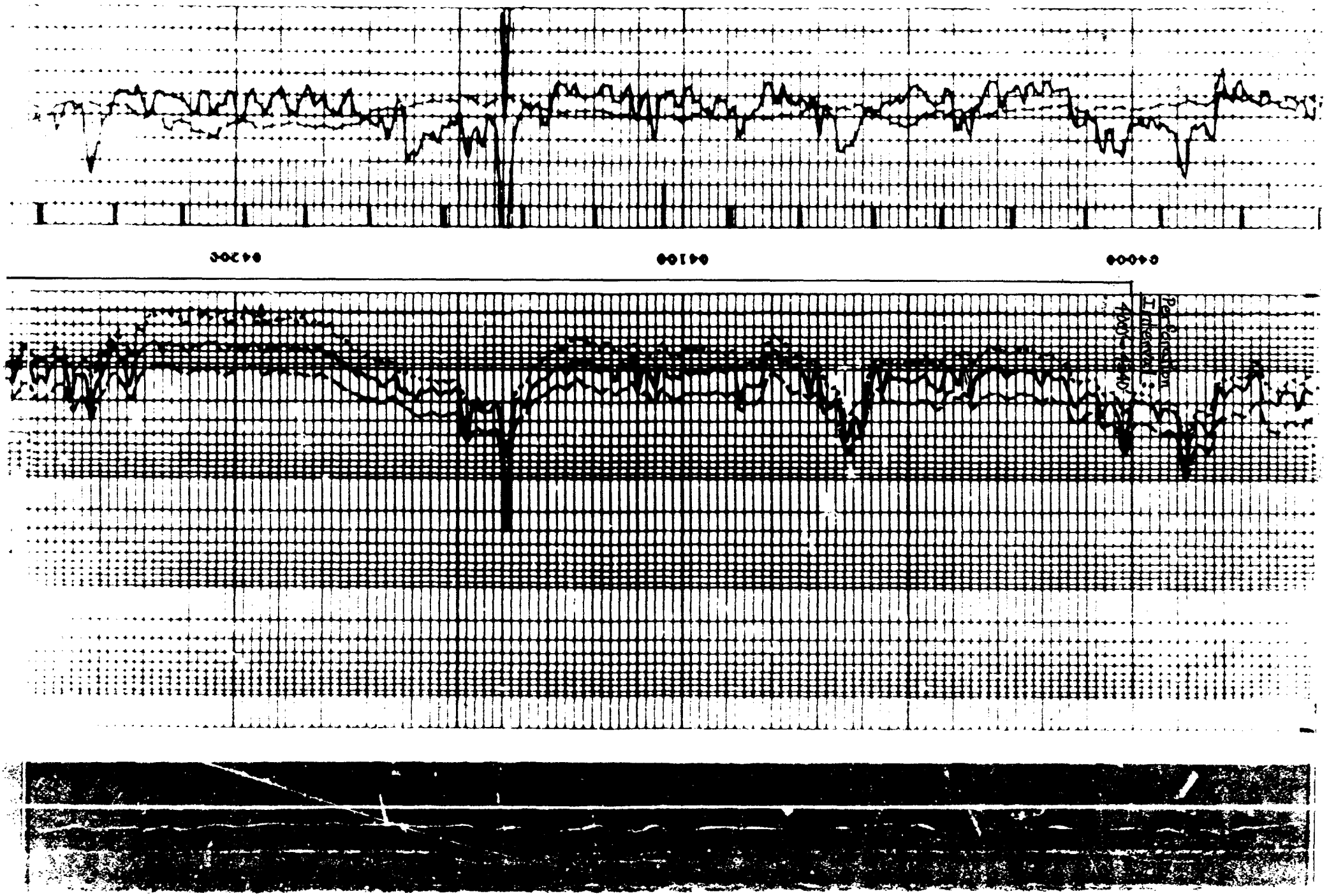
Size in	Tensile lb	Minimum Bending Radius ft	Tensile lb	Minimum Bending Radius ft	Tensile lb	Minimum Bending Radius ft	Tensile lb	Minimum Bending Radius ft
1½	1,700	70	3,400	100	5,200	200	6,850	300
2⅜	2,900	80	5,900	120	8,800	240	11,700	360
2⅞	4,000	95	8,000	140	11,900	280	15,900	420
3½	5,800	115	11,600	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.

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



0.2
2000.
Ω-M²
Resistivity

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.

Gary P. Mayfield

Gary P. Mayfield, Petroleum Engineer
Agent, Bird Creek Resources, Inc.

Date: Oct. 30, 1992

FORM C-108, APPLICATION FOR SWD
LAND STATUS

SURFACE OWNER:

C.A. Carrasco Jr.
227R Carrasco Rd.
Loving, New Mexico
(505) 745-3343

OFFSET OPERATORS
IN 1/2 MILE AREA:

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

Amoco Production Co
Box 4072
Odessa, TX 79760

Sylvite
P.O. Box 394
Broken Arrow, OK 74013

Oxy USA, Inc.
Box 50250
Midland, TX 79710

№ 14632

Affidavit of Publication

State of New Mexico,
County of Eddy, ss.

E. C. Cantwell, being first duly sworn, on oath says:

That he is publisher of the Carlsbad Current-Argus, a newspaper published daily at the City of Carlsbad, in said county of Eddy, state of New Mexico and of general paid circulation in said county; that the same is a duly qualified newspaper under the laws of the state wherein legal notices and advertisements may be published; that the printed notice attached hereto was published in the regular and entire edition of said newspaper and not in supplement thereof on the date as follows, to wit:

JULY 29 , 19 92

, 19 ____

, 19 ____

, 19 ____

that the cost of publication is $ 14.00 , and that payment thereof has been made and will be assessed as court costs.

E C Cantwell

Subscribed and sworn to before me this 29 day of JULY , 19 92

Linda D Martin

My commission expires 7/22/96

Notary Public

July 29, 1992

Bird Creek Resources, Inc. proposes to recomplete a well for the purpose of disposing of produced formation water. The BKE No. 1, currently temporarily abandoned, is located 2310' FNL and 860' FEL, Section 13, T23S, R27E, Eddy Co., N.M. Water will be disposed of into the Delaware formation at a depth of 4000-4340' at maximum rate of 3500 BPD and 600 PSIG. Contact is Brad Burks, 810 South Cincinnati, #110, Tulsa, Oklahoma 74119, 918-582-3855. Interested parties may file objections or request hearing with New Mexico Oil Conservation Division, Box 2088, Santa Fe, New Mexico 87501 within 15 days.

Dresser Atlas

DRESSER

Compensated Densilog
Compensated Neutron
Gamma Ray

BKE SWD #1
Sec. 13-23S-27E
Eddy Co., N.M.

Formerly:
Carrasco Com. #1

Perf interval: 4000'-4340'

RECEIVED
AUG 2 1 1982
O. C. D.
ARTESIA, OFFICE

COMPANY [illegible]

WELL [illegible]

FIELD [illegible]

COUNTY EDDY STATE NEW MEXICO

LOCATION
2310' FNL & 660' FEL

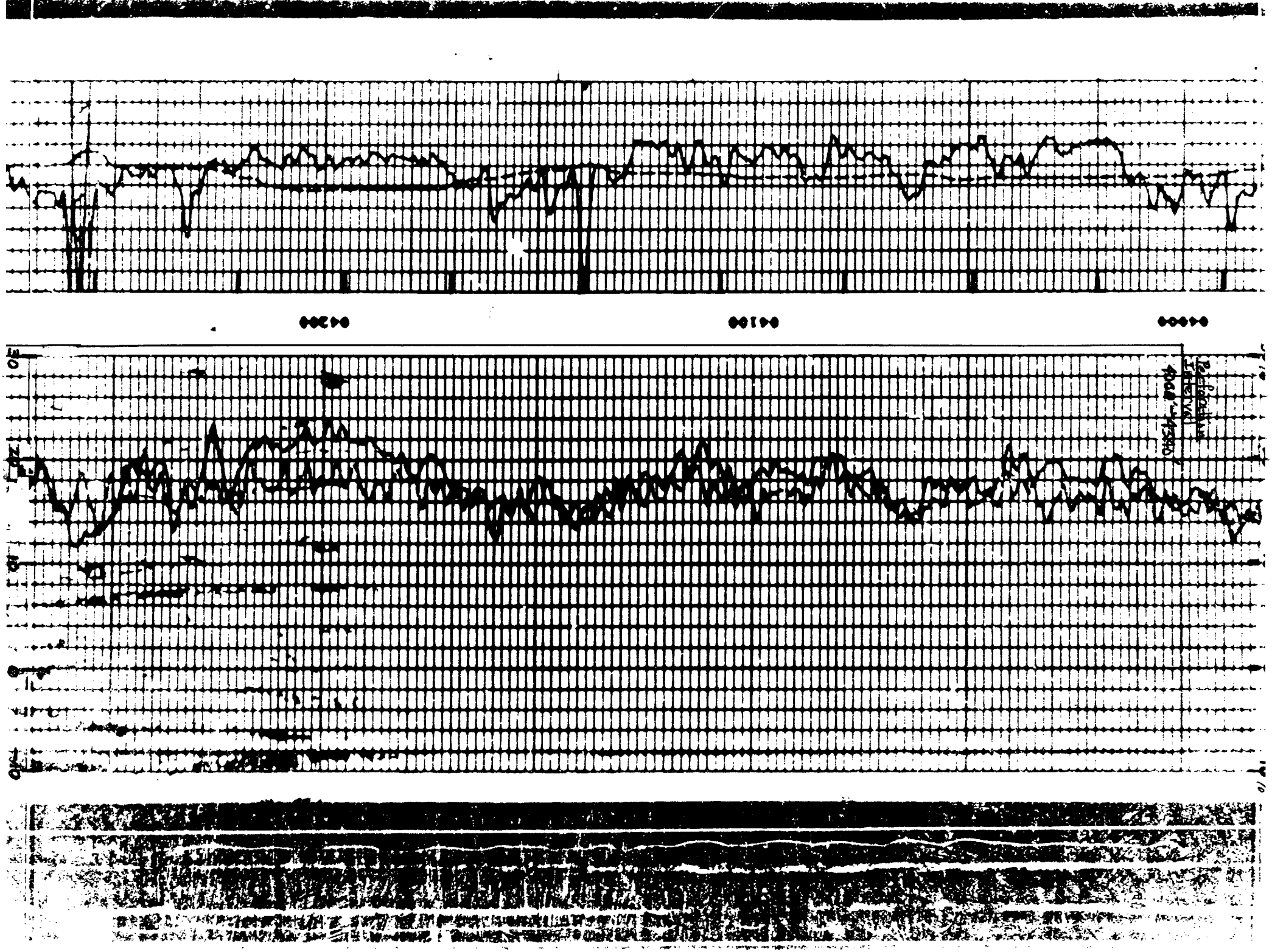
Other Services
DLL/MLL/GR

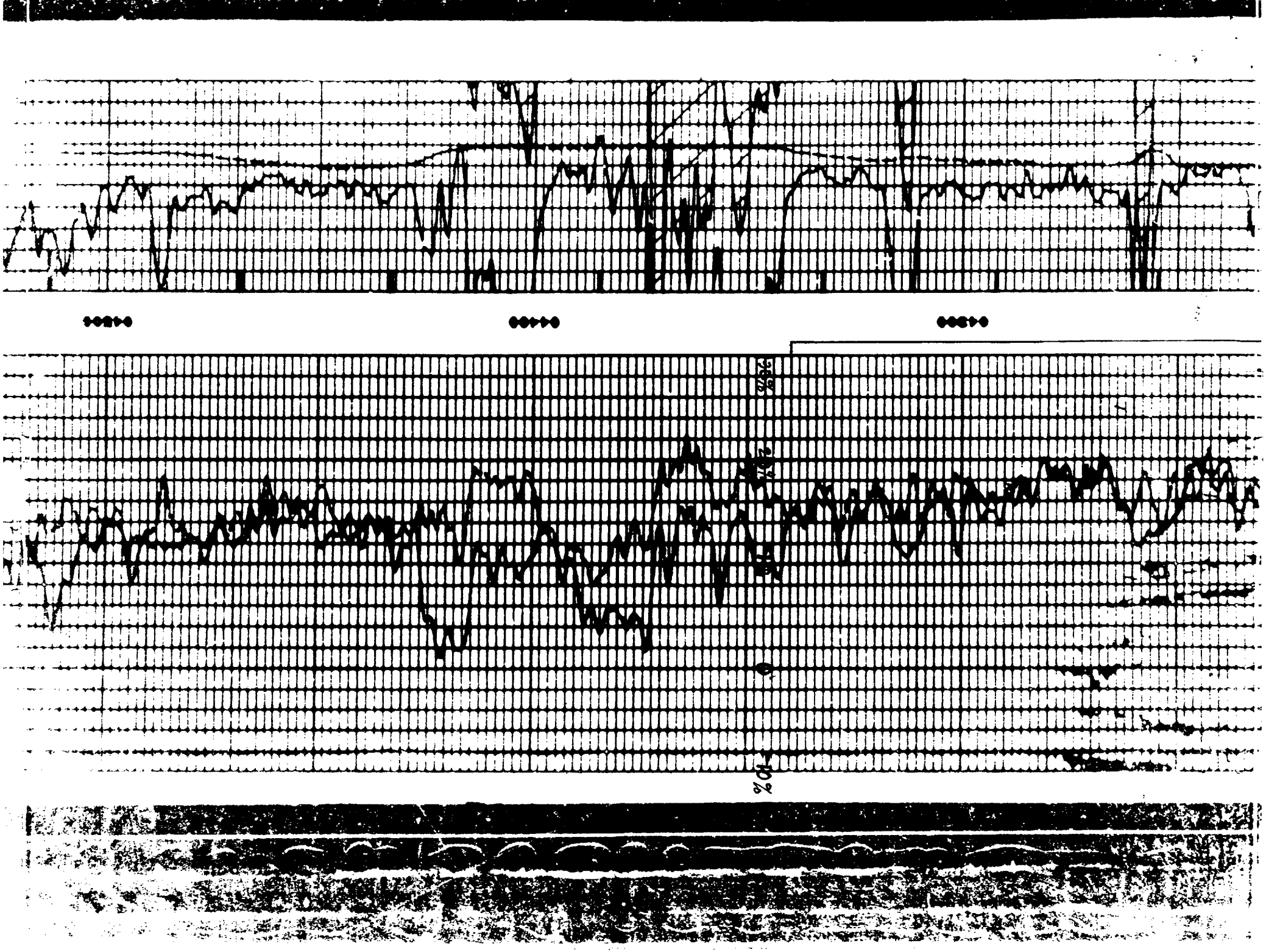
SEC 13 TWP 23 RGE 27

Permanent Datum	GROUND LEVEL	Elev. 3002	3010
Log Measured from	K. B. 12	Ft Above Permanent Datum	4052
Drilling Measured from	K. B.		

Date	3-10-82	4-11-82	[illegible]
Run No	ONE	TWO	THREE
Service Order	19013	19023	22200
Depth Driller	3510	10.000	12.611
Depth Logger	3510	10.009	12.611
Bottom Logged Interval	3507	10.006	12.600
Top Logged Interval	SURFACE	3450	10.006
Casing Driller	13 3/8 @ 405	9 5/8 @ 3510	7 @ [illegible]
Casing Logger	405	3504	10.210
Bit Size	12¼	8 3/4	6 1/8
Type Fluid in Hole	BRINE	GEL BRINE	XC POLYMER/DRISPAC/BA
Density and Viscosity	10.1 | 29	9.2 | 28	11.0 | 40
pH and Fluid Loss	8.0 | - cc	11.5 | - cc	9.- | - cc
Source of Sample	PIT	CIRC.	[illegible]
Rm @ Meas. Temp	.06 @ 68 °F	.095 @ 94 °F	.06 @ 70 °F
Rmf @ Meas. Temp	.047 @ 68 °F	.076 @ 94 °F	.036 @ 70 °F
Rmc @ Meas. Temp	@ °F	@ °F	@ °F
Source of Rmf and Rmc	MEAS	MEAS	MEAS
Rm @ BHT	.040 @ 98°F	.035 @ 144°F	.024 @ 167°F
Time Since Circ.	7 HOURS	17 HOURS	10.2 HOURS
Max. Rec. Temp. Deg. F	98 °F	144°F	137°F
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

ILLEGIBLE





BK ENERGY COMPANY

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

November 17, 1992

Ben Stone
Oil Conservation Division
P.O. Drawer DD
Artesia, N.M. 88210

RE: BKE SWD #1
Sec. 13-23S-27E

Dear Mr. Stone:

As per your request, enclosed you will find a copy of the signed certified mail receipts we received back from the offset operators and surface owner of the above referenced location.

If you have any questions, please call.

Sincerely,

Gary Mayfield

Gary Mayfield
Agent for Bird Creek Resources

GM:sw

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Amoco Production Co.
Box 4072 304/2550
Odessa, TX 79760

4a. Article Number
P 872 546 869

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
11-5-92

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form **3811**, October 1990 ★U.S. GPO: 1990—273-861 **DOMESTIC RETURN RECEIPT**

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

Oxy USA, Inc.
Box 50250
Midland, TX 79710

4. Article Number
P 756 169 810

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X K. Leopard

7. Date of Delivery
11/4/92

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

Sylvite
P.O. Box 394
Broken Arrow, OK 74013

4. Article Number
P 756 169 906

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X

7. Date of Delivery
11-3-92

8. Addressee's Address *(ONLY if requested and fee paid)*

PS Form **3811**, Apr. 1989 ★U.S.G.P.O. 1989-238-815 **DOMESTIC RETURN RECEIPT**

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. *(Extra charge)* 2. ☐ Restricted Delivery *(Extra charge)*

3. Article Addressed to:

C.A. Carrasco Jr.
227 R Carrasco Road
Loving, N.M. 88256

4. Article Number
P 756 169 796

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X Annette Carrasco

7. Date of Delivery
11/6/92 CR

8. Addressee's Address *(ONLY if requested and fee paid)*

United States Postal Service

Official Business

PENALTY FOR PRIVATE USE, $300

Print your name, address and ZIP Code here

BK Energy Company
810 S. Cincinnati
Suite 110
Tulsa, OK 74119

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address and ZIP Code in the space below.
- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE USE, $300

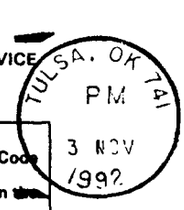
RETURN TO

Print Sender's name, address, and ZIP Code in the space below.

BK Energy
810 S. Cincinnati, Suite 110
Tulsa, OK 74119

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS



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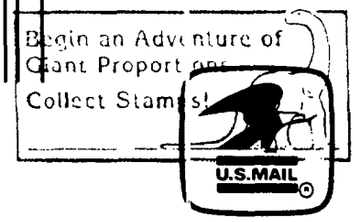

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