

WATER PERMIT NO. 1734-1

Name of Applicant: Luff Exploration Company

Address: 1580 Lincoln St, Suite 850, Denver CO

Phone: 303 861-2468

Amount of Water Claimed: 20 gpm (0.044 cfs)

Total Acres: NA

Source of Water Supply: groundwater (one well)

Water to be used for: industrial use

County: Harding

Type of Waste Disposal System:

Location: approximately 20 miles northwest of Buffalo

PRIORITY Date Received: 8-7-2000

Fee: \$50

Corrected Application Received: 8-16-2000

Period of Annual Use: January 1 – December 31

Remarks: Secondary oil recovery project

Diversion Point: SW ¼ SW ¼

Sec 21-T22N-R4E

Land to be Irrigated: NA

Depth of Well: 9150 feet deep

Well Driller: : _

Remarks:

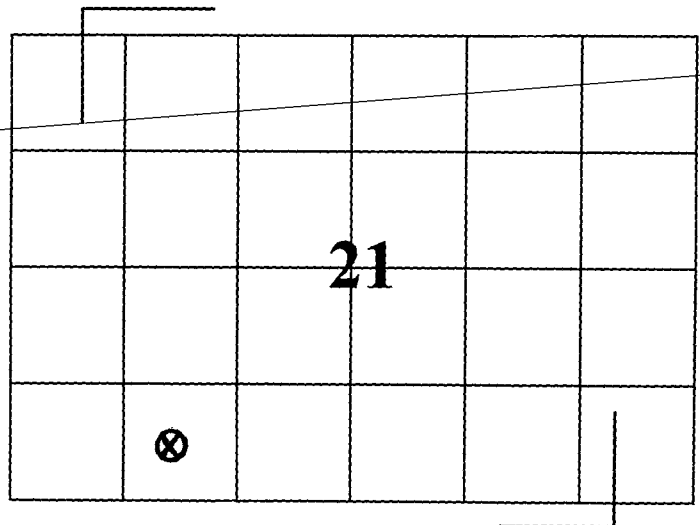
Type of Map: plat

Prepared by: Danny S Brosz, RLS

Reviewed and the Number Assigned on: 8-16-2000

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



**SOUTH DAKOTA
WATER PERMIT NO. 1734-1**

Date of first receipt of application August 7, 2000.

Date of return to applicant for corrections, amendments or changes August 7, 2000.

Date of receipt of corrected application August 16, 2000.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1734-1 to Luff Exploration Company, 1580 Lincoln Street, Suite 850, Denver CO 80203 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1734-1 appropriates 0.044 cubic feet of water per second (20 gallons per minute) from one well (Newcastle Sandstone Formation) 4,860 feet deep located in the SW ¼ SW ¼ Section 21-T22N-R4E.
2. The water appropriated shall be used for the purpose of industrial use in a secondary oil recovery project and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1734-1 is November 20, 2000.
5. The date from which applicant may claim right is August 7, 2000.
6. One-fifth of the construction is to be completed on or before May 20, 2003.
7. All construction is to be completed on or before November 20, 2005.
8. Water is to be put to beneficial use on or before November 20, 2009.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATION

The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

WATER MANAGEMENT BOARD

By: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JAN 02 2001

date



FORM 2: Application for uses other than irrigation
(type or print)

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>1734-1</u> (office use only)	Hydrologic Unit <u>10130302</u>
	Basin <u>Grand River</u>	
	Newspaper <u>Nation's Center News, Buffalo</u>	



Application For Permit To Appropriate Water Within The State Of South Dakota

Check use(s) of water:

☐ Municipal	☐ Suburban Housing	☐ Recreational	☐ Institutional
☐ Rural Water System	☐ Commercial	☐ Fish & Wildlife	☐ Geothermal Heat
☐ Domestic (over 18 gpm)	☒ Industrial	☐ Other	

Type of Application: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) _____

- Name of Applicant Luff Exploration Company Phone (303) 861-2468
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 1580 Lincoln Street, Suite 850, Denver State Colorado 80203
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 0.044 *CFS or 20 **GPM 32 ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable
- Source of water supply Well - Inya Cara/Dakota Formation
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
1 well in SW/4 SW/4 Section 21-T22N-R4E
County Harding
- County or counties where water will be used Harding
- Annual period during which water is to be used 365 days Jan. 1 - Dec. 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Water will be injected into the Red River formation of the N. Buffalo Red River Unit secondary oil recovery project as approved by the SD-DENR, Oil & Gas Program, Case 1-99 and the US Dept. of Interior, Bureau of Land Management, effective June 1, 1999. See Attachment.

STATE OF SOUTH DAKOTA)
County of Harding SS

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

I, Robert C. Arceneaux, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Robert C. Arceneaux

Subscribed and sworn to before me this 4th day of August 2000

C.M. Espinosa - Carpenter
Notary Public Signature

My commission expires: January 11, 2004

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 7 7/8" Depth 9150 ft
- b) Casing Type Steel Diameter 5 1/2" OD Thickness .275" & .304"
- c) Screen Type None Diameter _____ Thickness _____
- d) Gravel Pack None Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material 4700 ft
- f) Depth to Water (ground surface to water level) 615 ft
- g) Distance to nearest existing domestic well:
- On applicants property Not applicable On property owned by others Not applicable

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) Not applicable
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System _____

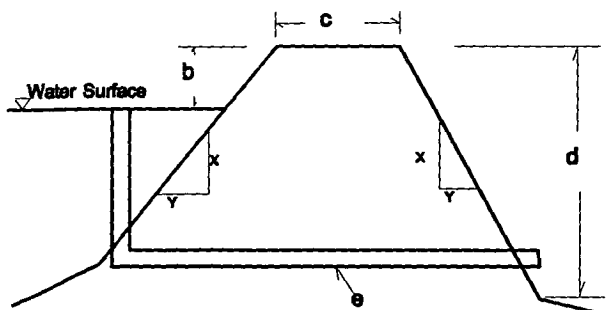
3. Dugout Information

- a) Surface Dimensions 400 Bbl Steel Tanks Depth Above ground
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:



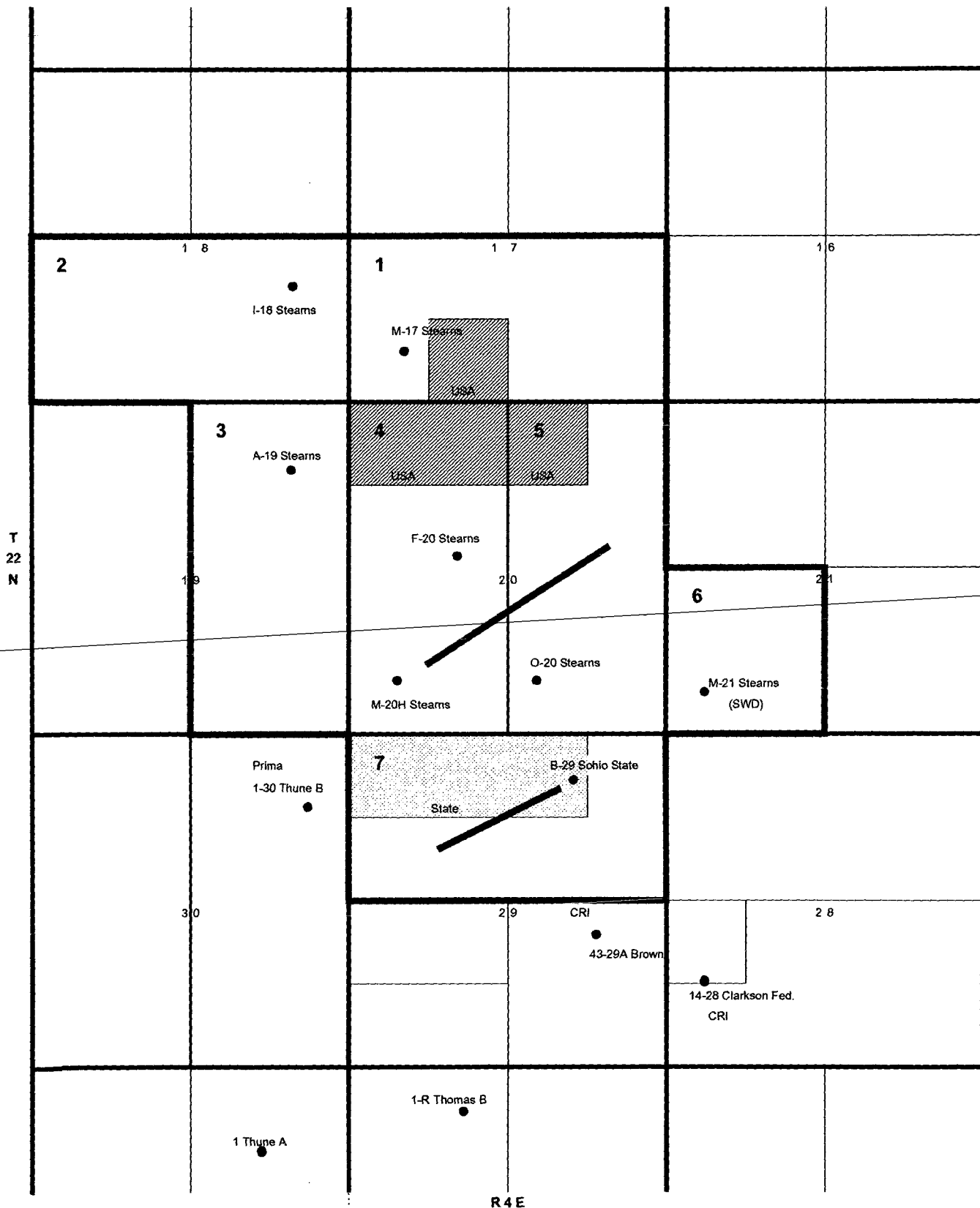
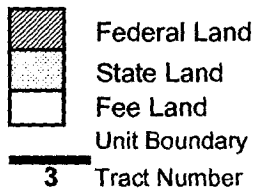
- b) Freeboard _____
- c) Crest Width _____
Crest Length _____
- d) Height _____
- e) Primary Outlet Capacity _____
If pipe, diameter _____
- f) Secondary Spillway Capacity _____
Spillway Width _____
- g) X & Y Slope _____
Upstream _____
Downstream _____
- h) Surface Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres

LUFF EXPLORATION COMPANY

North Buffalo Red River Unit

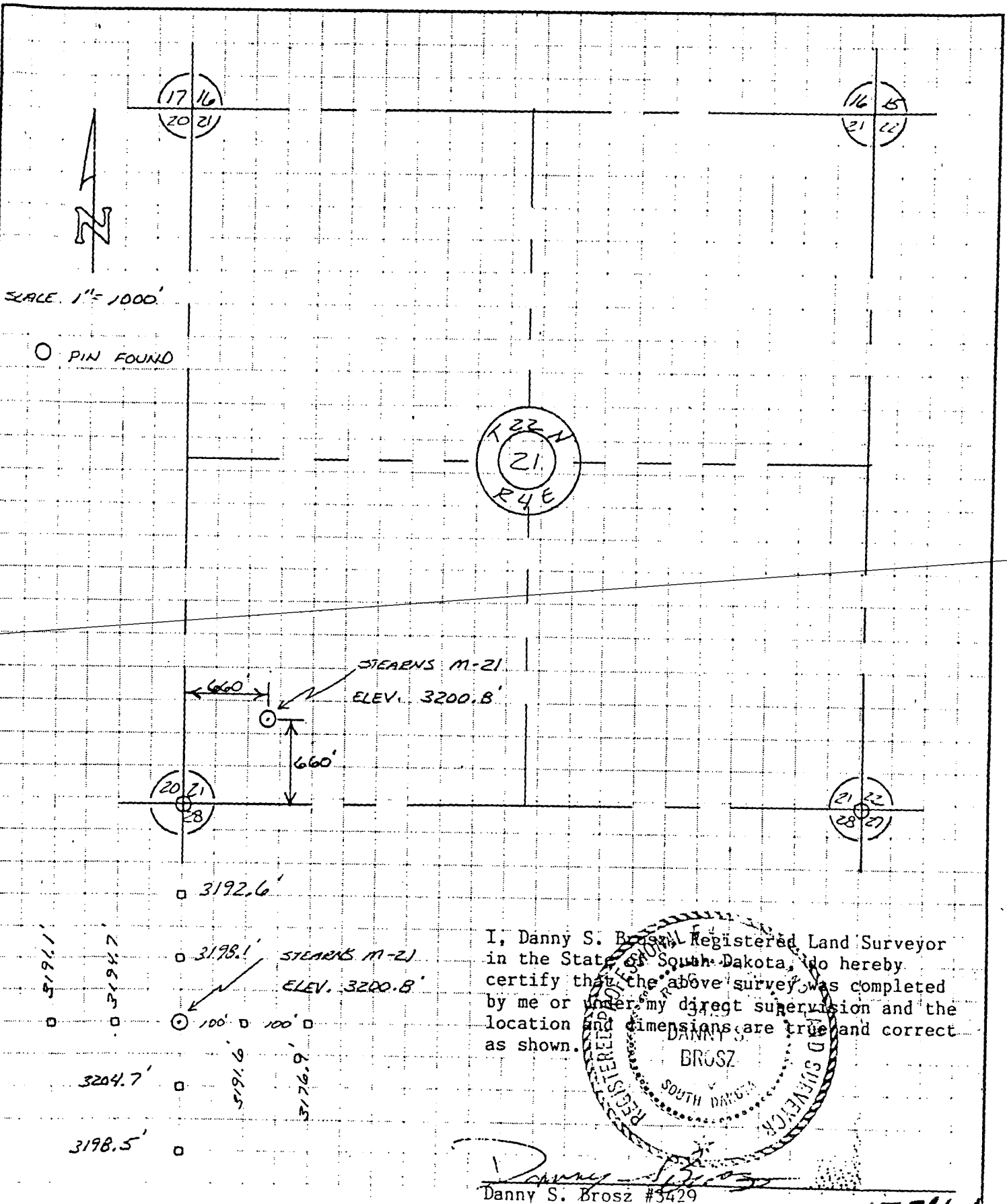
Buffalo Field - North Area

Harding County, South Dakota



BROSZ ENGINEERING
P.O. BOX 357
BOWMAN, NORTH DAKOTA 58623
(701) 523-3340

CLIENT LUEF CORPORATION
JOB M-21 STEARNS 660 FSL 660 FWL
LOCATION SEC 21 T22N R4E HARDING Co., SD
DRAWN BY PAULSON DATE 9-24-84



1734-1

LUFF EXPLORATION COMPANY

STEARNS M-21
SW SW SEC. 21, T22N, R4E
N. BUFFALO RED RIVER UNIT
HARDING CO. SOUTH DAKOTA

KB @ 3,211 ft.

GL @ 3,198 ft.

8-5/8" csg set at 2,058 ft. (KB)

Cemented w/ 925 sx

17# CSG TO 2468'

15.5# CSG FROM 2468' TO 5716'

STATIC FLUID LEVEL - 615'

PMPG FLUID LEVEL - 954'

CEMENT

CIBP @ 6360'

DV collar 6829 ft. (KB)

CIBP @ 7000'

5-1/2" casing set @ 9,150 ft.

T.D. 9,150 ft. (driller)

T.D. 9,152 ft. (logger)

CBL TOC @ 4100'

SQZE PERFS @ 4450'

RETRIEVABLE PACKER @ 4600'

SUBMERSIBLE PUMP

DAKOTA PERFS 4700'-80', 4785'-4860'

CMT RETAINER @ 5031'

SQZE PERFS @ 5100'

2nd STAGE TOC @ 5700'

PERFS 6406'-24'

1st STAGE TOC @ 6940'

CIBP @ 8860'

RED RIVER PERFS 8908'-22'

RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

N^o 416605

Pierre, _____ August 16, 2000

RECEIVED OF Luff Exploration Company, 1580 Lincoln St, Suite 850, Denver CO 80203
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>1734-1</u> to Appropriate Water, to construct and to put water to beneficial use _____	50	00
Fee for Application for Permit No. _____ to Appropriate Water, for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>1734-1</u> _____	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	100 00

By Garland Erbelev
Chief Engineer

13



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

DIVISION I

TEMPORARY PERMIT TO USE PUBLIC WATERS
FOR TESTING PURPOSES

This temporary permit to use public waters for testing purposes is issued to Luff Exploration Company, Attention: Richard George of 1580 Lincoln Street, Suite 850, Denver, CO 80203 authorizing withdrawal of 1,890,000 gallons of water at a maximum rate of 10,500 gallons per day from ground water (existing well) located in the SW ¼ SW ¼ Section 21, T22N, R4E, Harding County. The project involves test pumping a well to assess the production capacity and to size pumping equipment accordingly.

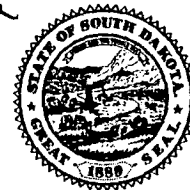
If the testing yields a sufficient water production rate, a regular water permit must be obtained prior to using the well for a water supply service. This temporary permit allows use of water for testing purposes only.

This temporary permit becomes effective February 11, 2000 and expires on August 11, 2000.

This permit does not provide necessary right-of-way. Such arrangements should be made with the proper land owner.

Issued: February 11, 2000

Garland Erbele, Chief Engineer
Water Rights Program
605 773-3352



c: Fred V Steece, Oil & Gas Program
Sheldon Hamann, Ground Water Quality Program
faxed: Richard George, Luff Exploration Company – (303) 861-2481

LUFF

EXPLORATION Co.

August 4, 2000



Department of Environment and Natural Resources
Water Rights Program
Joe Foss Bldg.
523 E. Capitol
Pierre, South Dakota 57501-3181

Attention: Mr. Garland Erbele

Re: Temporary Permit to Use Public Waters
Stearns M-21 Well
SWSW Sec. 21-22N-4E
Harding Co., South Dakota

Gentlemen:

Pursuant to the conditions of the current referenced temporary permit and the justification comments of our letter dated February 9, 2000, Luff Exploration Company hereby requests approval for long term use of public waters from the Stearns M-21 well.

During the six (6) month long test period, the performance of the well indicates that it is capable of producing an adequate quantity of water for use as a source of supplemental water for a secondary oil recovery project in progress in the North Buffalo Red River Unit. We anticipate that a second oil producing well will be converted to injection that will result in a need for additional water for injection into the Red River formation within the next 3-4 months.

During the test period, the well produced at the maximum permitted rate and exhibited a reduction in static fluid level from 615' to a producing level of only 954'. This small fluid level drawdown indicates that the well is capable of producing substantially higher daily volumes of water with no detrimental effect to the well.

Also, as stated in our letter of February 9, we wish to reiterate that this well will be used as a supply well and/or a water injection well, depending on the quantity of water available from the producing the oil wells. The attached schematic diagram of the wellbore shows the planned configuration of the downhole equipment that will facilitate this type of service. The diagram also shows all previous downhole completions and subsequent abandonment plugs and cement squeeze operations.

Under this configuration, the well can be used to supply water for the secondary recovery project by simply operating the downhole electric submersible pump to lift water to the surface. Conversely, during those times when a surplus of water is available, the downhole pump would be

August 4, 2000

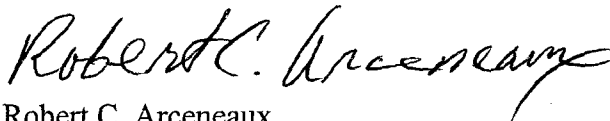
turned off and water would be pumped down the tubing, through the downhole pump and re-injected into the same formation (Dakota). By having a packer set above the downhole pump, it will be possible to perform a casing mechanical integrity test as required by the rules and regulations of the State Oil and Gas Board for injection wells.

Enclosed herewith is the Application For Permit To Appropriate Water Within The State Of South Dakota, Form 2, Supplemental Information Form 2-A and our check in the amount of \$150.00 for the application fee.

If you have any questions or if we have omitted any of the required information, please contact the undersigned at your earliest convenience.

Sincerely,

LUFF EXPLORATION COMPANY



Robert C. Arceneaux
Operations Manager

Enclosures

cc: Mr. Fred Steece
Dept of Natural Resources
Oil & Gas Program
2050 West Main, Suite 1
Rapid City, SD 57702

BLM – Dakotas District Office
2933 Third Avenue West
Dickinson, ND 59601



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

August 7, 2000

Robert C Arceneaux
Luff Exploration Company
1580 Lincoln St, Suite 850
Denver CO 80203

Dear Mr. Arceneaux:

Thank you for submitting the *Application for a Permit to Appropriate Water* for industrial use in Harding County, SD.

Enclosed is the check for \$150.00 submitted with the application. The application filing fee and licensing fee will be \$100.00.

Upon receipt of the correct fee, further processing of your application will continue. If you have any questions, please contact me.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352

enclosure

LUFF

EXPLORATION Co.



August 14, 2000

South Dakota Department of
Environment and Natural Resources
Water Rights Program
Joe Foss Building
Attn: Karen Schlaak
523 East Capitol
Pierre, SD 57501-3181

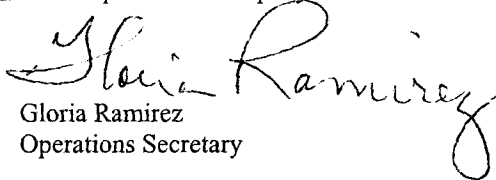
Dear Ms. Schlaak:

Per your letter dated August 7, 2000, enclosed is a check for \$100.00 to cover the application filing fee and licensing fee for the M-21 Stearns Application.

Call this office if you have any questions.

Sincerely,

Luff Exploration Company


Gloria Ramirez
Operations Secretary

Enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1734-1, Luff Exploration**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 1734-1, Luff Exploration, c/o Robert, C. Arceneaux, 1580 Lincoln Street, Suite 850, Denver, CO 80203.

The Chief Engineer is recommending APPROVAL of Application No. 1734-1 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualification:

The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

See report on application for additional information.

Garland Erbele, Chief Engineer
October 20, 2000

WATER PERMIT APPLICATIONS NO. 1734-1
LUFF EXPLORATION COMPANY
SEPTEMBER 11, 2000

Water Permit Application No. 1734-1 proposes to appropriate 0.044 cubic feet of water per second (cfs) [20 gallons per minute (gpm)] from one well, 4860 feet deep, located in the SW¼ SW¼ of Sec. 21, T22N-R4E, Harding County. The water is for industrial use in a secondary oil recovery project.

AQUIFER: Newcastle Sandstone (NCSL)

GENERAL:

The water source proposed by this application is the "Inya Cara/Dakota Formation". In the Williston Basin, the term "Dakota" is commonly applied to a Cretaceous aged sandstone formation that is often incorrectly considered the stratigraphic equivalent of the Inyan Kara Group. However, neither the name nor the correlation appears to be accurate. There has been considerable debate by geologists concerning the Dakota and the current "final word" on the subject is discussed in detail in a report entitled Geology and Hydrology of the Dakota Formation in South Dakota (Schoon, 1971). The Dakota sandstone as described by Schoon (1971), underlies most of South Dakota but does not extend west as far as Harding County. The sandstone identified as the "Dakota" in this application is approximately age equivalent to and can be considered the Newcastle Sandstone (Schoon, 1971).

The Newcastle sandstone is a ~~marine sandstone~~, siltstone, shale and claystone, which is generally less than 100 feet thick. The top of the Newcastle is 4650 feet below grade at this well (McGillivray, personnel communication). The Newcastle underlies approximately 1.7 million acres in Harding County and contains an estimated 9.6 million acre-feet of recoverable water in storage (Allen, 1984). Actual geohydrologic properties of the aquifer are unknown.

EXISTING WATER RIGHTS:

There is one existing Water Right appropriating water from the Newcastle sandstone in Harding County. This Water Right (1350-1), appropriates 0.10 cfs for an oil field water flood project, and is located approximately seven and one-half miles south west of the well to be used by this application.

CONCLUSIONS:

1. The data suggest water is available from the Newcastle sandstone.
2. Interference will not be a problem. The only other appropriation from the Newcastle in Harding County is located approximately seven and one-half miles from this well.

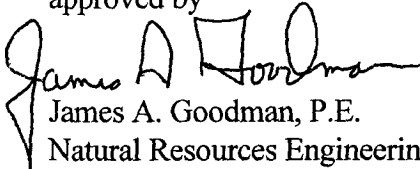
3. The information provided with this application indicates that this well was completed in typical oil well fashion, (i.e. the surface casing was grouted in and the lower portion of the production casing was grouted). There is approximately 2,000 feet of casing that was not grouted in this well. This construction does not meet the SD Well Construction Standards.



Ken Buhler

Natural Resources Engineering Specialist

approved by



James A. Goodman, P.E.

Natural Resources Engineering Director

REFERENCES:

Allen, J.C., D.Iles, A.Petres, 1984, Analysis of Groundwater and Streamflow Data, Western Dakotas Region of South Dakota, Task 3 & 4: Groundwater Resources Inventory, US Army Corps of Engineers Contract DAWC 45-82-C-015, SD DENR- Geological Survey, Vermillion SD

Schoon, R.A., 1971, Geology and Hydrology of the Dakota Formation in South Dakota, Report of investigations No. 104, SD DENR- Geological Survey, Vermillion SD



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.

October 24, 2000

Luff Exploration Company
c/o Robert C Arceneaux
1580 Lincoln St
Suite 850
Denver CO 80203

Dear Mr. Arceneaux:

Water Permit Application No. 1734-1 for industrial use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Nation's Center News printed at Buffalo, SD (Ph # 605 375-3228). For your information, a copy of the notice, the recommendation of the Chief Engineer and a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,


Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

October 24, 2000

Nation's Center News
Box 107
Buffalo SD 57720-0107

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 1734-1 to Appropriate Water to be published twice. Please publish the first notice on November 2, 2000 with the second publication 7 days later.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Luff Exploration Company, c/o Robert C Arceneaux, 1580 Lincoln St, Suite 850, Denver CO 80203 (Ph # 303 861-2468).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

~~After the second publication, please send us an affidavit or use the enclosed Proof of Publication form.~~ The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CU T HERE-----

No. 1734-1

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of October 24, 2000 enclosing Notice of Hearing to Appropriate Water by Application No. 1734-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper

Instruction to Newspaper - Publish first Notice on November 2, 2000 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1734-1 to Appropriate Water

Notice is given that Luff Exploration Company, 1580 Lincoln Street, Suite 850, Denver CO 80203 has filed an application for a water permit to appropriate 0.044 cubic feet of water per second (20 gallons per minute) from one well (Newcastle Sandstone Formation) 4,860 feet deep located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 21-T22N-R4E. The water is for industrial use in a secondary oil recovery project.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1734-1 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by November 20, 2000.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, ~~the petitioner's reasons for opposing or supporting the application,~~ and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Water Rights Program - File Documentation

NAME: Luff Exploration Company

ADDRESS: Denver CO

DATE: 11-6-2000 **COUNTY:** HD **TELEPHONE:**

RE: Publication Notice

COMMENTS:

I called Lucy with Nation Center News for the 1st clipping. She informed me they did not receive the notice and were not contacted by the applicant either.

I resent the notice to be published on November 16 & 23, 2000. I put a note on the applicant letter that they needed to contact the paper to authorize publication.

Karen Schlaak

Karen Schlaak
Environmental Scientist



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

November 6, 2000

Nation's Center News
Box 107
Buffalo SD 57720-0107

ATTENTION: Legal Public Notice

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After the second publication, ~~please send us an affidavit or use the enclosed Proof of Publication form.~~ The applicant ~~pays the cost of publication,~~ but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CU T HERE-----

No. 1734-1

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of November 6, 2000 enclosing Notice of Hearing to Appropriate Water by Application No. 1734-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

**NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.**

November 6, 2000

Luff Exploration Company
c/o Robert C Arceneaux
1580 Lincoln St
Suite 850
Denver CO 80203

Dear Mr. Arceneaux:

Water Permit Application No. 1734-1 for industrial use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Nation's Center News printed at Buffalo, SD (Ph # 605 375-3228). For your information, a copy of the notice is enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish first Notice on November 16, 2000 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1734-1 to Appropriate Water

Notice is given that Luff Exploration Company, 1580 Lincoln Street, Suite 850, Denver CO 80203 has filed an application for a water permit to appropriate 0.044 cubic feet of water per second (20 gallons per minute) from one well (Newcastle Sandstone Formation) 4,860 feet deep located in the SW ¼ SW ¼ Section 21-T22N-R4E. The water is for industrial use in a secondary oil recovery project.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1734-1 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by December 4, 2000.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
 County of Harding)
 I, Shirley Rehm

certify that the attached printed Notice was taken

from the Nation's Center News

printed and published in City of Buffalo

County of Harding and

state of South Dakota. The notice was published

in the newspaper on the following two dates:

Nov. 2, 2000

Nov. 9, 2000

Cost of Printing \$34.36

Shirley A. Rehm
 (Signature)

Acts Receivable Clerk
 (Title)

11/9/00
 (Date Signed)

NOTICE OF APPLICATION
 NO. 1734-1

to Appropriate Water

Notice is given that Luff Exploration Company, 1580 Lincoln Street, Suite 810, Denver CO 80203 has filed an application for a water permit to appropriate 0.044 cubic feet of water per second (20 gallons per minute) from one well (Newcastle Sandstone Formation) 4,860 feet deep located in the SW 1/4 SW 1/4 Section 21-T22N-R4E. The water is for industrial use in a secondary oil recovery project.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1734-1 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by November 20, 2000.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner of the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application.

Steven M. Pirner, Secretary,
 Department of Environment and Natural Resources.

#224
 Nov. 2, 9





JAN 02 2001

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

Luff Exploration Company
1580 Lincoln Street, Suite 850
Denver CO 80203

Dear Sir:

Enclosed is Water Permit No. 1734-1 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

~~An informational sheet *Common Water Right Questions* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.~~

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures



SUNDRY NOTICE AND REPORT ON WELLS

Operator Name
LUFF EXPLORATION COMPANY

Telephone
303-861-2468

Address
1580 LINCOLN ST., SUITE 850 DENVER, CO 80203

Permit #	API No.	Well Name and Number	Location (Qtr-Qtr, Sec, Twp, Rge, County)
Wtr. Pmt. 1734-1	40-063-20415.01	STEARNS M-21	SWSE 21-22N-4E HARDING CO.

Notice of Intention To:

☐	Temporarily Abandon
☐	Plug and Abandon
☐	Pull, Alter, or Test Casing
☐	Perforate
☐	Acidize
☐	Fracture Treatment
☐	Squeeze Cement
☐	Other _____

Subsequent Report of:

☐	Drilling Progress
☐	BOP Pressure Test/Program
☐	Gas/Oil Ratio
☒	Work-Over (Perf, Frac, Acidize)
☐	Shut-In Pressure
☐	Spill
☐	Mechanical Integrity Test
☒	Other <u>Convert to Wtr. Supply</u>

Request for change of:

☐	Location
☐	Elevation
☐	Producing Method
☐	Producing Formation
☐	Injection Pressure
☐	Injection Volume
☐	Injection Fluid
☐	Other _____

Describe Proposed or Completed Operations (clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). Use additional page(s) if appropriate.

Pulled tubing and packer. Set CIBP @ 8700' to isolate Red River horizontal lateral. Perforated Dakota fm. 4700' - 4780' and 4785' - 4860' w/4 JSPF. Treat perms. w/4000 gals 15% HCL. Max. rate 5 BPM @ 950 psi. Swabbed back all load. Ran tubing bore pump. Landed tbg @ 4897'. Ran plunger and rods. Repairing fiberglass tanks damaged by high winds before placing well on production.

I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operation.

Robert C. Arceneaux
Signature

ROBERT C. ARCENEUX
Name (Print)

OPERATIONS MGR.
Title

11-21-05
Date

FOR OFFICE USE ONLY

Approved by:

Title:

Date:

NOV 28 2005

Conditions, if any:

RECEIVED

NOV 23 2005

DEPT OF ENVIRONMENT & NATURAL
RESOURCES - RCRO