

STATE OF NEW IMEXICO ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION HOBBS DISTRICT OFFICE

1-26-90

POST OFFICE POX 1990 HOPBS, NEW MEXICO (89,41, 1990) (505) 393-6111

GARREY CARRUTHERS

RE:

OIL CO	INSE	RVAT	ION	DIVI	SION
P. O.	ВОХ	2088	3		
SANTA	FΕ,	NEW	ME X	ICO	87501

231-5-3

Prop	osed:		
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PMX_			

Gentlemen:

I have examined the application for the:

It Oil + Das Inc. New merico H St. # 17-G 16-8-30 Lease & Well No. Unit S-T-R Operator Lease

and my recommendations are as follows:

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Yours very truly, Jerry Sexton Supervisor, District 1

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OIL CONSERVATION DIVISION POST OFFICE BOX 2008 STATE LAND OFFICE BUILDING SANTA FE ARE MEN YOU DITO!

	STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501
APPLIC	ATION FOR AUTHORIZATION TO INJECT
Ι.	Purpose: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Xyesno
ΙΙ.	Operator: Kelt Oil & Gas, Inc.
	Address: P. O. Box 1493, Roswell, New Mexico 88202
	Contact party: <u>Mark A, Degenhart</u> Phone: (505) 398-6166 or 622-5324
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? X yes no If yes, give the Division order number authorizing the project <u>R-9029</u>
۷.	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:
	 Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and 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 enalysis 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 avai≀able 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: Mark A. Degenhart Signature: Mar

Date: January 18, 1990

* 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.

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FORM C-108 id 2

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:
 - 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.
 - 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 b Witypical 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 plans used to seal off such perforations.
 - (5) Give the death 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

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection weils 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.

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

RECEVED

JAN 25 1990

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SUPPLEMENTAL DATA REQUIRED BY FORM C-108

- I. See Form C-108.
- II. See Form C-108.
- III. Attached hereto is data required for the well proposed for injection.
- IV. See Form C-108.
- V. Attached hereto is a map that identifies all wells and leases within two miles of the proposed injection well with a one-half mile radius circle drawn around the proposed injection well. The injection well is colored in blue.
- VI. Attached hereto is tabulation of data on all wells within the area of review.
- VII. Data on the proposed operation:
 - 1. The average injection rate is estimated to be 350 barrels of water per day; the maximum is projected to be 700 barrels of water per day.
 - The proposed waterflood system shall be a closed system.
 - 3. It is proposed that water will be injected at an average surface pressure of 300 psig or 0.09 psi per foot of depth. Maximum surface pressure is not expected to exceed 0.2 psi per foot of depth.
 - 4. The water to be used for injection will be reinjected produced water from surrounding wells.
 - 5. Not applicable.
- VIII. Geological data on the injection zone including appropriate lithologic detail, geological name, thickness and depth was previously submitted in June 1989. The engineering and geological report submittal is titled, "Waterflood Feasibility and Unitization Study--Proposed Cato San Andres Unit."

- IX. The proposed stimulation program, if any, will consist of acid treatments to remove both scale and paraffinic deposits. The treatments will be low rate and low pressure to assure effective clean up.
- X. Well logs for the proposed injection well have been filed with the Division.
- XI. There are no fresh water wells within one mile of the proposed injection well. Attached hereto is a letter dated June 6, 1989 from S. E. Reynolds, State Engineer, advising that the Cato Unit is not within a declared underground water basin.
- XII. Not applicable.
- XIII. Attached hereto are items which show proper completion of the "Proof of Notice" section.
- XIV. See Form C-108.

			INJE	CTION WELL DATA SHEE		FACHMENT F	FOR ITEM III **
<u> </u>	elt Oil	<u>& Gas, Ind</u>	Q	State "!!"	** ON	FORM C-10)8 **
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(or	describe a	any other ca	sing-tubing	seal).			
Othe	er Dato						
1.	Name of th	he injection	formation	San Andres			
2.	Name of F:	ield or Pool	(if applic	able) <u>Cato San</u>	Andres Unit		
3.	Is this a	new wcll dr	illed for i	njection? / Yes	<u>∕X</u> ∕ No		
	If no, for	r what purpo	se was the	well originally dril	led? 0i1 &	gas prod	luction
4	Has the we and give p	ell ever bee plugging det	n perforate ail (sacks	d in any other zone(of cement or bridge	s)? List all a plug(s) used)	uch p erfo Yes. 1	rated intervals Lowest
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				on with CIBP set			
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ATTACHMENT FOR ITEM VI ON FORM C-108 -- TABULATION OF DATA ON WELLS WITHIN AREA OF REVIEW

	LOCATION	z				SURFACE CASING	ISING	PRODUCTION CASING		
FORMER WELL NAME/ UNIT WELL NO.	<pre>FOOTAGE (aTR-aTR)</pre>	SEC-TUP-RNG	DATE SPUDDED	TOTAL DEPTH	HOLE C	CSG DEPTH SIZE / SET	rh r / cement	HOLE CSG DEPTH SIZE / SIZE / SET / CEMENT	PERFORATION DEPTHS and STIMULATION	INITIAL POTENTIAL TEST DATA and REMARKS
CROSBY "G" #1 09N8	660' FSL & 1980' FWL (SE/4 SW/4)	9-8S-30E	3-26-67	3490	12-1/4 / 8	12-1/4 / 8-5/8 / 448	3 / 300 sx-circ	7-7/8 / 4-1/2 / 3490 / 80C sx TOC â 931 (calc)	3326-48, 51-55, 58-63 A/ 3326-63 w/3000 gals 28% 3177, 88, 94, 99, 3203-19, 3255-69, 77-95 select. A/ 3177-3295 w/4000 gals 28%	4-10-67: Swbd & Flwd B5 B0 + 22 BLW + B1 MCFG in 24 hrs, gr. 26, GOR 950
GRIMM FEDERAL #1 0908	660' FSL & 1980' FEL (SW/4 SE/4)	9-8S-30E	3-4-67	3467	12-1/4 / 8-5/8 / 482	-5/8 / 482	2 / 300 sx-circ	7-7/8 / 4-1/2 / 3467 / 805 sx TOC & 908 (catc)	3232-72, 3302-46 A/ 3232-3346 w/5000 gals 28%	3-16-67: Flwd 153 B0 + 0 BW + 103 MCFG in 12 hrs on 17/64 Ch., gr. 25.2, GOR 672, TFF 220, CPF 50
UT CROSBY "1" #6 09P8	660' FSL & 660' FEL (SE/4 SE/4)	9-8S-30E	1-28-67	3450	12-1/4 / 8	12-1/4 / 8-5/8 / 507	/ 300 sx-circ	7-7/8 / 4-1/2 / 3448 / 300 sx TOC & 2530 (temp. survey)	3283-3310, 3342-84 A/ 3283-3310 w/3000 gals 15% A/ 3342-84 w/4000 gals 15%	2-9-67: Flwd 170 B0 + 3 BAW Gas TSTM in 12 hrs on 16/64 Ch., TPF 250
CROSBY "E" #1 10M8	660' FSL & 660' FWL (SW/4 SW/4)	10-8S-30E	12-24-66	3492	12-1/4 / 8-5/8 / 450	-5/8 / 450	/ J00 sx-circ	7-7/8 / 4-1/2 / 3492 / 800 sx TOC a 933 (calc)	3388-3430 A/3000 gals 28% Sqzd/ 3388-3430 w/150 sx cmt 3303-52 A/3000 gals 28%	1-8-67: Subd & Flud 175 B0 + 1 BLW + 91 MCFG in 24 hrs on 10/64 Ch, GOR 520, gr. 26.8, TPF 200, CPF 250
CATO FED "A" #2 15L8	1980' FSL & 660' FWL (NW/4 SW/4)	15-8S-30E	4-2-67	3555	11 / 8	/ 8-5/8 / 455	/ 300 sx-circ	7-7/8 / 4-1/2 / 3555 / 600 sx TOC @ 1636 (calc)	3480-3515 A/3000 gals 28% 3386-3446 A/5000 gals 28%	4-15-67: Swbd 110 B0 + 23 BLW + 49 BNW in 24 hrs. Gas NA, gr. 24
UT CROSBY "1" #3 1508	660' FNL & 660' FUL (NU/4 NU/4)	15-8S-30E	12-16-66 3541	3541	12-1/4 / 8-5/8 / 517	-5/8 / 517	/ 300 sx-circ	7-7/8 / 4-1/2 / 3536 / 500 sx TOC â 2400 (temp. survey)	3440-46 A/1500 gals 15% Sqzd/ 3440-46 w/150 sx cmt 3402-24 A/2000 gals 15% 3343-74 A/2500 gals 15%	1-8-67: Flwd 168 B0 + 3 BW Gass ISTM in 14 hrs on 20/64 Ch., TPF 110
UT CROSBY m1# #4 15E8	1980' FNL & 660' FNL (SW/4 NW/4)	15-8S-30E	12-18-66	3541	12-1/4 / 8-5/8 / 523	-5/8 / 523	/ 300 sx-circ	7-7/8 / 4-1/2 / 3541 / 500 sx TOC â 2480 (temp. survey)	3413-33 A/2000 gals 15% 3360-88 A/2500 gals 15%	1-13-67: Flwd 102 B0 + 7 BW Gas ISTM in 24 hrs on 17/64 Ch., TPF 150, gr. 27

	LOCATION	-				SURFACE	SURFACE CASING		PRODUCTION CASING		
FORMER WELL NAME/ UNIT WELL NO.	FOOTAGE (QTR-QTR)	SEC-TWP-RNG	DATE DATE DATE	TOTAL DEPTH	HOLE	CSG D	DEPTH ' SET /	CEMENT	HOLE CSG DEPTH SIZE / SIZE / SET / CEMENT	- PERFORATION DEPTHS and STIMULATION	INITIAL POTENTIAL TEST DATA and REMARKS
STATE "н" #2 16А8	660' FNL & 660' FEL (NE/4 NE/4)	16-8S-30E	2-2-67	3450	12-1/4	/ 8-5/8	/ 450 /	/ 300 sx-circ	7-7/8 / 4-1/2 / 3450 / 360 sx TOC â 2078 (temp. survey)	3309, 11, 13, 16, 19, 20, 21, 25, 31, 33, 36, 38 A/ 3309-38 w/8000 gats 28%	2-13-67: Flwd 140 BO + 14 BW Gas TSTM in 3 hrs on 48/64 Ch., gr. 26.4, TPF 160
STATE "H" #3 16H8	1980' FNL & 660' FEL (SE/4 NE/4)	16-8S-30E	3-19-67	3510	12-1/4	12-1/4 / 8-5/8 / 441		/ 300 sx-circ	7-7/8 / 4-1/2 / 3510 / 300 sx TOC â 2497 (temp. survey)	3325, 27, 33, 37, 39, 41, 43, 45, 48, 50, 53, 55, 59, 60 & 65 A/ 3325-65 w/12,000 gats	3-30-67: Swbd 75 B0 + 20 BLW in 10 hrs 9r. & Gor Nr
5TATE "H" #5 16C8	660' FNL & 1980' FUL (NE/4 NU/4)	16-8S-30E	2-18-67	3480	12-1/4	12-1/4 / 8-5/8 / 451		/ 300 sx-circ	7-7/8 / 4-1/2 / 3480 / 300 sx TOC â 2386 (temp. survey)	3409-12 A/2000 gals, tstd all wtr set CIBP a3380 3250, 54, 56, 60, 69, 71, 73, 76, 80, 81, 83-87, 89 & 91 A/ 3250-91 w/6000 gals 28%	3-5-67: Flwd 62 B0 + 3.5 BW Gas TSTM in 16 hrs on 12/64 Ch., gr. 26, TPF 200
STATE "H" #6 1688	660' FNL & 1980' FEL (NW/4 NE/4)	16-8S-30E	4-2-67	3460	12-1/4	12-1/4 / 8-5/8 / 453		/ 300 sx-circ	7-7/8 / 4-1/2 / 3444 / 303 sx TOC & 2444 (temp. survey)	3338, 40, 47, 49, 56, 58, A/ 500 gals 15% & 4000 gals 28% 3246-3304 A/ 7500 gals 20%	4-14-67: Flwd 87.5 BO + 14 BAW Gas TSTM in 14 hrs on 24/64 Ch., gr. 26.8, TPF 150
STATE "H" #7 16G8	1980' FNL & 1980' FEI. 16-8S-30E (SW/4 NE/4)	16-8S-30E	2-9-67	3540	12-1/4	12-1/4 / 8-5/8 / 462		/ 300 sx-circ	7-7/8 / 4-1/2 / 3540 / 300 sx TOC â 2498 (temp. survey)	3325-27, 29, 31, 33, 35, 39, 41, 43, 45, 47, 49, 51, 55 A/ 4000 gals 28%	2-22-67: Flwd 81 80 + 20 BLW Gas TSTM in 14 hrs on 44/64 Ch., gr. 26.5, TPF 20/60
STATE "H" #8 16F8	1980' FNL & 1980' FWL 16-85-30E (SE/4 NW/4)	16-8S-30E	4-13-67	3506	12-1/4	12-1/4 / 8-5/8 / 455		/ 300 sx-circ	7-7/8 / 4-1/2 / 3506 / 300 sx TOC â 2507 (temp. survey)	3299, 3301, 11, 15, 16.5, 21, 23, 27, 35, 71, 79, 81, 90, 92, 97 A/ 3299-3397 w/10,000 gals 28%	5-4-67: Pmpd 74 BO + 42 BAN Gas TSTM in 24 hrs, gr. 26.7
STATE "H" #10 16K8	1980' FSL & 1980' FWL 16-8S-30E (NE/4 SW/4)	16-8s-30E	2-24-67	3497	12-1/4	12-1/4 / 8-5/8 / 451		/ 300 sx-circ	7-7/8 / 4-1/2 / 3497 / 300 sx TOC @ 2497 (temp. survey)	3313, 15, 17, 19, 25, 27, 29, 31, 33, 38, 39, 42, 43, 50 A/ 3313-50 w/4000 gals 28%	3-8-67: Flwd 112 BO + 30 BW Gas TSTM in 13 hrs on 48/64 Ch., gr. 26.4, TPF 20
STATE "H" #11 16J8	1980' FSL & 1980' FEL 16-8S-30E (NW/4 SE/4)	16-8S-30E	4-18-67	3540	12-1/4 ,	12-1/4 / 8-5/8 / 452		/ 300 sx-circ	7-7/8 / 4-1/2 / 3540 / 300 sx 10C a 2567 (temp. survey)	3347, 49, 56, 58, 61, 70, 72, 74, 76, 83 A/8000 gals 28% 3411-46 A/4000 gals 28% Sqzd 3411-46 w/100 sx cmt	5-9-67: Swbd 80 B0 + 1 BAV Gas TSTM in 9 hrs, gr. 26.8
STATE "H" #12 1618	1980' FSL & 66 0' FEL (NE/4 SE/4)	16-8S-30E	3-1-67	3567	12-1/4 ,	12-1/4 / 8-5/8 / 453		/ 300 sx-circ	7-7/8 / 4-1/2 / 3560 / 300 sx TOC a 2622 (temp. survey)	3393, 95, 97, 99, 01, 03, 06, 09, 11, 15, 17, 19, 22, 24, 26 A/ 3393-3426 w/6000 gals 28%	3-10-67: Flwd 119 B0 + 40 BW Gas TSTM in 14 hrs on 1/2 Ch., gr. 26.8, TPF 100



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ON FORM C-108

JUN 8 1989

CHRISTY LAW OFFICES

BATAAN MEMORIAL BUILDING

STATE CAPITOL SANTA FE, NEW MEXICO 87503

STATE OF NEW MEXICO

STATE ENGINEER OFFICE SANTA FE

. E. REYNOLDS STATE ENGINEER

June 6, 1989

S.B. Christy IV, Esq. Christy Law Offices P.O. Box 569 Roswell, New Mexico 88202-0569

Re: Proposed Cato Unit, Chavez County, New Mexico

Dear Mr. Christy:

The State Engineer has asked me to respond to your May 30, 1989 letter regarding the proposed waterflood project in the Cato Unit, encompassing 15,321.83 acres, per the exhibit "A" you attached.

Please be advised, that the Cato Unit is not within a declared underground water basin administered by the State Engineer, and as such, no permit is required from this office to drill a well and appropriate groundwater for beneficial use. The ground water also belongs to the public and is subject to the doctrine of prior appropriation and as such owners of prior water rights have recourse to the courts if they believe that their water rights would be impaired by a new or later use. In seeking an injunction or damages, the owners of the prior right would have the burden of proof.

I am not able to furnish any specific information on wells within or near the Cato Unit other than 1981 water levels measured in six wells located approximately six to ten miles east of the Cato Unit as follows:

Location	Owner	Nater Level (in feet) Below Land Surface
95.32E.11.244	Lewis Cooper Estate	105.55
95.32E.21.212	Lewis Cooper Estate	70.13
95.32E.25.113	J. McGuffin	153.94
95.32E.31.412	Caprock Ranch	208.43
95.32E.32.412	Caprock Panch	183.56

All of the above referenced wells are producing water from the Chinle Formation according to the USGS/SEO Basic Data Report -- "Ground-Water Levels in the New Mexico, 1978-1980." Page 2 of 2 S.E. Christy IV, Esq.

Please let me know if further discussion of this matter would be helpful.

Sincerely,

S.E. Reynolds State Engineer

By: Oue 1. D.N. Stone, Chief

Water Rights Division

DNS/sb encl cc: Glenn Brim, Roswell Office

AFFIDAVIT OF PUBLICATION

County of Chaves

State of New Mexico.

I. Jean M. Pettit

Manager,

Of the Roswell Daily Record, a daily newspaper published at Roswell, New Mexico, do solemnly swear that the clipping hereto attached was publish-ed once a week in the regular and entire issue of said paper and not in a supplement thereof for a period

of <u>One</u> time
weeks
beginning with the issue dated
January , 19.90
and ending with the issue dated
January , 19 90
Leen M. Fette Manager
Sworn and subscribed to before me
this 22nd day of
January 19 90

an pper lm Notary Public

commission expires My

90 19 (Seal \mathbf{C}



Publish January 22, 1990 1. Operator: Kelt Oil & Gas, Inc. Address: P.O. Box 1493 Roswell, New Mexico 88202 Phone: (505) 398-61166 or 622-5324 Contact Party: M. A. Degenhart 2. Intended Purpose of Injection Well: To be included with initial Injection wells for secondary recovery. Location: 1328' FNL & 1338' FCL Location: 1328' FNL & 1338' FEL Sec. 16 T8S-R30E 3. Termation: San Andrea' Depth: Expected Maximum Injection Rate: 700 BWPD Expected Maximum Injection Pressure: 500 psig

A. Interested parties must file.
 Objections of requests for hearing, with the Oil Conservation 'Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

RECEIVED

JAN 25 1990)

OCD HOBBS OFFICE

PROOF OF NOTICE

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Kelt Oil & Gas, Inc. does hereby certify that a true and correct copy of the Application and its attachments was sent by certified mail to the State of New Mexico, owner of the surface of the land on which the injection well is to be located. Certified mail receipt is attached below.

It should be noted that Kelt is the only leasehold operator within one-half mile of the well location.

P 567 645 500

RECEIPT FOR CERTIFIED MAIL NO INSURANCE COVERAGE PROVIDED NOT FOR INTERNATIONAL MAIL (See Reverse) 1989-234-555 Sent to COMMISSIONER OF PUBLIC LANDS Street and No. P. O. BOX 1148 U.S.G.P.O. P.O., State and ZIP Code SANTA FE, NM 87504 Postage .65 S Certified Fee 85 Special Delivery Fee Restricted Delivery Fee Return Receipt showing to whom and Uate Delivered 90 to whom aba-Date Deliv Return Receipt showing Deliv, and Address due 1985 o whom erv , anul S 2.40 Form 3800, S