



**HS RESOURCES, INC.**

3939 Carson Ave.  
Evans, Colorado 80620  
(303) 330-0614  
(telefax 303/330-0431)

DATE: 9/6/94  
TELECOPIER: \_\_\_\_\_  
FROM: Julie Hendriksen

DELIVER TO: Loren Davis  
FIRM NAME: \_\_\_\_\_  
COPIES TO: \_\_\_\_\_

TOTAL NUMBER OF PAGES (INCLUDING THIS COVER PAGE): 27  
IF YOU EXPERIENCE TROUBLE WITH THIS TRANSMISSION, PLEASE CALL AS SOON AS POSSIBLE: (303) 330-0614

COMMENTS  
Need Permit!

<input type="checkbox"/> REPAIR WELL	<input type="checkbox"/> REPAIRED WELL	<input type="checkbox"/> LOCATION CHANGE (SUBMIT NEW PLAT)
<input type="checkbox"/> OTHER:	<input type="checkbox"/> OTHER: <small>*Use Form 5 - Well Completion or Recompletion Report and Log for subsequent report of Multiple/Commingled Completions and Recompletions</small>	<input type="checkbox"/> WELL NAME CHANGE
		<input checked="" type="checkbox"/> OTHER: <u>Rule 911 WBBDF</u>

14. DESCRIBE PROPOSED OR COMPLETED OPERATIONS ON THIS FORM (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent

15. DATE OF WORK

**This is an On-Site Land Treatment Site, which involves the land farming of the bentonitic drilling fluids on the same site upon which the well was drilled, being the NWSE of section 36-T3N-R66W. The bentonitic drilling fluids will be land treated according to Rule 911.**

16. I hereby certify that the foregoing is true and correct  
SIGNED Edwin Swan PHONE NO. 330-0614  
NAME (PRINT) Edwin Swan TITLE Field Superintendent DATE 09/06/94

(This space for Federal or State office use)  
APPROVED \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:



# United States Department of the Interior



BUREAU OF LAND MANAGEMENT  
 CANON CITY DISTRICT OFFICE  
 P.O. BOX 2200  
 CANON CITY, COLORADO 81215-2200

3160  
 COC37842  
 (CO-055)PE

CERTIFIED MAIL NO. P 023 751 670  
 Return Receipt Requested

AUG 11 1994

Basic Earth Science Systems, Inc.  
 Attn: Kathryn Burnett  
 3939 Carson Avenue  
 Evans, CO 80620

Re: Lease No: COC37842  
 Well: A.F. #33-36  
 Location: T. 3N., R. 66W., Sec. 36

**PLEASE READ THE FOLLOWING FOR FEDERAL WELL REQUIREMENTS**

Dear Ms Burnett:

Enclosed is your approved Application for Permit to Drill (APD) (Form 3160-3), including the Drilling Plan, the Surface Use Plan, and Conditions of Approval. This approval does not warrant or certify that the operator thereof and other holders of operating rights hold legal or equitable title to those rights in the subject lease on which the proposed well is located. Operators and contractors are responsible for obtaining County, State, or other Federal Agency permits which may be required outside the authorities of the oil and gas regulations.

The following are paraphrased requirements of the oil and gas regulations for your convenience, with reference to the appropriate regulations. If you do not have copies of the referenced materials, we suggest you contact this or another BLM office. If you are not sure of how a regulation applies in your situation, please contact this office for additional information.

## DRILLING

1. A copy of the APD and any attached Conditions of Approval must be at the construction and drilling site. (Onshore Order # 1)
2. No deviation from the APD and Conditions of Approval is allowed without prior approval. (43 CFR 3162.3-1, 3162.2, and Onshore Order No. 1)
3. Well signs with lease and location are required. (43 CFR 3162.6)

4. Reporting monthly to MMS is required starting with month drilling commenced. (30 CFR 216)

5. All drilling operations must meet minimum standards as set fourth in Onshore Order # 2, or in the APD. Waivers from minimum requirements will be considered if requested. (Onshore Order # 2)

#### SUBSEQUENT WELL OPERATIONS

6. Any plugging operations must have prior written approval. Plugging may be approved verbally for newly drilled dry holes or in emergency situations if followed immediately in writing on Sundry Notice (form 3160-5). (43 CFR 3162.3-4 and Onshore Order No. 1)

7. Any new operation including production facilities, if not specifically covered in the APD, must be submitted and approved prior to construction and operation. Some routine well procedures are exempted. (43 CFR 3162.3-2)

8. All well completions and recompletions must be reported on form 3160-4. The report must be submitted within 30 days after well completion. (43 CFR 3160.1 and 3162.4).

9. New or resumed production must be reported not later than the 5th day. (43 CFR 3162.4-1 (c) and (d)).

#### PRODUCTION OF OIL AND GAS

10. Site facility diagrams (and notification of a site security plan if applicable) must be filed within 60 days of new or modified facilities installation. (43 CFR 3162.7-5 (c) and (d) and Onshore Order # 3).

11. Unless otherwise approved in writing, measurement of oil will meet minimum specifications in 43 CFR 3162.7-2 and Onshore Order # 4.

12. Unless otherwise approved in writing, measurement of gas will meet minimum specifications in 43 CFR 3162.7-3 and Onshore Order # 5.

13. Venting of gas without approval is not allowed except in emergencies. (43 CFR 3162.7-3, and NTL-4A)

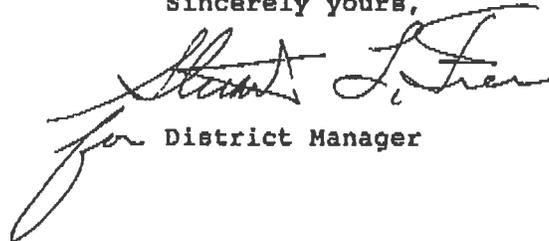
14. Method of handling produced water must be approved. Temporary disposal in reserve pit is approved unless specifically prohibited in the Conditions of approval. (Onshore Order # 7)

15. Failure to comply with lease terms, regulations, NTL's, Onshore Orders and any notice of the authorized officer may result in issuance of an incidence of noncompliance, assessment and penalties, shut in of operations, and possible lease cancellation. (43 CFR Subpart 3163)

A person contesting any portion or all of this approval shall request a State Director review. This request must be filed with the appropriate State Director within 20 working days from receipt by the applicant of the approval. (see 43 CFR 3165.3). The State Directors review decision may be appealed to the Interior Board of Lands Appeals, 4015 Wilson Blvd., Arlington, Va. (see 43 CFR 3165.4). Contact the above Bureau of Land Management office for further information.

See the names and phone numbers on the Conditions of Approval should you have any questions regarding this APD approval, or operations on this well.

Sincerely yours,



for District Manager

5. LEASE DESIGNATION AND SERIAL NO.  
COC 37842 Acq.

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
N/A

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
Antenna Federal

9. WELL NO.  
33-36

10. FIELD AND POOL, OR WILDCAT  
Wattenberg Dakota/J Sand

11. SEC., T., R., N., OR S.E. AND SURVEY OR AREA  
36-3N-66W

12. COUNTY OR PARISH  
Weld

13. STATE  
CO

### APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1A. TYPE OF WORK  
DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  
OIL WELL  GAS WELL  OTHER   
SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
Basic Earth Science Systems, Inc.

3. ADDRESS OF OPERATOR  
P.O. Box 3088, Englewood, CO 80155

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
At surface 1647' FSL & 1650' FEL NWSE  
At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE  
5.7 miles SE of Platteville

15. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drg. unit line, if any) 1647'

18. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. 1050'

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
GR 4967

22. APPROX. DATE WORK WILL START  
7-15-94

16. NO. OF ACRES IN LEASE  
640

17. NO. OF ACRES ASSIGNED TO THIS WELL  
320 S/2

19. PROPOSED DEPTH  
J-7950 Dakota 8200

20. ROTARY OR CABLE TOOLS  
Rotary

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	750'	350 sx lite followed by 150 sx c1
7 7/8"	4 1/2"	11.6#	8200'	300 sx lite 50/50 poz, 100 sx c1

See attached Conditions of Approval A-3, B1

Bond coverage provided by Bond # C00862

Proposed program: Drill an 8200' Dakota test. Test Dakota and J Sand at 7950'. If productive, run casing. If dry, plug and abandon in accordance with BLM and state regulations. See attached logging program and BOP diagram. No drillstem tests will be run.

Notify BLM 49 hrs prior to beginning operations

Note: Antenna Federal Surface Use Plan approved October 26, 1989.

BOND COVERAGE: Bonding for operations conducted on this lease is being provided by Basic Earth Science Sys. in the form of a Lease bond, BLM number C00862. Surety, Planet Indemnity CO

ID No. 5840001269001

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM. If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED Judy Davis TITLE Lease Analyst DATE 7-12-94

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
APPROVED BY [Signature] TITLE DISTRICT MANAGER DATE 8/4/94  
CONDITIONS OF APPROVAL, IF ANY:

"APPROVAL TO FLARE GRANTED WHILE DRILLING & TESTING"  
ASSOCIATE APPROVED FOR A PERIOD NOT TO EXCEED 1 YEAR OR LEASE EXPIRATION DATE. RECEIVED JUL 15 1994  
"See Instructions On Reverse Side"  
B.L.M. CANON CITY DISTRICT

Title 16, Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false or fraudulent statements or representations as to any matter within its jurisdiction.

**EIGHT POINT DRILLING PROGRAM**

Basic Earth Science Systems, Inc.  
Township 3 North, Range 66 West, 6th P.M.  
 Section 36: All  
 Weld County, Colorado

Operator: Basic Earth Science Systems, Inc. (303)792-5230  
 P. O. Box 3088  
 Englewood, CO 80155-3088  
 Well Name: Antenna-Federal 33-36  
 Legal Description: NW¼SE¼ - 1647' FSL & 1650' FEL  
 Elevation: GR 4967'  
 Formation: J Sand/Dakota

1. The estimated formation tops to be encountered are as follows:

Formation	Depth	Subsea Depth
Base Fox Hills	910	+4311
Yellow Marker	1295	+3726
Larimer Rocky Ridge	4088	+ 933
Sussex	4272	+ 749
Shannon	4688	+ 333
Niobrara	7156	-2135
Codell	7444	-2423
J Sand	7908	-2887
Dakota	8075	-3054
Total Depth	8200	

2. The following depths are estimated for water, oil, gas, or other mineral bearing formations:

Substances	Formation	Top	Bottom	Plans for Protection
Water	Fox Hills	400	700	Cement behind surface pipe
Oil and Gas	Niobrara/Codell	7156	7460	Cement behind production string
Oil and Gas	J Sand/Dakota	7908	7998	Cement behind production string

3. The blowout equipment uses an air jammer for the primary system with hand wheels on the rams as a back-up.

4. a. The drilling equipment to be used is as follows:
- (1) Kelly cock.
  - (2) A sub with a full opening valve will be on the floor when the kelly is not in use.
- b. The proposed casing program will be as follows:

Casing String	Depth	Hole Size	O.D.	Wt.	Grade	Type
Surface	0-750'	12-1/4"	8-5/8"	24#	J-55	LT&C
Production	0-TD	7-7/8"	4-1/2"	11.6#	I-70	LT&C

The casing will meet the following safety factors:

- (1) Tension 1.5 (dry)
- (2) Collapse 1.0
- (3) Burst 1.0

All casing will be new. Casing testing procedures will be as follows:

- (1) 0-750' 500 sx neat cement with 3% CaCl<sub>2</sub> and ¼ #/sx flocele  
0-TD 200 sx class G
- (2) The API cement classification is G.

5. Drilling fluids will be fresh water based low solids non-dispersed, gelled water mud system.
6. The completion program for the J Sand/Dakota well is as follows:
- a. Perforate with 2 jet shots per foot.
  - b. Frac down casing with gelled water and sand.
  - c. Run tubing in well, clean out sand and put on production.
7. The expected bottom hole pressure is 2800 psi. No abnormally pressured zones or extreme temperatures are anticipated and there will be no hydrogen sulfide zones in this field.
8. Basic Earth Science Systems, Inc. plans to spud the Antenna-Federal #33-36 on December 8, 1994 and intends to complete the well within approximately one month after the well has reached total depth.

Note: A reserve pit will be dug and the mud hauled off.



July 22, 1994

P.O. Box 3088  
Englewood, Colorado  
80155-3088  
(303) 792-5230  
FAX (303) 792-3238

Mr. Frank Moore  
Bureau of Land Management  
P. O. Box 2200  
Canon City, CO 81215-2200

Re: Application for Permit to Drill  
Township 3 North, Range 66 West, 6th P.M.  
Section 36  
Weld County, Colorado

Dear Mr. Moore:

Please add the following information to the previously submitted Applications for Permit to Drill for the following wells. ~~This letter has been highlighted to indicate changes to the original letter dated July 21, 1994.~~

~~1 Sand wells~~ ..... ~~Antenna Federal 31-36~~ Antenna Federal 35-36 *ap*

**Casing:**

4 1/2" I-70 ~~lined~~ casing Burst pressure 6810  
Collapse pressure 5840  
Joint strength 178,000

Surface casing is pressure tested to ~~1500~~ psi  
Production casing is pressure tested to 6000 psi.

~~The production casing will be cemented with a minimum of 2200~~

**Casing Equipment:**

Guide Shoe  
Insert float 1 joint above guide shoe w/latch down baffle  
20 Cable scratchers across Codell/Niobrara

Centralizers - surface casing: One centralizer on every other joint from 700' - 400' on the surface casing.  
Centralizers - production casing: A minimum of one centralizer will be placed on the shoe joint and one centralizer will be placed on all joints through producing zones to a minimum of 200' above the zone.

Logs: DIFL-GR, CNL-GR, CBL

BOP equipment: Hydraulic closing unit  
Hand wheel on BOP

Please note that it was our intention to permit these wells with 2000# BOP equipment ~~which will be tested and certified.~~

RECEIVED  
JUL 22 1994  
B.L.M. CANON CITY DISTRICT

Mr. Frank Moore

Page 2

**Mud Weight** **Surge Maximum**

**Proposed fracture stimulation treatment**

Treating Conductor	17 3/4" CA
Injection Rate	17 BPM
Expected Surface Treating Pressure	3,500 psi (initial) 5,000 psi (average)
Treating Fluid Volume	185,000 gallons
Flush Volume	5,000 gallons
Prepad	600,000 pounds 20/40

**Additives per 1000 gallons**

795	GL	F122	Alumina gel (max 75,000 gal)
882	GL	F122	Alumina gel (max 75,000 gal)
100	GL	Clay agent	Clay agent (agent)
1000	LB	Gel Matrix	Gel Matrix (max 35,000 gal)
100	DE	Flow Back 20	Surfactant
025	GL	F122	Prepad
025	LB	MIRA Perm	CRB (initial 10,000 gal)
035	LB	MIRA Perm	CRB (max 65,000 gal)
050	LB	MIRA Perm	CRB (max 15,000 gal)
050	DE	B-5	Gel breaker (last 10,000 gal)
050	LB	Flow Back 20	Bactericide
050	DE	AL-10	Prepad

**Proposed Treatment Schedule**

No.	Volume	RVA	Flowrate
1	95,000 gal	Satum 335 LPH/D	EPD
2	30,000 gal	Satum 335 LPH/D	2 LPPB 20-40
3	30,000 gal	Satum 335 LPH/D	3 LPPB 20-40
4	30,000 gal	Satum 330 LPH/D	4 LPPB 20-40
5	25,000 gal	Satum 330 LPH/D	5 LPPB 20-40
6	25,000 gal	Satum 330 LPH/D	6 LPPB 20-40
7	5,000 gal	Clay / Fresh Water	Flush

RECEIVED

SEP 24 1994

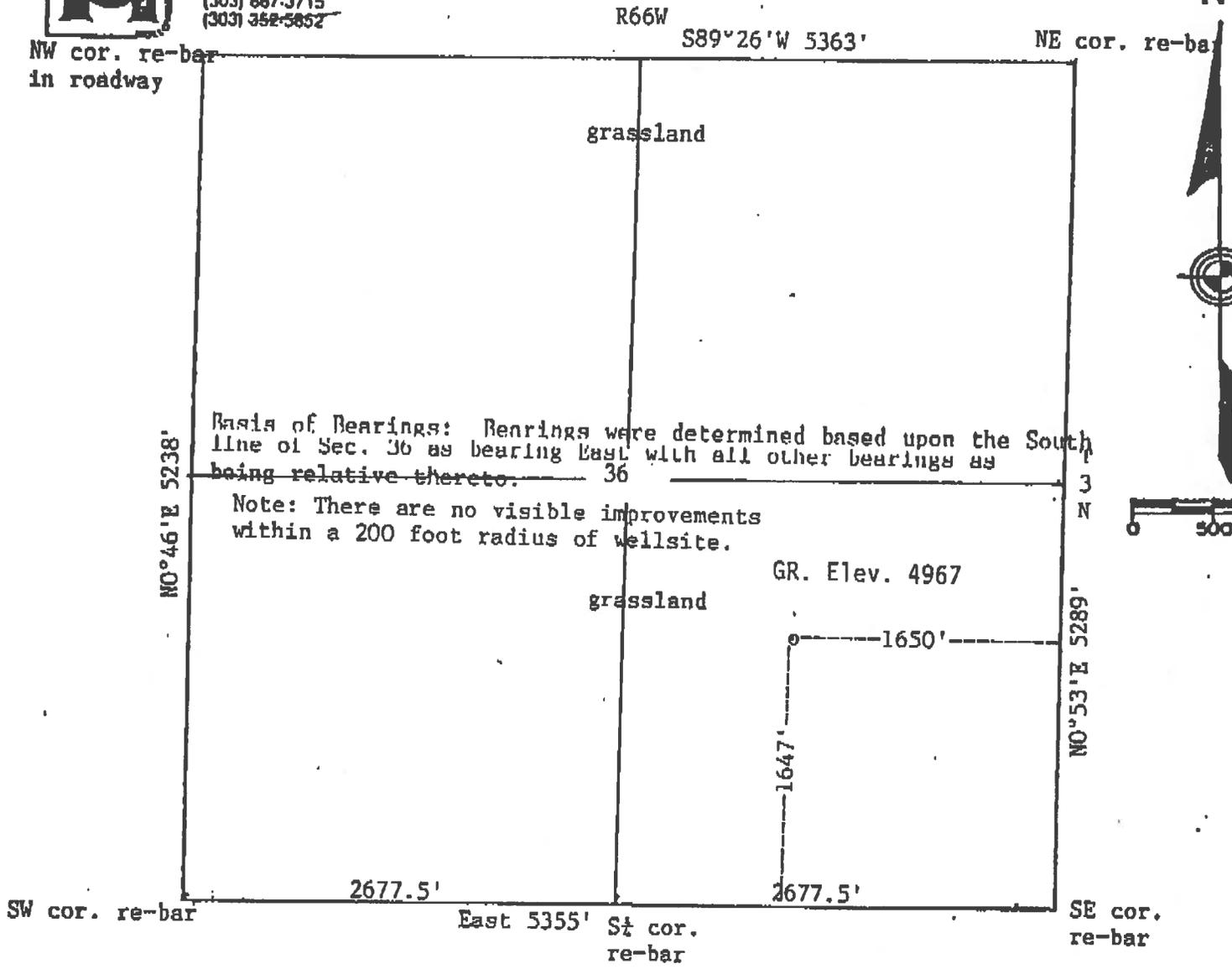
basic Earth Science Systems, Inc.

B.L.M. CANON CITY DISTRICT



SEP 06 94 04:03PM HS RESOURCES EVANS  
 Holloway & Holloway, Inc.  
 P.O. Box 3331  
 Greeley, CO 80633  
 (303) 867-3715  
 (303) 352-5652

P.10/23  
 Basis of elev spot elev  
 at NE cor. 4951'



Basis of Bearings: Bearings were determined based upon the South line of Sec. 36 as bearing East with all other bearings as being relative thereto. 36

Note: There are no visible improvements within a 200 foot radius of wellsite.

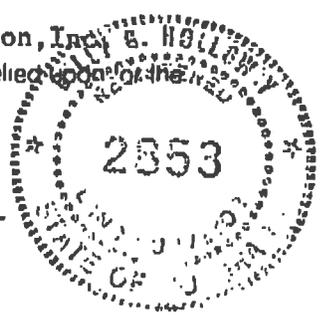
Scale - - - 1" = 1000'

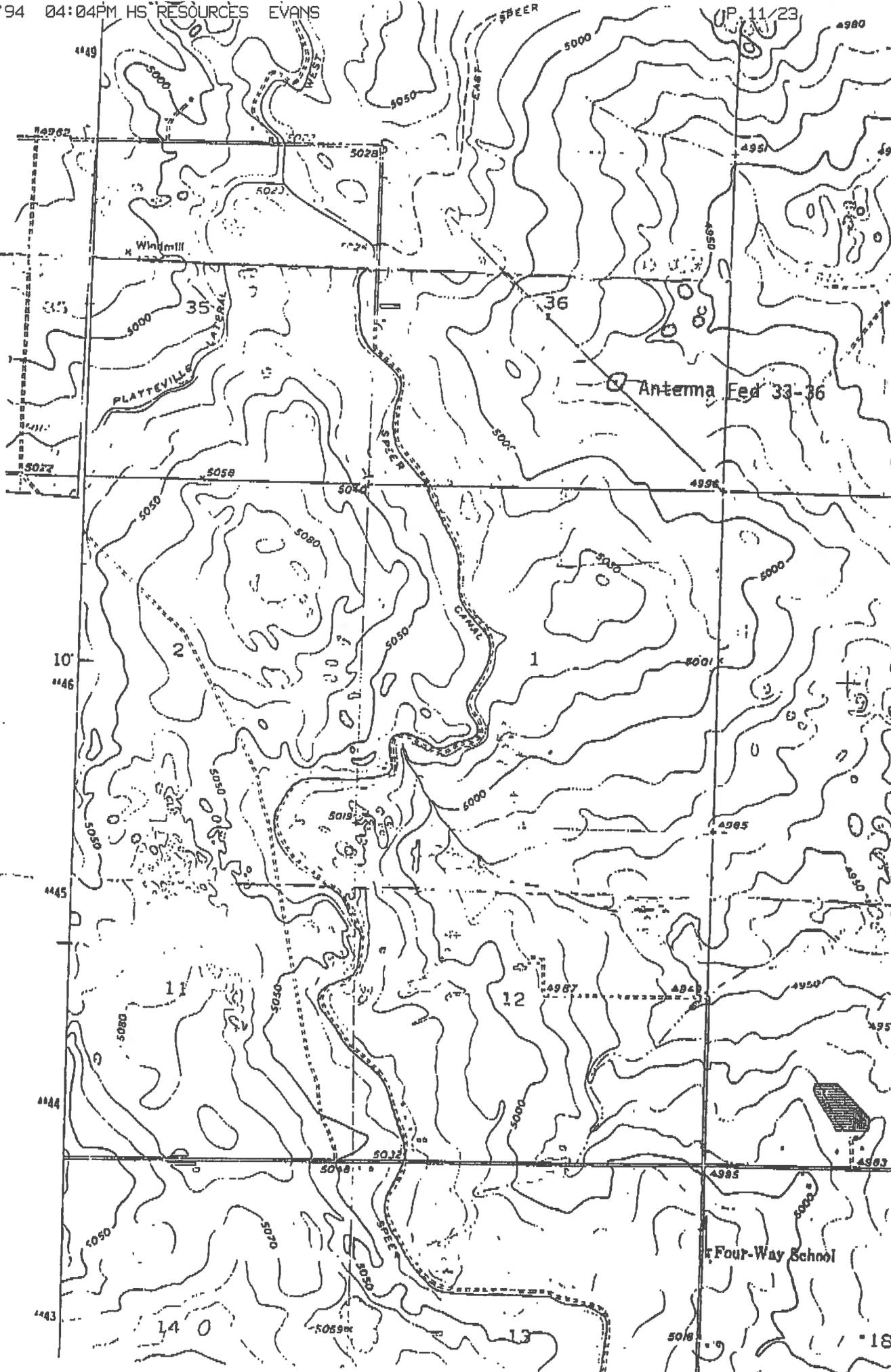
In accordance with a request from Elk Exploration, Inc. the Undersigned has determined the location of the Antenna Fed 33-36 well to be 1647'FSL & 1650'FEL at right angles as co-ordinates Section 36 Township 3N Range 66W of the 6th principal Meridian Weld County, Colorado.

I hereby certify that this oil and/or gas well location certificate was prepared for Elk Exploration, Inc. that it is not a land survey plat or improvement survey plat, and that it is not to be relied upon for the establishment of fence, building or other future improvement lines.

Date 6-7-94

*Bryan J. Holloway*  
 Holloway & Holloway, Inc.  
 States of  
 Colorado, Nebraska, Wyoming





RECEIVED MAP. 12/23/89

National Oceanic and Atmospheric Administration,  
Host Agency serving:  
Bureau of the Census  
Economic Development Administration  
International Trade Administration  
Minority Business Development Agency  
National Bureau of Standards  
National Telecommunications and Information Administration  
Office of the Inspector General



U.S. DEPARTMENT OF COMMERCE  
Mountain Administrative Support Center  
325 Broadway  
Boulder, Colorado 80303-3328

MAY 9 1989

Ms. Judith C. Burke  
Basic Earth Science Systems, Inc.  
P.O. Box 3088  
Englewood, CO 80155-3088

Dear Judy:

Reference Revocable License No. 87-LIC-001, For Non-Federal Use of Real Property, Section 36, Township 3 North, Range 66 West of the 6th P.M., which expires 12/31/89.

As a follow up to our recent conversation, I discussed this matter with Mr. Ernie Gillingham, Bureau of Land Management. It was agreed that the Oil and Gas Lease entered into between Basic Earth Science Systems, Inc. and the Bureau of Land Management, dated December 1, 1983, will sufficiently cover future drilling activities on this site. We, therefore, do not plan to reissue referenced revocable license once it has expired.

Should you have additional questions, please call me at 497-5329.

Sincerely,

*K. T. Erdmann*  
K. T. Erdmann  
Realty Specialist

cc: E. Gillingham, BLM



Handwritten note: "attn to:"

BLM/ Canon City District  
Attn: Paula Evans  
P.O. Box 311  
Canon City, CO 81212

Surface Use and Environmental Review

Reviewing Office NOAA APD/SUNDRY

Lease No. C-37842 Acq. Well 22-36 Sec. SENWNW 36 T. 3N R. 66W

Operator Basic Earth Science System, Inc. County Weld State Colo.

It is recommended that this APD/Sundry be:

- Accepted without revision.
- Accepted with the following stipulation(s).
- Not be approved (give reasons below).

Stipulations/Reasons for non-approval (use continuation page if necessary):

The Bureau of Land Management has agreed to administer the surface use associated with development of oil and gas at this site. Therefore, the Department of Commerce (DOC) will accept this ADP/Sundry contingent upon changes, additions or deletions as determined by the BLM.

Reviewer:

Date

Authorized Officer:

*Carol D. Ciufolo*  
Carol D. Ciufolo  
Real Property Contracting  
Officer

Date

*12/18/87*

REVOCABLE LICENSE FOR FEDERAL USE OF REAL PROPERTY

LICENSE NO. 87-LIC-001

A revocable license affecting the property described and for the purpose designated below is hereby granted to the licensee herein named, subject to all of the conditions, special and general, hereinafter enumerated.

2. NAME OF LICENSEE: Basic Earth Science Systems, Inc. 3. ADDRESS: P.O. Box 3088, Englewood, CO 80155-3088

4. PROJECT DESIGNATION AND ADDRESS: Plattville Field Site, Plattville, CO 5. MAXIMUM PERIOD COVERED: FROM 1/1/87 TO 12/31/89

6. CONSIDERATION: \$ None

7. DESCRIPTION OF PROPERTY AFFECTED: Section 36, Township 3 North, Range 66 West of the 6th P.M. (As shown on Exhibit attached hereto and made a part hereof.)

8. PURPOSE OF LICENSE: To allow licensee surface access for the purpose of developing and operating four drillsites, at locations shown on attached "Exhibit A".

9. By the acceptance of this license, the licensee agrees to abide and be bound by the following conditions: I. SPECIAL CONDITIONS

- 1. The four proposed sites for drilling are acceptable. Drilling must be limited to the sites as proposed, and will be done in the order as marked on the attachment.
2. The Licensee will notify Robert Frost of the Wave Propagation Lab prior to initiating drilling at each site.
3. The Licensee will not interfere with the current operations conducted on the site by the Government or its agents.

CONTINUED ON NEXT PAGE

That condition(s) No.(s) NOAA Licensor was (were) deleted before the execution of this license.

Table with columns: GENERAL SERVICES ADMINISTRATION LICENSOR, LICENSEE, DATED, ACCEPTED, BY (Signature), TITLE. Includes signatures of Carol Diufolo and Jeffrey E. Jones.

If Licensee is a Corporation, the following Certificate of Licensee must be executed:

CERTIFICATE OF CORPORATE LICENSEE

I, Judith C. Burke certify that I am the Assistant Secretary of the corporation named as licensee herein; that Jeffrey E. Jones who signed said license on behalf of the licensee was then Vice President of said corporation; that said license was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

(CORPORATE) (SEAL)

Signature of Judith C. Burke

## II. GENERAL CONDITIONS

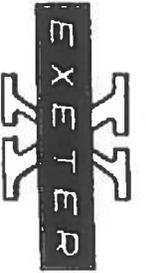
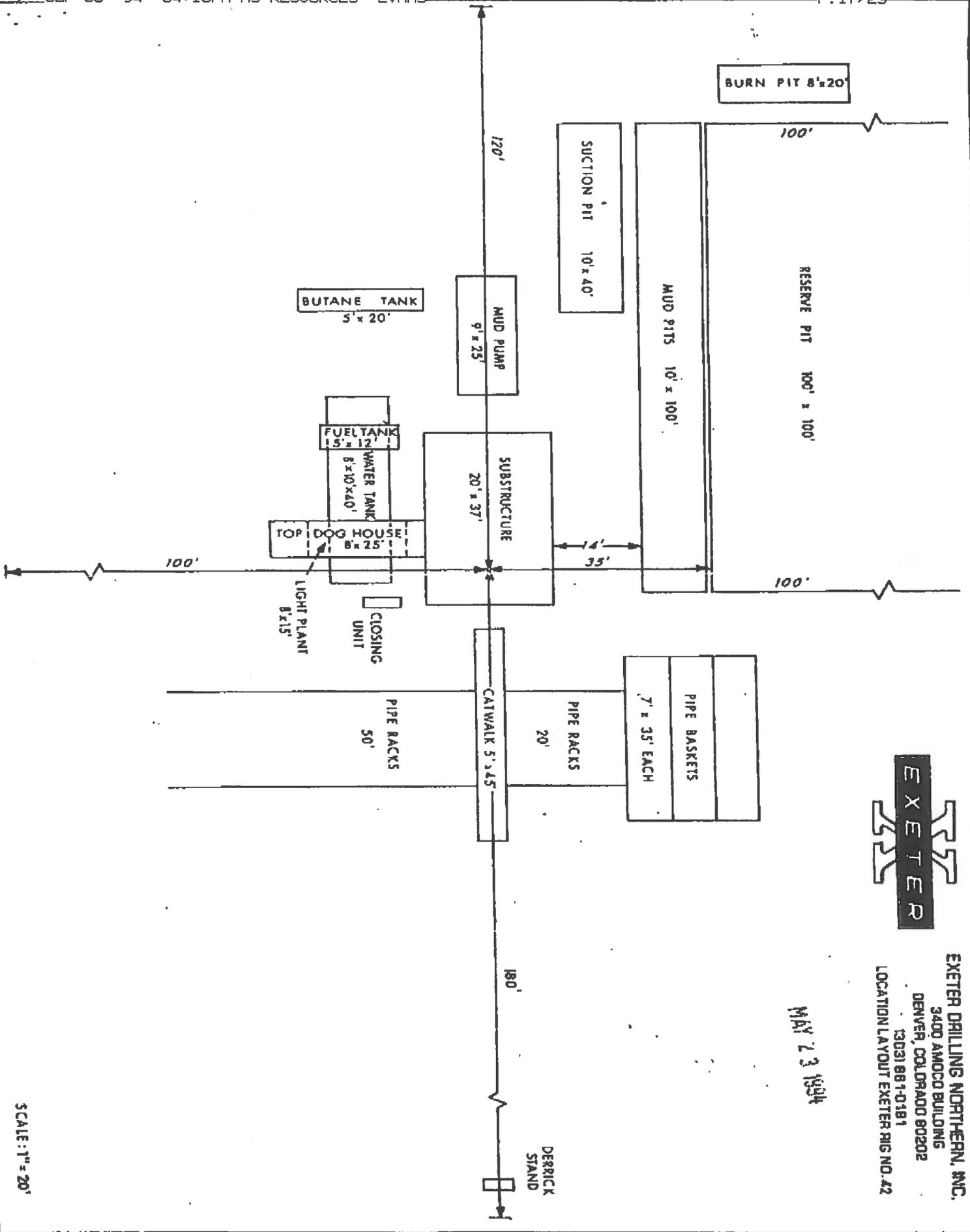
- a. **COMPLIANCE.** Any use made of property affected by the license, and any construction, maintenance, repair, or other work performed thereon by the licensee, including the installation and removal of any article or thing, shall be accomplished in a manner satisfactory to the General Services Administration, hereinafter referred to as ~~GSA~~ <sup>NATIONAL Oceanic and Atmospheric Administration (NOAA)</sup>.
- b. **STRUCTURES.** The licensee shall not place or construct upon, over or under the property any installation or structure of any kind or character, except such as are specifically authorized herein.
- c. **LAWS AND ORDINANCES.** In the exercise of any privilege granted by this license, licensee shall comply with all applicable State, municipal and local laws, and the rules, orders, regulations and requirements of Federal governmental departments and bureaus.
- d. **SANITARY CONDITIONS.** If this license gives possession of United States property, the licensee shall at all times keep the premises in a sanitary condition satisfactory to ~~GSA~~ <sup>NOAA</sup>.
- e. **DAMAGE.** Except as may be otherwise provided by the Special Conditions above, no United States property shall be destroyed, displaced or damaged by the licensee in the exercise of the privilege granted by this license without the prior written consent of ~~GSA~~ <sup>NOAA</sup> and the express agreement of the licensee promptly to replace, return, repair and restore any such property to a condition satisfactory to GSA upon demand.
- f. **INDEMNIFICATION.** The licensee shall indemnify and save harmless the United States, its agents and employees against any and all loss, damage, claim, or liability whatsoever, due to personal injury or death, or damage to property of others directly or indirectly due to the exercise by the licensee of the privilege granted by this license, or any other act or omission of licensee, including failure to comply with the obligations of said license.
- g. **STORAGE.** Any United States property which must be removed to permit exercise of the privilege granted by this license shall be stored, relocated or removed from the site, and returned to its original location upon termination of this license, at the sole cost and expense of the licensee, as directed by ~~GSA~~ <sup>NOAA</sup>.
- h. **OPERATION.** The licensee shall confine activities on the property strictly to those necessary for the enjoyment of the privilege hereby licensed, and shall refrain from marring or impairing the appearance of said property, obstructing access thereto, interfering with the transaction of Government business and the convenience of the public, or jeopardizing the safety of persons or property, or causing justifiable public criticism.
- i. **NOTICE.** Any property of the licensee installed or located on the property affected by this license shall be removed upon 30 days' written notice from ~~GSA~~ <sup>NOAA</sup>.
- j. **GUARANTEE DEPOSIT.** Any deposit which may be required to guarantee compliance with the terms and conditions of this license shall be in the form of a certified check, cashier's check or postal money order in the amount designated above, payable to GSA.
- k. **BOND.** Any bond required by this license shall be in the amount designated above, executed in manner and form and with sureties satisfactory to GSA.
- l. **EXPENSE.** Any cost, expense or liability connected with or in any manner incident to the granting, exercise, enjoyment, or relinquishment of this license shall be assumed and discharged by the licensee.
- m. **FUTURE REQUIREMENTS.** The licensee shall promptly comply with such further conditions and requirements as ~~GSA~~ <sup>NOAA</sup> may hereafter prescribe.
- n. **ATTEMPTED VARIATIONS.** There shall be no variation or departure from the terms of this license without prior written consent of ~~GSA~~.
- o. **NONDISCRIMINATION.** The licensee agrees that no person will be discriminated against in connection with the use made by the licensee of the property on the ground of race, color or national origin, nor will any person be denied the benefits of or be subjected to discrimination under any program or activity held, conducted or sponsored by the licensee in that any activity, program or use made of the property by the licensee will be in compliance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 238, 252; 42 U. S. C. 2000d) and the applicable regulations of ~~GSA~~ <sup>NOAA</sup> (41 CFR Subpart 101-6.2).
- The licensee will obtain from each person or firm, who through contractual or other arrangements with the licensee, provides services, benefits or performs work on the property, a written agreement whereby the person or firm agrees to assume the same obligations with respect to nondiscrimination as those imposed upon the licensee by law and will furnish a copy of such agreement to the licensor.
- The breach by the licensee of conditions relating to nondiscrimination shall constitute sufficient cause for cancellation and revocation of the license.

## REVOCABLE LICENSE FOR NON-FEDERAL USE OF REAL PROPERTY

Continuation, Paragraphs 4 through 6. License No. 87-LIC-001

4. The Licensee may place the following equipment on the site:
  - a. Two 300 barrel storage tanks.
  - b. A seperator
  - c. A standard gas wellhead
  - d. A pumping unit
  - e. Additional related equipment necessary for drilling or pumping at the proposed site.
5. In the event this License is cancelled by the Government, the Licensee will be responsible for removal of all equipment from the site within 30 days of such cancellation, at Licensee's expense.
6. a) Paragraphs j and k of General Conditions are deleted in their entirety.  
b) Paragraphs a,d,e,g,i,m,n, and o are modified to delete the word "GSA", and insert the word "NOAA" in its place.

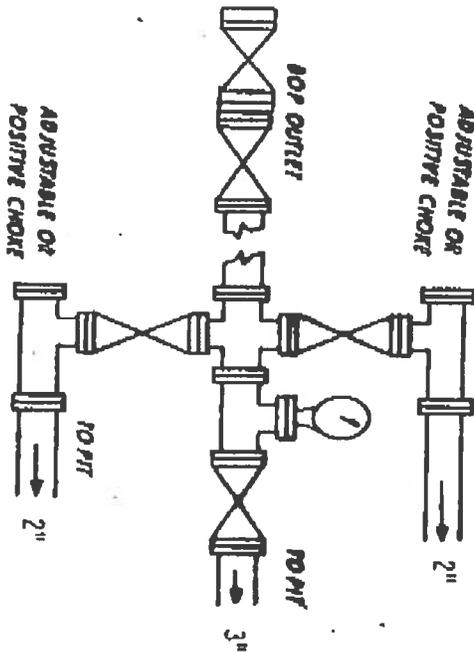
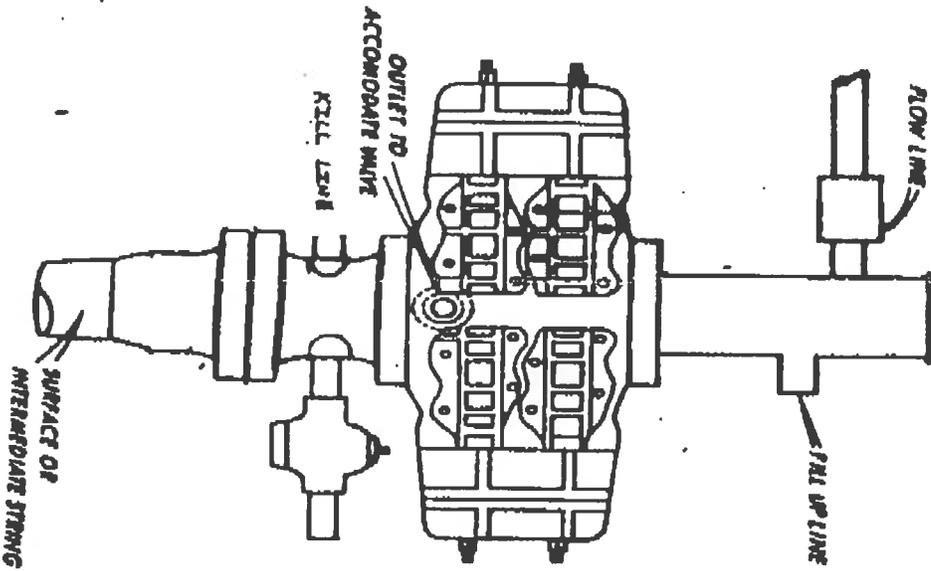
12/88



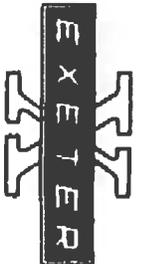
EXETER DRILLING NORTHERN, INC.  
 3400 AMOCO BUILDING  
 DENVER, COLORADO 80202  
 (303) 88-1-0181  
 LOCATION LAYOUT EXETER RIG NO. 42

MAR 23 1994

SCALE: 1" = 20'



1. BOP VALVES AND ALL WORKING FITTINGS SHOULD BE IN GOOD WORKING CONDITION.
2. ALL BOLTS TO BE INSTALLED AND TIGHT
3. ALL VALVES TO BE 100% W.P. OR BETTER.
4. AFTER WIPPLING UP TEST RAMS AND PRESSURE UP TO 3000# FOR 10 MINUTES AND CHECK FOR POSSIBLE LEAKS.
5. ALL CREW MEMBERS TO BE FAMILIAR WITH BOP AND ACCUMULATORS
6. KEEP HOLE FULL ON TRIPS
7. USE ONLY FLANGE TYPE FITTINGS
8. RECHECK BOLTS FOR TIGHTNESS BEFORE 5000 FT. OR ENTERING PRODUCTION ZONES.
9. WHEN DRILLING USE:
  - TOP PREVENTER DRILL PIPE RAMS
  - BOTTOM PREVENTER BLIND RAMS
10. WHEN RUNNING CASING USE:
  - TOP PREVENTER CASING RAMS
  - BOTTOM PREVENTER BLIND RAMS



**EXETER DRILLING NORTHERN, INC.**  
 3400 AMOCO BUILDING  
 DENVER, COLORADO 80202  
 (303) 861-0191

**BLOW OUT PREVENTER EQUIPMENT**

**CONDITIONS FOR APPROVAL  
FOR APPLICATION FOR PERMIT TO DRILL**

**LEASE NO: COC37842 LOCATION: section 36, NWSE, T. 3N., R. 66W., 6th PM**

**WELL NO: HSR F 33-36 OPERATOR: H.S. RESOURCES COUNTY: WELD STATE: CO**

A COPY OF THESE CONDITIONS MUST BE FURNISHED YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE

1. **DRILLING DEADLINE:** This approval is good for one year starting on the day of receipt. Any extension must be approved by this office.
2. **NOTIFICATION:** The Canon City Office must be notified at least 24 hours prior to beginning drill pad construction and/or drilling operations. The primary District Office contacts are:
 

**PRIMARY CONTACTS:**  
 Address: 3170 East Main, P.O. Box 2200, Canon City, Colorado 81215-2200  
 Office Phone: (719) 275-0631  
 Petroleum Engineer: Frank Moore Home: (719) 275-0246  
 Petroleum Engineering Technician: Gene Dillashaw Home: (719) 275-5976  
 Surface Reclamation Specialist: Ernie Gillingham Home: (719) 275-5494  
 Petroleum Geologist: Kevin Andersen Home: (719) 275-0264  
 Asst. D. M. for Minerals: Roger Underwood Home: (719) 275-4063
3. **SPUD DATE:** The spud date must be reported orally to the Canon City District Office (719) 275-0631 within 48 hours after spudding, or on the first workday following a weekend or holiday.
4. **DRILLING REQUIREMENTS:** All operations will be conducted as required by Onshore Order # 2, or as submitted in your APD, except as specified below:
  - a. Spotting Oil is not allowed without prior approval.
  - b. Reserve Pit construction needs will be determined by decision of the BLM and Department of Commerce prior to drilling this well.

\* If no reserve pit construction is ordered, the drilling fluids will be jetted to surface soils. Within 30 days following drilling completion, the area of jetted fluids will be straight disc to break up large clumps and assimilate bentonite muds into the sandy soils. This requirement is based on the proposed bentonite mud program, and immediate notification is required prior to changing the mud program. This requirement represents a variance to monitoring mud levels in the reserve pit as required by Onshore Order # 2.

\*\* If reserve pit disposal is ordered, the pit will be constructed to minimum size required to hold estimated fluid volume. Within 30 days completion of drilling the fluids will be pump to pad surface, and mixed with soil material. The pit area will be filled in and recontoured, and seeded in accordance with APD seeding requirements.

5. **SURFACE USE REQUIREMENTS:** All operations will be conducted as submitted in the APD Surface Use Plan, except as listed below:
  - a. Access Road will not be bladed. Overland trailing will be used for access to site. The unimproved trail will be left for access to completed well, and graveling will be use if wind blow problem areas develop.

**CONDITIONS FOR APPROVAL  
FOR APPLICATION FOR PERMIT TO DRILL**

b. Pad Construction will be minimal. Leveling for drill rig base and pipe racks only, with over surface driving only on remaining area.

c. Pipeline gathering system will follow unimproved road back to production facilities in the South West quarter.

d. Notification of Department of Commerce (DOC) is required prior to beginning construction of pad, and moving in Rig. This location has been stipulated as a No Surface Occupancy area to protect the building and experiments which are being conducted by the National Oceanic and Atmospheric Administration. If DOC wishes to have personnel from there office present during the construction, or move in of drilling rig, HRS will make arrangements to accommodate those needs. There OK of the drilling site represents a wavier to the NSO at this one location only.

**6. PRODUCED WATER DISPOSAL:**

a. Produced water will be handled in manner as approved for other wells using the NE facilities. Within 90 days of well completion, operator must submit plans for permanent handling of produced water in accordance with Onshore Order # 7.

**7. HAZARDOUS MATERIALS:** The Material Safety Data Sheets (MSDS) as required by the Occupational Safety and Health Administration (29 CFR 1910.1200 and 29 CFR 1926.59) must be at the drilling site, and available for BLM inspection.

**8. FRACTURING FLUIDS:** All frac fluids must be mixed, discharged, and recaptured in steel tanks or other suitable containers. Discharge into pits is not allowed.

**9. SPILLS:** Any discharge of materials listed in the Environmental Protection Agency (EPA) regulations in 40 CFR PART 302, table 302.4, or produced hydrocarbons, which contacts soil or water (including pits) must be reported to this office.

**10. HISTORICAL/ CULTURAL REQUIREMENTS:** The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might disturb such materials, and contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

a. whether the materials appear eligible for the National Register of Historic Places;

b. the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,

**CONDITIONS FOR APPROVAL  
FOR APPLICATION FOR PERMIT TO DRILL**

c. a time frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

**11. PRODUCTION FACILITIES:** The following conditions apply to production facility construction.

a. Production facilities for this well already exist in the NE quarter of the site. Changes to these facilities will require additional approval from this office.

**12. GAS VENTING:** Gas produced from this well may not be vented and/or flared beyond an authorized test period of 30 days or 50 MMCF, whichever occurs first, following the initiation of production evaluation testing, without the prior written approval of the Authorized Officer (AO). Should gas be vented and/or flared without prior approval beyond the initial test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to resume venting and/or flaring is granted by the AO. You will be required to compensate the lessor for that portion of the gas vented and/or flared without approval which is determined to have been avoidably lost.

COALSTIP  
MINERALS 2/94COAL STIPULATION

The Oil and Gas Operating Regulations, 43 CFR 3162.5-2(d), and Section III B. of Onshore Order No. 2 establish requirements for casing and cementing programs to isolate and/or protect all usable water and any prospectively valuable deposits of minerals. Prospectively valuable deposits of coal have been determined to be represented by the following categories in Colorado:

1. Metallurgical or metallurgical-blend coal 12 inches or more thick; anthracite, semianthracite, bituminous, and subbituminous coal 28 inches or more thick; and lignite coal 60 inches or more thick to a depth of 500 feet below the lowest surface elevation on the federal lease.
2. Metallurgical and metallurgical-blend coal 24 inches or more thick; anthracite, semianthracite, bituminous, and subbituminous coal 48 inches or more thick; and lignite coal 84 inches or more thick occurring from 500 to 3000 feet below the lowest surface elevation on the federal lease.
3. Any thinner bed of coal at any horizon above 3000 feet below the lowest surface elevation on the federal lease, which is currently being mined or for which there is evidence that such coal bed could be mined commercially at this time.
4. Any coal at depth greater than 3000 feet where mining actually is occurring.

These same regulations provide that adequate and sufficient electric and/or radioactive logs will be run and drilling data evaluated to locate and identify anticipated coal beds. Please submit a copy of all mud, drilling, and cutting reports, and two copies of electric/radioactive logs run to:

Bureau of Land Management  
Canon City District Office  
P.O. Box 2200  
Canon City, CO 81215-2200

A full column of cement shall be placed from a depth of 50 feet below the base of the lowest coal zone to the surface in order to ensure adequate protection of any coal beds which may be encountered.

Should you determine that coal beds are of such depth and/or extent to make it impractical or uneconomical to set the full amount of surface and/or production casing to comply fully with the above cementing requirement, the operator can request verbal approval to stage cement the production casing so a solid cement plug will extend from 50 feet above to 50 feet below each coal bed encountered below the surface casing. The operator may request approval for other acceptable methods of protection.

Should you determine that there are no coal beds requiring protection, the operator can request verbal approval to waive the cement requirement.

A verbal waiver or modification must be documented by the operator, through the filing of a Sundry Notice (form 3160-5) showing the modified program approved. Where desired by the operator, geologic documentation may be provided for a blanket modification in a given field or area.

STATE OF COLORADO  
OIL AND GAS CONSERVATION COMMISSION  
DEPARTMENT OF NATURAL RESOURCES

COCC FORM 2  
Rev. 10/88

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR RE-ENTER AND OPERATE**

1. TYPE OF WORK: DRILL  DEEPEN  RE-ENTER

2. TYPE OF WELL: OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

3. OPERATOR: Basic Earth Science Systems, Inc.  
ADDRESS: P.O. Box 3088  
CITY: Englewood STATE: CO ZIP: 80155-3088  
PHONE NO. (303) 792-5230

4. LOCATION OF WELL (Specify location clearly and in accordance with any State requirements.)  
At surface: 1647' FSL & 1650' FEL NWSE  
At proposed Prod. zone

5. LEASE DESIGNATION AND SERIAL NO.: 87/4204-S (C-37842)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. UNIT AGREEMENT NAME: CA # 49184

8. FARM OR LEASE NAME: Antenna Federal

9. WELL NO.: 33-36

10. FIELD AND POOL OR WILDCAT: Wattenberg - J Sand/Dakota

11. QTR. QTR. SEC. T.R. AND MERIDIAN: NWSE 36-3N-66W-6th P.M.

12. DISTANCE, IF LESS THAN 200 FT. FROM ANY OCCUPIED BLDG. PUBLIC ROAD, ABOVE GROUND UTILITY LINE OR RAILROAD (SHOW FOOTAGES ON SURVEY PLAT): N/A

12. COUNTY: Weld

14. DISTANCE FROM PROPOSED LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drg. line, if any): 1647'

15. NO. OF ACRES IN LEASE: 640

16. NO. OF ACRES AND/OR DRILLING UNIT ASSIGNED TO THIS WELL: 320 5/2

17. DISTANCE FROM PROPOSED LOCATION TO NEAREST WELL DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 1050'

18. PROPOSED DEPTH: J-7950, Dakota 8200

19. OBJECTIVE FORMATION: J Sand/Dakota

20. ELEVATIONS (Show whether GR or KB): GR 4967'

21. DRILLING CONTRACTOR: Exeter  
PHONE NO. (303) 861-0181

22. APPROX. DATE WORK WILL START: 7-15-94

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4"	8 5/8"	24#	750'	350 sx lite followed by 150 sx cl
7 7/8"	4 1/2"	11.6#	8200'	300 sx lite 50/50 porz., 100 sx cl

24. IS SURFACE OWNER ALSO THE MINERAL OWNER? YES  NO   
If NOT surface owner must be on file or copy of surface agreement must be furnished.  
If irrigated land, surface bond of \$2000 is required.

NORA L. Lenny #47-UC-001, administered by BLM

\* DESCRIBE LEASE BY QTR. QTR. SEC. TOWNSHIP, RNC.  
Township 3 North, Range 66 West, 6th P.M.  
Section 36: A11 \*

\* Federal Lease COC-37842 and State Lease 87/4204-S

RECEIVED  
JUL 14 1994  
COLO. OIL & GAS CONSERV. COMM.

PLEASE FILL IN APPROPRIATE CODES:  
OPER. NO. 06530  
DRILL. NO. 28300  
FIELD NO. 90750  
LEASE NO. 87/4204-S  
FORM CD. JSND DK-J  
Cause 232, 499  
DJ Bessie

25. FRONT: Judith C. Davis  
SIGNED: Judy Davis TITLE: Lease Analyst DATE: 7-12-94

PERMIT NO. 941088 APPROVAL DATE: AUG 22 1994 EXPIRATION DATE: FEB 18 1995

APPROVED BY: [Signature] TITLE: Director DATE: 8/2/94  
DIR. OF NAT. RES. COMM.

CONDITIONS OF APPROVAL, IF ANY:

A.P.I. NUMBER  
0512318480

See Instructions On Reverse Side

COMPLY WITH ORDER 1-1-1. RUN RESISTIVITY-GR LOG FROM TOTAL DEPTH TO BASE OF SURFACE CASING.