

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS WELL LOG ELECTRIC LOGS FILE WATER SANDS LOCATION INSPECTED SUB REPORT/abd

Oil Property - ...

DATE FILED 2-20-90

LAND FEE & PATENTED STATE LEASE NO PUBLIC LEASE NO INDIANNOG 8702-1116

DRILLING APPROVED 2-26-90 (EXCEPTION LOCATION)

SPOUDED IN

COMPLETED PUT TO PRODUCING

INITIAL PRODUCTION

GRAVITY API

GOR

PRODUCING ZONES

TOTAL DEPTH

WELL ELEVATION

DATE ABANDONED *DA 0-7-94*

FIELD UNDESIGNATED

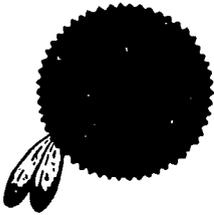
UNIT

COUNTY SAN JUAN

WELL NO LIGHTING ROCK #2J-1 API NO. 43-037-31504

LOCATION 1455' FSL FT FROM (N) (S) LINE 2010' FEL FT FROM (E) (W) LINE NWSE 1/4 - 1/4 SEC 2

| TWP | RGE | SEC | OPERATOR | TWP | RGE | SEC | OPERATOR |
|-----|-----|-----|-----------------------|-----|-----|-----|----------|
| 42S | 25E | 2 | CHUSKA ENERGY COMPANY | | | | |



CHUSKA ENERGY COMPANY

315 N BEHREND • FARMINGTON, NEW MEXICO 87401 • PH: ONE: (505) 326-5576

RECEIVED
FEB 20 1990

DIVISION OF
OIL, GAS & MINING

February 15, 1990

State of Utah Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Building, Suite 350
Salt Lake City, Utah 84180-1203

Ref: Application for Permit to Drill: Lighting Rock 2J-1 Well,
San Juan County, Utah

Gentlemen

Attached for your examination and approval is the original and two copies of an Applications for Permit to Drill the Lighting Rock 2J Well No. 1 in San Juan County, Utah. This well will be drilled as part of an ongoing exploration program.

The location for this well falls outside the guidelines for the State of Utah spacing requirements. However, the site has been selected so as to allow the well bore to penetrate geological structures which have been identified by seismic interpretation. We therefore apply for an exception to the General State Spacing requirements on these grounds. The acreage surrounding the proposed site is either controlled by Chuska Energy or is open Tribal land, as indicated on the attached land plat.

Please advise if you require additional information concerning this application. Chuska will greatly appreciate your prompt consideration.

Sincerely,

Donald S. Barnes
Operations Manager

DSB/csw

File: C:\WP\CSWH\LROCK2J1\UTAHCOVR

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1. Type of Work
 DRILL DEEPEN PLUG BACK

2. Type of Well
 Oil Well Gas Well Other

3. Name of Operator
 Chuska Energy Company

4. Address of Operator
 315 North Behrend, Farmington, New Mexico 87401

5. Location of Well (Report location clearly and in accordance with any state requirements)
 At surface: 1455' FSL, 2010' FEL
 At proposed prod zone: Same

6. Distance in miles and direction from nearest town or post office
 None

7. Distance from proposed location to nearest property or lease line, ft (Also to nearest title line if any)
 4598' *ft.*

8. Distance from proposed locat on* to nearest well, drilling completed, or applied for, on this lease ft.
 5898' *GR*

9. Elevations (Show whether DT, RT, GR, etc.)
 4598' *ft.*

10. Lease Designation and Serial No.
 NOG 8702-1116

11. If Indian Allottee or Tribe Name
 Navajo Tribal

12. Unit Agreement Name
 Lighting Rock

13. Farm or Lease Name
 2J-1

14. Field and Pool or Wildcat
 Wildcat Undesignated (009)

15. 30 Sec. T, R, N or S1/4 and Survey or Area
 S2 T42S R25E

16. County or Parish
 San Juan

17. State
 Utah

18. No of acres in lease
 19. Proposed depth
 20. Rotary or cable tools
 Rotary

21. Approx date work will start*
 5-15-90

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 | 500' | 371 sx 'G' + 2% CaCl ₂ |
| 7-7/8" | 5-1/2" | 15.5 | 5898' | 739 sx 'G', 65:35 Poz + 6% Gel |

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 prevention program, if any.

I hereby certify that this report is true and complete to the best of my knowledge. (1507326-5525)

Signature: *Donald S. Barnea* Title: Operations Manager Date: 2-15-90

(This space for referral or State office use)

APT NO: 43 037-31504 Approval Date: _____

Approved by: _____ Title: _____
 Conditions of approval if any: _____

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 2-26-90
WELL SPACING: 1-1/2-3-3

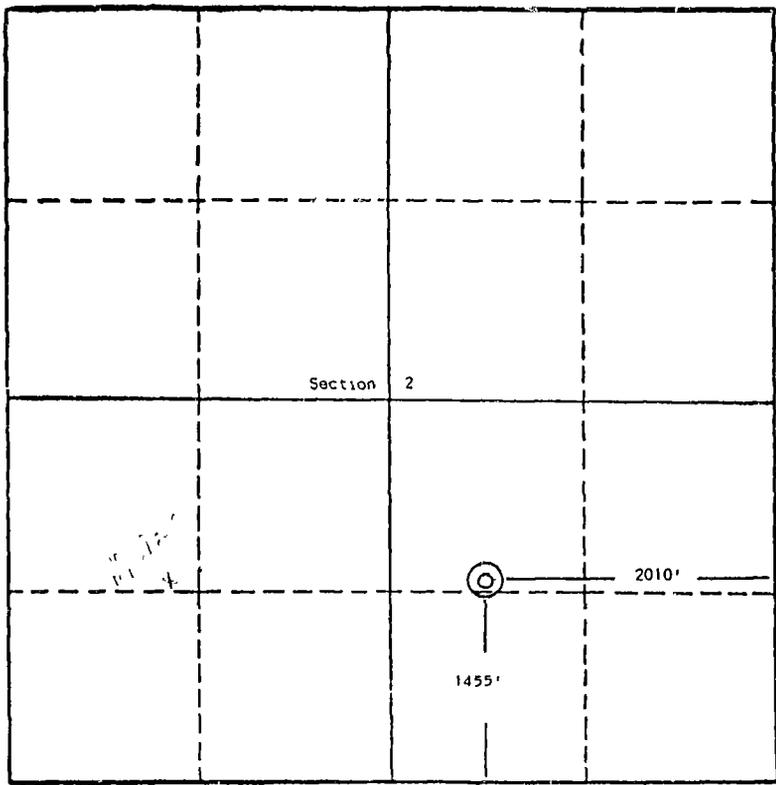
Company Chuska Energy Company

Well Name & No. Lightning Rock 2 J #1

Location 1455' F/SL 2010' F/EL

Sec. 2, T. 42 S., R. 25 E., S. L. M., County San Juan, Utah

Ground Elevation 4598



Scale, 1 inch = 1,000 feet

Surveyed February 12, 1990

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.



Edgar L. Risenhoover
Edgar L. Risenhoover
Registered Land Surveyor
New Mexico Reg. No. 5979

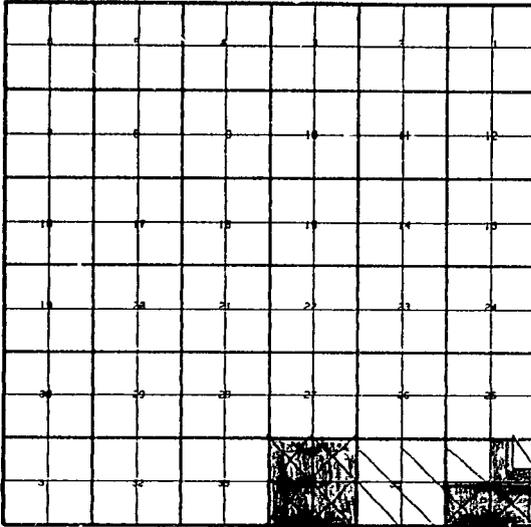
Non-resident certification as authorized by Utah State Law 58-22-21(b)

SAN JUAN COUNTY UTAH

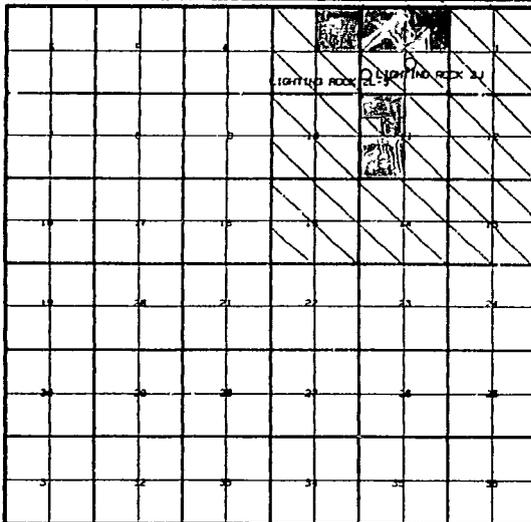
MAP LEGEND

-  OGD Storage
-  new OGD Storage
-  Fossil Fuels
-  Open Lands
-  Areas of Interest

T41S-R25E



T42S-R25E



CHUSKA ENERGY COMPANY

10 POINT DRILLING PLAN

Lighting Rock 2J Well No. 1
Section 2, Township 42S, Range 25E
1455' FSL, 2010' FEL
San Juan County, Utah

1. SURFACE FORMATION

Geological name of surface formation: Morrison.

2. ELEVATION

Surface elevation is 4,598 GR.

3. ESTIMATED FORMATION TOPS

| <u>Depth</u> | <u>Formation</u> | <u>Sub Sea Elevation</u> |
|--------------|------------------|------------------------------|
| Surface | Morrison | + 4598' |
| 648' | Navajo | + 3950' |
| 1378' | Chinle | + 3220' |
| 2498' | DeChelly | + 2100' |
| 2723 | Organ Rock | + 1875' |
| 3373 | Cedar Mesa | + 1225' |
| 4438 | Hermosa | + 160' |
| 5303 | Upper Ismay | - 705' |
| 5403' | Lower Ismay | - 805' Secondary Target |
| 5493' | Desert Creek | - 895' Primary Target |
| 5613 | Akah | - 1015' |
| 5898 | Total Depth | - 1300' |

4. PROPOSED CASING/CEMENTING PROGRAM

| | <u>Depth</u> | <u>Size</u> | <u>Weight</u> | <u>Grade</u> | <u>Coupling</u> |
|-------------|--------------|-------------|---------------|--------------|-----------------|
| Surface | 500' | 8 5/8" | 24.0 ppg | K-55 | STC |
| Production: | 5,898 | 5 1/2" | 15.5 ppg | K-55 | STC |

Surface Cementing:

371 sx (427 ft³) Class G' cement with 2% CaCl₂ and 1/4 lb/sk Celloflake. Weight = 15.8 ppg, yield = 1.15 ft³/sk. Slurry volume will be calculated at 100% excess over annular volume.

Production Cementing:

First Stage

TD to 3500 (stage collar @ ± 3500). Lead with 168 sx Class G cement, 65:35 Pozmix with 6% gel and 1/4 lb/sk Celloflake. Weight = 12.7 ppg, yield = 1.85 ft³/sk. Tail with 100 sx Class G cement with 2% CaCl₂. Weight = 15.8 ppg, yield = 1.15 ft³/sk. Total of 426 ft³.

Second Stage

3500 to surface. Lead with 271 sx Class 'G' cement, 65:35 Pozmix with 6% gel and 1/4 lb/sk Celloflake. Weight = 12.7 ppg, yield = 1.85 ft³/sk. Tail with 100 sx Class 'G' cement with 2% CaCl₂. Weight = 15.8 ppg, yield = 1.15 ft³/sk. Total of 616 ft³.

Note: Exact slurry volumes for the production string will be adjusted according to the caliper log which will be run prior to cementing. Special adjustments may be necessary if significant amounts of salt are drilled.

5. BLOWOUT PREVENTER (See attached schematics)

As abnormal pressure is not anticipated, a 2000 psi BOP system would be sufficient for the drilling of this well. However, due to availability constraints, a 3000 psi system will be used, as per the attached Exhibits "A" and "B". This will be a 10" x 900 Series double ram preventer, equipped with a set of pipe and blind rams.

An accumulator system, with a pressure capacity sufficient to operate the rams three complete cycles without rig power, will be required as part of the rig equipment.

6. PROPOSED MUD PROGRAM

Surface to 3500'

Fresh water, gel, lime and native solids. Weight 8.3 - 8.7 ppg. Gel/lime sweeps as necessary for hole cleaning.

3500' to Total Depth

Low solids, non-dispersed polymer system. Weight 8.6 - 8.8 ppg. Gel/lime sweeps as hole conditions dictate for hole cleaning. Fluid loss to be maintained at 15 cc or less. Fluid loss to be further reduced to 10 cc or less prior to coring, logging or DSTs.

7. AUXILIARY EQUIPMENT

- A. A kelly cock will be installed during drilling operations, with handle available on the rig floor.
- B. Floor (stabbing) valves will be available, on the rig floor at all times, with necessary subs to fit all of the drilling assemblies.
- C. Mud will be the circulating fluid. No abnormal formation pressures are expected.

8. WELL EVALUATION

Open hole electric logging program will consist of a minimum program of DLL-MSFL-SP-GR-Cal, FDC-CNL-GR-Lithodensity from TD to 4000 .

Drill stem testing will be as per the wellsite geologist's recommendations, based on shows. A mud logging unit will be utilized during drilling operations from 4000' to TD.

9. ABNORMAL PRESSURES/GAS

Abnormal pressures are not anticipated. Monitoring of gas and hydrocarbon shows will be by wellsite mud logging unit. H₂S gas is not anticipated, however regular checks will be made while drilling the well.

10. TIMING

The drilling and evaluation of this well is estimated to be 18 days. Anticipated spud date is 5-15-90.

EXHIBIT "A"
BLOWOUT PREVENTER

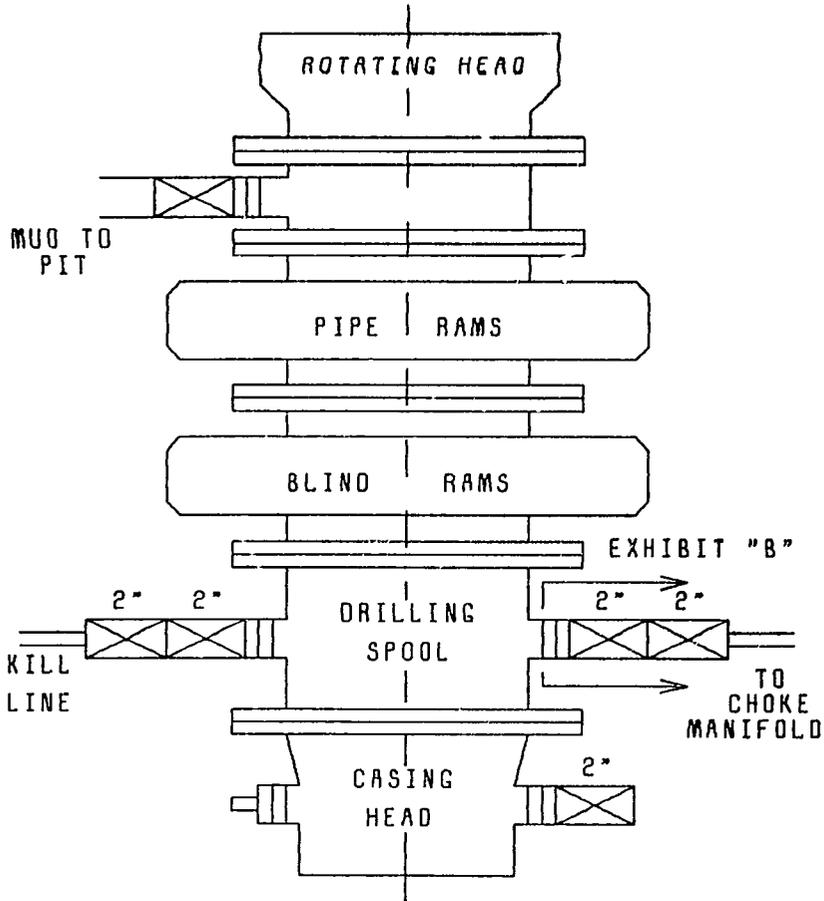
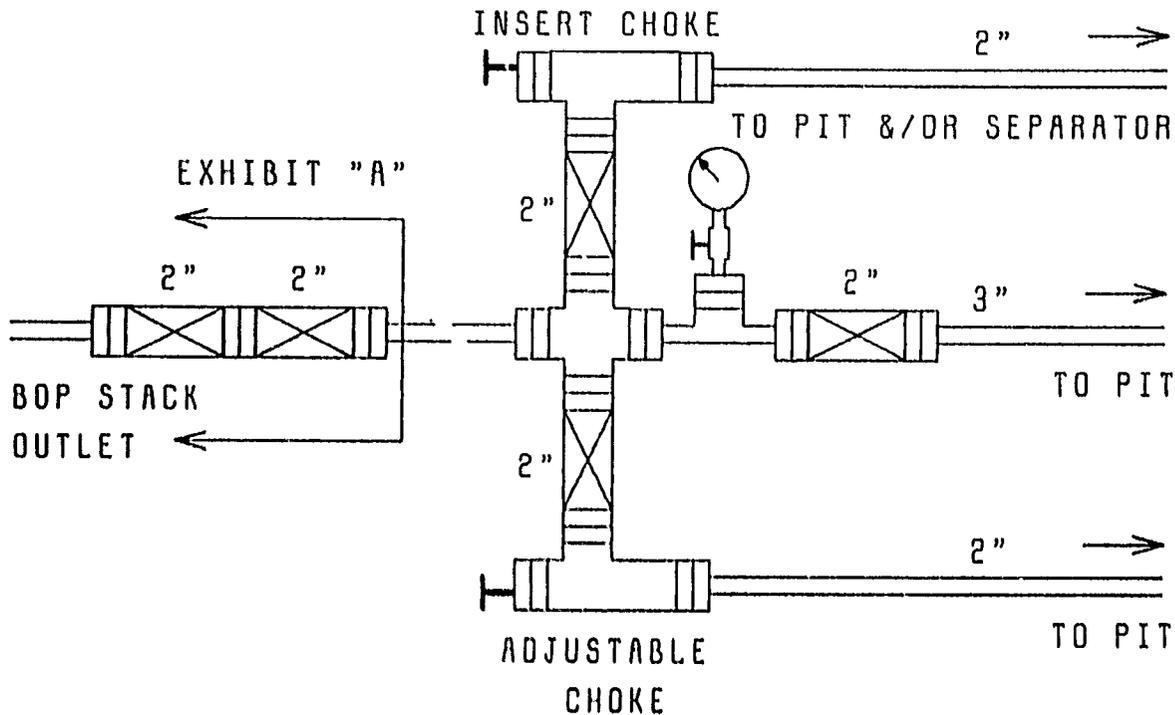


EXHIBIT "B"
CHOKE MANIFOLD



DETAILED DRILLING PROGRAM

DATE: February 15, 1990

WELL NAME: Lighting Rock 2J WELL NO.: 1

LOCATION: Section 2, Township 42S, Range 25E
1455' FSL, 2010' FEL
San Juan County, Utah

ELEVATION: 4,598 GR

TOTAL DEPTH: 5,898'

PROJECTED HORIZON: Primary target is Desert Creek at 5,493'
Secondary target is Lower Ismay at 5,403'

DRILLING, CASING AND CEMENTING PROGRAM

1. Move in and rig up rotary tools. Notify BLM of time of spud and intent to run surface casing.
2. Drill mouse hole and rat hole. Mix mud prior to spudding well.
3. Drill 12 1/4" hole to \pm 500'. Use fresh water gel/lime spud mud for drilling surface hole. Well bore inclination is not to exceed 1 at 500'. Deviation surveys will be run at least at 250' and at casing point.
4. Run 8 5/8", 24 ppf, K-55, STC casing to TD. Cement with 371 sx (427 ft³) of Class 'G' cement with 2% CaCl₂ and 1/4 lb/sk Celloflake (sufficient slurry volume to circulate cement to surface).
5. W.O.C. a minimum of 4 hours prior to nipping up BOP stack and related equipment. See BOP schematics for details.
6. Pressure test BOP to 2,000 psi for 30 minutes. Pressure test manifold and all related equipment to 2,000 psi. Pressure test casing to 1,500 psi for 30 min.
7. Drill out surface casing with 7 7/8" bit. Drill 7 7/8" hole to TD. Deviation surveys are to be taken every 500' or on a bit trip, whichever occurs first. Maximum allowable deviation will be 5 at TD, with the maximum allowable rate of change to be 1/100'.
8. Run open hole logs and evaluate. Drill stem testing will be as per the wellsite geologist's recommendation.

9. If the well is determined to be productive, run 5 1/2", 15.5 ppf, K-55, STC casing to TD. Set stage cementing collar at \pm 3,500'. Cement in two stages as per cementing program in 10-point Drilling Plan.
10. Nipple down BOPE. Set 5 1/2" casing slips and cut off casing. Install well head. Release drilling rig and move rig off location.
11. If well is non-productive it will be plugged and abandoned as per State, BLM and Navajo Tribal stipulations.

Lighting Rock 2J Well No. 1
Section 2, Township 42S, Range 25E
1455 FSL, 2010 FEL
San Juan County, Utah

GENERAL COMPLETION PROCEDURE

If the well is determined to be productive, move in completion rig. Perforate, acidize, and test each productive porosity zone. Completion work will commence after Sundry Notice approval is received. Detailed procedures will follow.

PLUGGING AND ABANDONMENT

If the well is determined not to be productive, the well bore will be plugged as per BLM, State and Navajo Tribal requirements.

Lighting Rock 2J Well No. 1
Section 2, Township 42S, Range 25E
1455' FSL, 2010' FEL
San Juan County, Utah

SURFACE USE PLAN

1. EXISTING ROADS

Shown on the attached topographic map are the existing roads in the immediate area. Outlined is the route to be followed from Aneth. Existing roads will be maintained, as necessary, while operations are in progress.

2. PLANNED ACCESS ROAD (SHOWN IN RED)

The access road will be as shown on the attached topographic map. The road will be flat bladed, constructed 14' in width and will be maintained as necessary to prevent excessive damage to the existing terrain. The road will be upgraded if commercial production is established. Approximately 4,300' of new road will be required to be constructed to the location pad. This road will also service the Lighting Rock 2L-3 well.

3. LOCATION OF EXISTING WELLS & TANK BATTERIES

There are no other wells or facilities in the area.

4. LOCATION OF EXISTING AND PROPOSED FACILITIES

No production facilities are presently in place. Should the well prove to be productive, facilities (tank battery etc) will be sited on the drilling location pad.

5. LOCATION & TYPE OF WATER SUPPLY

Water will be acquired from a private source. The water will be hauled from a flowing well permitted to Hay Hot Oil Inc., permitted under Water Right 09-1419, A60809.

6. SOURCE OF CONSTRUCTION MATERIALS

The need for additional construction materials is not anticipated. In the event that additional materials are required, they will be acquired either from private sources or with the approval of the Navajo Nation.

7. METHODS OF HANDLING WASTE MATERIAL

Trash will be contained on location in an enclosed bin. It will be hauled to an approved disposal site or burned on location if a burning permit is granted. The reserve pit will be lined, with an approved 7 mil liner, for containing drilling fluids. The pit will also be fenced. All drilling fluids, cuttings and chemical waste will be stored in the reserve pit. Liquid hydrocarbons will be stored in temporary storage tanks and hauled from location to approved sales facilities. The reserve pit will be emptied, back filled and restored to natural terrain status upon completion of drilling operations.

8. ANCILLARY FACILITIES

Chemical portable toilet facilities will be provided on location during drilling and completion operations. No camps or air strips are planned for this well.

9. WELL SITE LAYOUT

Attached is a surveyor's staking plat, cut and fill requirements and a schematic of the proposed rig layout.

10. PLANS FOR RESTORATION OF THE SURFACE

The location is laid out on a generally east/west trend and will require minimal cut (5' on the north east corner to 1' on the north west corner) and no fill. Top soil removed from the pad will be stored at the well site. A reserve pit will be built on terrain containing sparse native vegetation. After drilling operations are complete, drilling fluid in the reserve pit will be allowed to evaporate. All remaining fluid in the pit will be disposed of into an approved disposal site. The reserve pit will remain fenced during the evaporation and disposal process. The pit will then be covered and the topsoil will be returned to the disturbed area. The terrain will be returned as near to its original condition as possible. Following operations, rehabilitation seeding will be in accordance with APD/BLM/BIA stipulations. There are no residents in the immediate area of the site.

11.

OPERATORS REPRESENTATIVE

CHUSKA ENERGY COMPANY
315 NORTH BEHREND AVENUE
FARMINGTON, NEW MEXICO 87401
DONALD S. BARNES

12. CERTIFICATION

I hereby certify that either I, or persons under my direct supervision have inspected the proposed drill site and access route: that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct and that the work planned will be performed by Chuska Energy, or its sub-contractors, in conformity with the terms and conditions under which it is approved.



DONALD S. BARNES
Operations Manager

CHUSKA ENERGY COMPANY

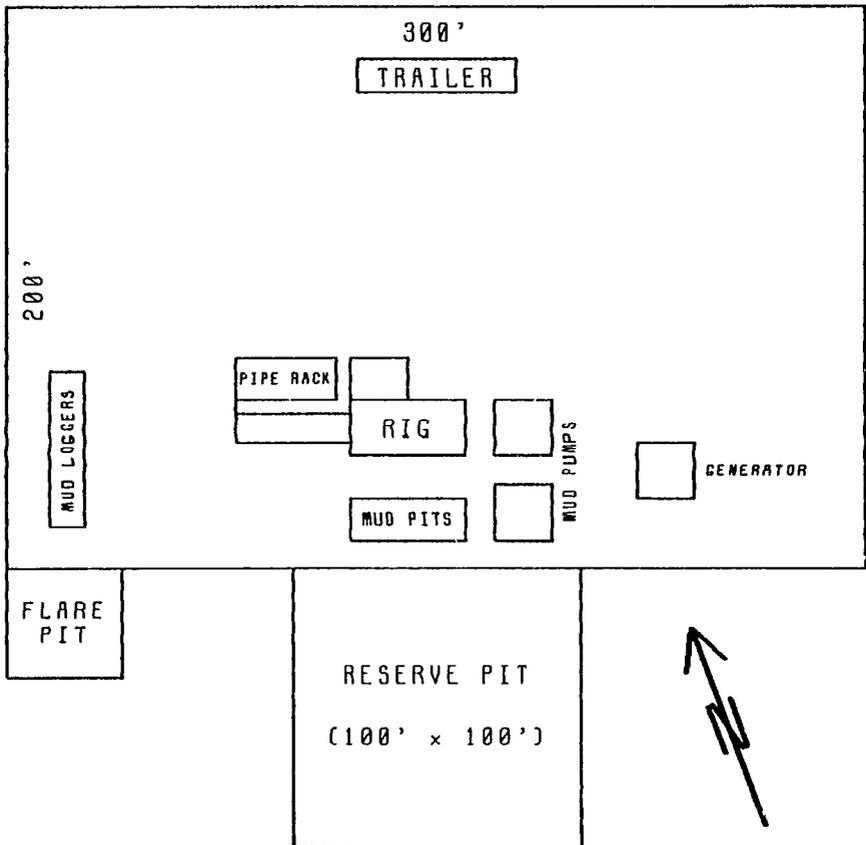
LOCATION LAYOUT

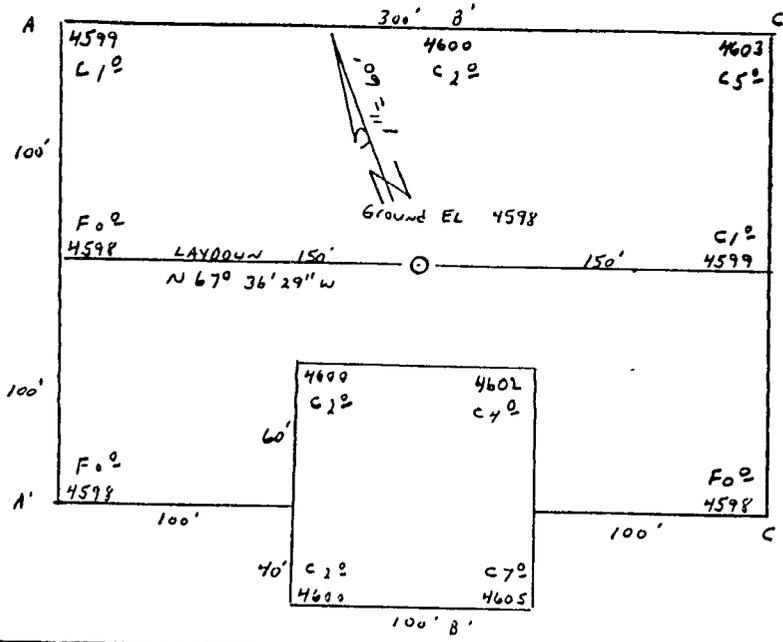
LIGHTING ROCK 2J-1

1455' FSL, 2010' FEL

SECTION 2, TOWNSHIP 42S, RANGE 25E

SAN JUAN COUNTY, UTAH





Chuska Energy Company
OPERATOR

Lightning Rock 2 J #1
BELL NAME & NO.

1435' F/SL 2010' F/EL

FOOTAGES

2 42S 25E
SEC. TWP. RGE.

San Juan, Utah
COUNTY

February 12, 1990
DATE

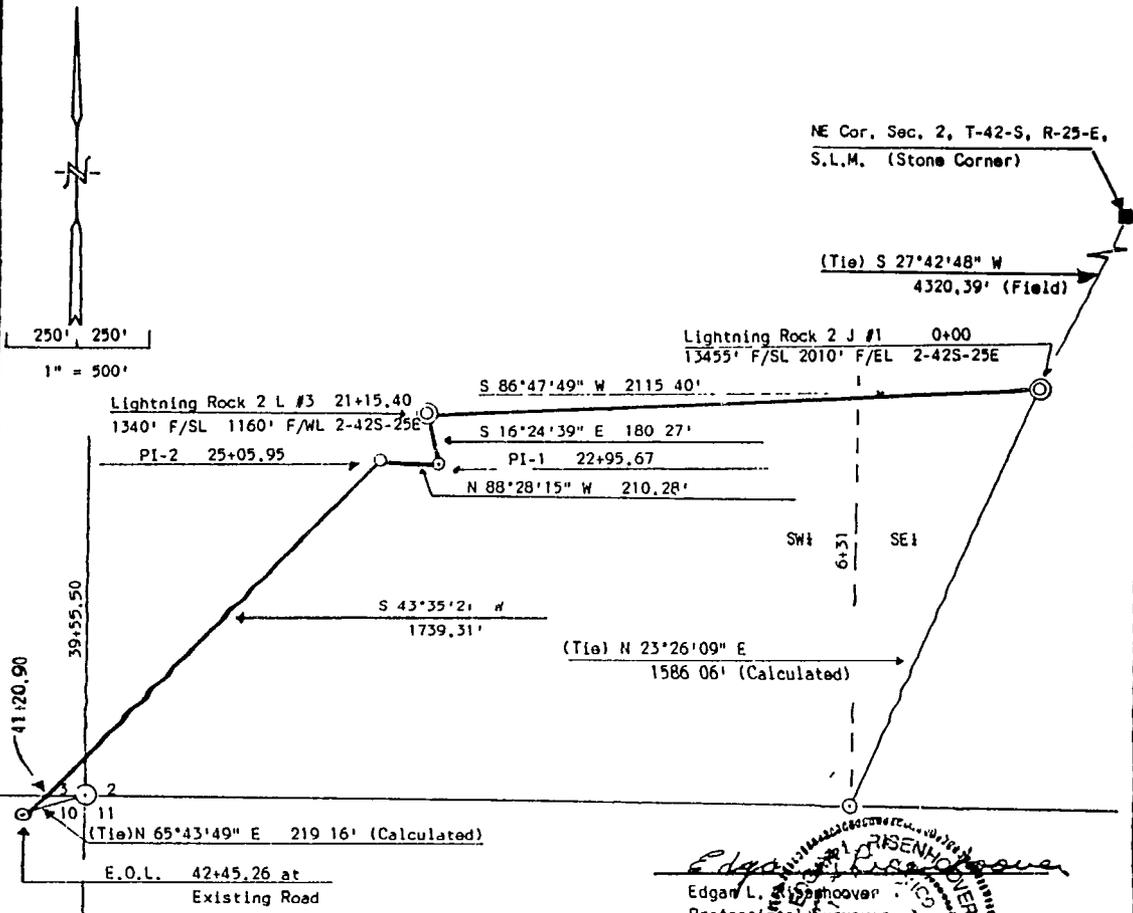
| | | | | | | |
|----|------|--|--|--|--|------|
| A | 4600 | | | | | 4598 |
| | 4590 | | | | | |
| | | | | | | |
| A' | | | | | | |

H - 1" = 60'
V - 1" = 30'

| | | | | | | |
|----|------|--|--|--|--|------|
| B | 4600 | | | | | 4598 |
| | 4590 | | | | | |
| | | | | | | |
| B' | | | | | | |

| | | | | | | |
|----|------|--|--|--|--|------|
| C | 4600 | | | | | 4598 |
| | 4590 | | | | | |
| | | | | | | |
| C' | | | | | | |

CHUSKA ENERGY COMPANY
 PROPOSED LIGHTNING ROCK ROAD AND PIPELINE
 ANETH, SAN JUAN COUNTY, UTAH

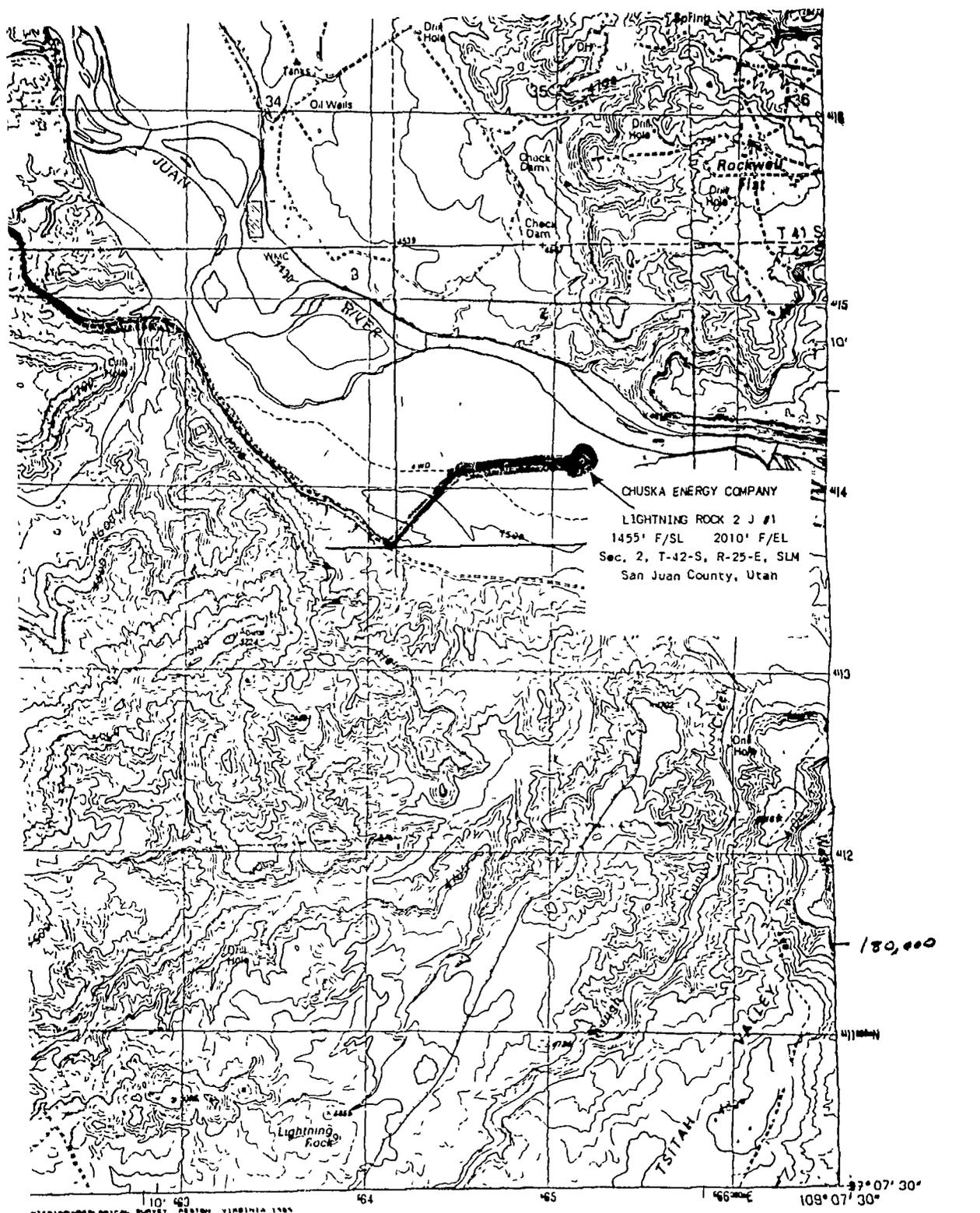


Edgan L. Spahnover
 Professional Surveyor
 New Mexico Reg. No. 5979
 Non-resident certification
 authorized by Utah State Law
 58-22-21(b)

| SEC. | TWP. | RNG. | 1/4 SEC. | WIDTH | LENGTH | | | ACRES | |
|--------|------|------|----------|-------|---------|---------|-------|-------|--|
| | | | | | FEET | RODS | MILES | | |
| 2 | 42S | 25E | SE 1/4 | 30' | 631.00 | 38.242 | 0.120 | 0.434 | |
| 2 | 42S | 25E | SW 1/4 | 30' | 3324.50 | 201.485 | 0.630 | 2.290 | |
| 3 | 42S | 25E | SE 1/4 | 30' | 165.40 | 10.025 | 0.031 | 0.114 | |
| 10 | 42S | 25E | NE 1/4 | 30' | 124.36 | 7.536 | 0.023 | 0.086 | |
| TOTALS | | | | | 4245.26 | 257.288 | 0.804 | 2.924 | |

CHUSKA ENERGY COMPANY
 PROPOSED ACCESS ROAD
 AND
 PROPOSED PIPELINE RIGHT-OF-WAY
 Sec. 2, 3, 7 10, T-42-S, R-25-S, SLM
 San Juan County, Utah

SCALE: 1"=500' DATE: 2/13/90



CHUSKA ENERGY COMPANY
 LIGHTNING ROCK 2 J #1
 1455' F/SL 2010' F/EL
 Sec. 2, T-42-S, R-25-E, SLM
 San Juan County, Utah

180,000

OPERATOR Chesha Energy Company (N9270) DATE 2-22-90

WELL NAME Lighting Rock #22-1

SEC NWSE 2 T 42S R 25E COUNTY San Juan

43-037-31504
API NUMBER

Indian
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well within 420'
Water Permit 09-1419 / A66304 (Hy-Hit Oil, Inc)
Exception location requested on APP (460' radius)

APPROVAL LETTER:

SPACING: R615-2-3 N/A
UNIT

R615-3-2

N/A
CAUSE NO. & DATE

R615-3-3

STIPULATIONS:

CC BIA



STATE OF UTAH
NATURAL RESOURCES
Water Rights

Norman H. Bangerter, Governor
Dae C. Hansen, Executive Director
Robert L. Morgan, State Engineer

Southeastern Area • 453 S. Carbon Avenue • P.O. Box 718 • Price, UT 84501-0718 • 801-637-1303

February 21, 1990

RECEIVED
FEB 22 1990

Chuska Energy Company
Attn: Donald S. Barnes, Operations Manager
315 North Behrend
Farmington, New Mexico 87401

Re: Lightning Rock 2J-1 (NW4SE4 Sec. 2, T42S, R25E, SLB&M)
Lightning Rock 2L-3 (NW4SW4 Sec. 2, T42S, R25E, SLB&M)
Big Bend 8E-1 (SW4NW4 Sec. 8, T40S, R26E, SLB&M)

Dear Mr. Barnes:

This letter will serve as authorization from this Division to proceed with the drilling at the three noted locations. It is understood that the drilling and maintenance water will be hauled to the sites by Hay Hot Oil Inc. under their existing water right 09-1419 (A60809). It is also noted on your request that 0.90 acre feet of water will be required at each location.

If you have any questions concerning this matter, please feel free to contact me.

Sincerely,

Mark P. Page
Area Engineer

cc: Lisha Romero, Div. of Oil, Gas & Mining
Jerry Howell, Hay Hot Oil Inc.

MPP/mjk



Norman H. Bangertor
Governor
Dee C. Hansen
Executive Director
Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

February 26, 1990

Chuska Energy Company
315 North Behrend
Farmington, New Mexico 87401

Gentlemen:

Re: Lighting Rock #2J-1 - NW SE Sec. 2, T. 42S, R. 25E - San Juan County, Utah
1453' FSL, 2010' FEL

Approval to drill the referenced well is hereby granted in accordance with Rule R615-3-3, Oil and Gas Conservation General Rules.

In addition, the following actions are necessary to fully comply with this approval:

1. Spudding notification within 24 hours after drilling operations commence.
2. Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change.
3. Submittal of the Report of Water Encountered During Drilling, Form 7.
4. Prompt notification if it is necessary to plug and abandon the well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695, or Jim Thompson, Lead Inspector, (Home) 298-9318.
5. Compliance with the requirements of Rule R615-3-20, Gas Flaring or Venting, Oil and Gas Conservation General Rules.
6. Prior to commencement of the proposed drilling operations, plans for facilities for disposal of sanitary wastes at the drill site shall be submitted to the local health department. These drilling operations and any subsequent well operations must be conducted in accordance with applicable state and local health department regulations. A list of local health departments and copies of applicable regulations are available from the Division of Environmental Health, Bureau of General Sanitation, telephone (801) 538-6121.

Page 2
Chuska Energy Company
Lighting Rock #2J-1
February 26, 1990

7. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date

The API number assigned to this well is 43-037-31504

Sincerely,



R. J. Pirth
Associate Director, Oil & Gas

lcr

Enclosures

cc: Bureau of Land Management
Bureau of Indian Affairs
D. R. Nielson
J. L. Thompson

WE14/3-4



CHUSKA ENERGY COMPANY

315 N BEHREND • FARMINGTON, NEW MEXICO 87401 • PHONE (505) 326-5525

February 26, 1990

RECEIVED
FEB 28 1990

State of Utah Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Building, Suite 350
Salt Lake City, Utah 84180-1203

1990
Oil, Gas & Mining

Ref: Sundry Notice: Lighting Rock 2J-1/Lighting Rock 2L-3
Proposed Alteration to Drilling Program

Gentlemen

attached you will find the original and two copies of the subject Sundry Notices.

Please advise if you require additional information concerning these applications.

Sincerely

Donald S. Barnes
Operations Manager

DSB/csw

File: C:\WP\CSWH\ROCK2J1\NEWPLAN

encl.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

1. LEASE DESIGNATION & SERIAL NO.
NOG B702-1116

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo Tribal
UNIT ADDRESS (IF APPLICABLE)

7. OIL WELL GAS WELL OTHER

FEB 28 1990

8. NAME OF OPERATOR
Chuska Energy Company

9. NAME OR LEASE NAME
Lighting Rock 2J

10. ADDRESS OF OPERATOR
315 North Behrend, Farmington, New Mexico 87401

11. WELL NO.
1

12. LOCATION OF WELL (Report location clearly and in accordance with any state requirements. See use space 17 below.)
At surface 1455' FSL, 2010' FFL

13. FIELD AND POOL, OR WILDCAT
Wildcat

At proposed 2010' FFL

14. SECTION, TOWNSHIP OR SURVEY OR AREA
S2 T42S R25E

15. SURFACE OWNERS (Show whether of AC, SR, etc.)
Same

16. COUNTY
San Juan

17. STATE
Utah

18. WELL NO.
43-037-31504

18. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO

SUBSEQUENT REPORT OF

TEST WATER SHUT-OFF FULL OR ALTER CASING
 FRACTURE TREATMENT MULTIPLE COMPLETES
 SHOOT OR ACIDIZE ABANDON
 REPAIR WELL CHANGE PLANS

WATER SHUT-OFF REPAIRING WELL
 FRACTURE TREATMENT ALTERING CASING
 SHOOTING OR ACIDIZING ABANDONMENT

(Note: Report results of final pie completion on Well Completion or Recommendation Report and use form.)

APPROX DATE WORK WILL START 5-15-90

DATE OF COMPLETION

19. DESCRIBE PROPOSED OR TO (PLUGGED OPERATIONS) (CEASE), RATE ALL DEEPENINGS AND LIVE DEEPENINGS, INCLUDING ESTIMATE DATE OF STARTING AND STOPPING WORK. If well is directionally drilled give azimuth/orientation, and measured and true vertical depths for all markers and turns pertinent to this work.

* Must be accompanied by a cement verification report.

Chuska Energy proposes to deepen the well to intersect the Mississippian. This action is being taken as a result of further seismic evaluation. The new proposed TD will be 7,098'. Refer to revised 10-Point Drilling Plan and Detailed Drilling Program attached hereto.

| OIL AND GAS | |
|-------------------------------------|-----------|
| <input type="checkbox"/> | RIF |
| <input checked="" type="checkbox"/> | GLH |
| <input type="checkbox"/> | SLS |
| <input checked="" type="checkbox"/> | PER |
| <input checked="" type="checkbox"/> | MICROFILM |
| <input checked="" type="checkbox"/> | FILE |

20. I hereby certify that the foregoing is true and correct.

SIGNED Donald E. Barquist TITLE Operations Manager DATE 2-26-90

(This space for Federal or State Office use)

APPROVED BY _____ TITLE _____
CONDITIONS OF APPROVAL, IF ANY

ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

Federal approval of this action is required before commencing operations. See Instructions On Reverse Side

DATE 3-12-90
BY: John R. Day

CHUSKA ENERGY COMPANY

10 POINT DRILLING PLAN

Lighting Rock 2J Well No. 1
Section 2, Township 42S, Range 25E
1455 FSL, 2010' FEL
San Juan County, Utah

1. SURFACE FORMATION

Geological name of surface formation: Morrison.

2. ELEVATION

Surface elevation is 4,598 GR.

3. ESTIMATED FORMATION TOPS

| <u>Depth</u> | <u>Formation</u> | <u>Sub Sea Elevation</u> |
|--------------|------------------|------------------------------|
| Surface | Morrison | + 4598' |
| 648' | Navajo | + 3950' |
| 1378 | Chinle | + 3220' |
| 2498 | DeChelly | + 2100' |
| 2723 | Organ Rock | + 1875 |
| 3373 | Cedar Mesa | + 1225 |
| 4438 | Hermosa | + 160 |
| 5303' | Upper Ismay | - 705' |
| 5403' | Lower Ismay | - 805' Secondary Target |
| 5493 | Desert Creek | - 895' Primary Target |
| 5613' | Akah | - 1015 |
| 6118 | Barker Creek | - 1520' |
| 6493 | Pinkerton Trail | - 1895' Secondary Target |
| 6688 | Molas | - 2090' |
| 6838 | Mississippian | - 2240 |
| 7098' | Total Depth | - 2500' |

4. PROPOSED CASING/CEMENTING PROGRAM

| | <u>Depth</u> | <u>Size</u> | <u>Weight</u> | <u>Grade</u> | <u>Coupling</u> |
|-------------|--------------|-------------|------------------|--------------|-----------------|
| Conductor | 80 | 13 3/8" | 48.0 ppf | H-40 | STC |
| Surface | 1,500' | 8 5/8" | 24.0 ppf | K-55 | STC |
| Production: | 7,098 | 5 1/2" | See detail below | | |

Detailed production string (5 1/2"):

| <u>Interval</u> | <u>Weight</u> | <u>Grade</u> | <u>Coupling</u> |
|-----------------|---------------|--------------|-----------------|
| 0 - 40 | 20.0 ppg | L-80 | LTC |
| 40' - 5,463' | 15.5 ppg | K-55 | LTC |
| 5,463' - 6,268' | 20.0 ppg | L-80 | LTC |
| 6,268 - 7,098 | 17.0 ppg | K-55 | LTC |

Conductor Cementing:

97 sx (112 ft³) Class 'G' cement with 3% CaCl₂ and 1/4 lb/sk Celloflake. Weight = 15.8 ppg, yield = 1.15 ft³/sk. Slurry volume will be calculated at 100% excess over annular volume.

Surface Cementing:

1,089 sx (1,252 ft³) Class G cement with 2% CaCl₂ and 1/4 lb/sk Celloflake. Weight = 15.8 ppg, yield = 1.15 ft³/sk. Slurry volume will be calculated at 100% excess over annular volume.

Production Cementing:

First Stage

TD to 3500 (stage collar @ ± 3500). Lead with 281 sx Class G cement, 65:35 Pozmix with 6% gel and 1/4 lb/sk Celloflake. Weight = 12.7 ppg, yield = 1.85 ft³/sk. Tail with 100 sx Class 'G' cement with 2% CaCl₂. Weight = 15.8 ppg, yield = 1.15 ft³/sk. Total of 634 ft³.

Second Stage

3500 to surface. Lead with 281 sx Class 'G' cement, 65:35 Pozmix with 6% gel and 1/4 lb/sk Celloflake. Weight = 12.7 ppg, yield = 1.85 ft³/sk. Tail with 100 sx Class G cement with 2% CaCl₂. Weight = 15.8 ppg, yield = 1.15 ft³/sk. Total of 636 ft³.

Note: Exact slurry volumes for the production string will be adjusted according to the caliper log which will be run prior to cementing. Special adjustments may be necessary if significant amounts of salt are drilled.

5. BLOWOUT PREVENTER (See attached schematics)

As abnormal pressure is not anticipated, a 2000 psi BOP system would be sufficient for the drilling of this well. However, due to availability constraints, a 3000 psi system

will be used, as per the attached Exhibits "A" and "B". This will be a 10" x 900 Series double ram preventer, equipped with a set of pipe and blind rams.

An accumulator system, with a pressure capacity sufficient to operate the rams three complete cycles without rig power, will be required as part of the rig equipment.

6. PROPOSED MUD PROGRAM

Surface to 3500'

Fresh water, gel, lime and native solids. Weight 8.3 - 8.7 ppg. Gel/lime sweeps as necessary for hole cleaning.

3500 to 5500

Low solids, non-dispersed polymer system. Weight 8.6 - 8.8 ppg. Gel/lime sweeps as hole conditions dictate for hole cleaning. Fluid loss to be maintained at 15 cc or less. Fluid loss to be further reduced to 10 cc or less prior to coring, logging or DSTs.

5500 to TD

Saturated salt water, starch, salt gel. Weight 10.0 - 10.5 ppg, viscosity 35 - 40 sec/qt. Fluid loss to be maintained at 15 cc or less. Fluid loss to be further reduced to 10 cc or less prior to coring, logging or DSTs.

7. AUXILIARY EQUIPMENT

- A. A kelly cock will be installed during drilling operations, with handle available on the rig floor.
- B. Floor (stabbing) valves will be available, on the rig floor at all times, with necessary subs to fit all of the drilling assemblies.
- C. Mud will be the circulating fluid. No abnormal formation pressures are expected.

8. WELL EVALUATION

Open hole electric logging program will consist of a minimum program of DLL-MSFL-SP-GR-Cal, FDC-CNl.-GR-Lithodensity from TD to 4000'.

Drill stem testing will be as per the wellsite geologist's recommendations, based on shows. A mud logging unit will be utilized during drilling operations from 4000 to TD.

9. ABNORMAL PRESSURES/GAS

Abnormal pressures may be anticipated through the Akah salt section. Mud system and casing program have been designed to counter any abnormal pressures encountered here. Monitoring of gas and hydrocarbon shows will be by wellsite mud logging unit. H₂S gas is not anticipated, however regular checks will be made while drilling the well.

10. TIMING

The drilling and evaluation of this well is estimated to be 25 days. Anticipated spud date is 5-15-90.

DETAILED DRILLING PROGRAM

DATE: February 26, 1970

WELL NAME: Lighting Rock 2J WELL NO.: 1

LOCATION: Section 2, Township 42S, Range 25E
1455 FSL, 2010' FEL
San Juan County, Utah

ELEVATION: 4,598' GR

TOTAL DEPTH: 7,098'

PROJECTED HORIZON: Primary target is Desert Creek at 5,493'
Secondary target is Lower Ismay at 5,403'
Secondary target is Pinkerton Trail at 6,493'

DRILLING, CASING AND CEMENTING PROGRAM

1. Move in (1) up rotary tools. Notify BLM of time of spud and intent to run surface casing.
2. Drill mouse hole and rat hole. Mix mud prior to spudding well.
3. Drill 12 1/4" hole to ± 80 . Run 17 1/2" hole opener to ± 80 . Circulate hole clean and displace with gel/lime spud mud.
4. Run 13 3/8", 48 ppf, H-40, STC conductor and set at $\pm 80'$.
5. Cement with Class G cement with 3% CaCl_2 and 1/4 lb/sk Celloflake. Circulate cement to surface.
6. W.O.C. 4 hrs. Nipple up and test to 500 psig.
7. Drill 12 1/4" hole to $\pm 1,500$. Use fresh water gel/lime spud mud for drilling surface hole. Well bore inclination is not to exceed 1 at 1,500. Deviation surveys will be run at least at 250 and at casing point.
8. Run 8 5/8", 24 ppf, ψ -55, STC casing to TD. Cement with 1,089 sx (1,252 ft³) of Class G cement with 2% CaCl_2 and 1/4 lb/sk Celloflake (sufficient slurry volume to circulate cement to surface).
9. W.O.C. a minimum of 4 hours prior to nipping up BOP stack and related equipment. See BOP schematics for details.

10. Pressure test BOP to 2,000 psi for 30 minutes. Pressure test manifold and all related equipment to 2,000 psi. Pressure test casing to 1,500 psi for 30 min.
11. Drill out surface casing with 7 7/8" bit. Drill 7 7/8" hole to \pm 5,500'. Deviation surveys are to be taken every 500' or on a bit trip, whichever occurs first. Maximum allowable deviation will be 5 at TD, with the maximum allowable rate of change to be 1/100'.
12. Break over fresh water mud to saturated salt water, starch, salt gel system. Ensure conversion is complete and mud is conditioned prior to drilling into the Akah at \pm 5,600'. Drill to TD.
13. Run open hole logs and evaluate. Drill stem testing will be as per the wellsite geologist's recommendation.
14. If the well is determined to be productive, run 5 1/2" casing, as per casing program, to TD. Set stage cementing collar at \pm 3,500'. Cement in two stages as per cementing program in 10-point Drilling Plan.
15. Nipple down BOPE. Set 5 1/2" casing slips and cut off casing. Install well head. Release drilling rig and move rig off location.
16. If well is non-productive it will be plugged and abandoned as per State, BLM and Navajo Tribal stipulations.



CHUSKA ENERGY COMPANY

3315 BLOOMFIELD HIGHWAY • FARMINGTON, NEW MEXICO 87401 • PHONE: (505) 326-5525

P.O. BOX 780 • FARMINGTON, NEW MEXICO 87499

11 February, 1991

RECEIVED
FEB 19 1991

State of Utah Department of Natural Resources
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Building, Suite 350
Salt Lake City, Utah 84180-1203

DIVISION OF
OIL, GAS & MINING

Ref: Sundry Notice: Lighting Rock 2J-1 Well
Application for Extension of APD Approval

Gentlemen

Attached for your examination and approval is the original and two copies of the subject Sundry Notice.

Please advise if you require additional information concerning this submission.

Sincerely,

Larry G. Sessions
Larry G. Sessions
Operations Manager

LGS/csw
File: C:\WP51\LIGHTRK.2J\EXAPDSUN.CVR

encl.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back, to re-completions, or to change the location of a well. Use APPLICATION FOR PERMIT for such proposals.)

1 OIL WELL GAS WELL OTHER

2 NAME OF OPERATOR Chuska Energy Company

3 ADDRESS OF OPERATOR 3315 Bloomfield Highway, Farmington, New Mexico

4 LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 11 below) At surface 1455' FSL, 2010' FEL

At proposed prod zone Same

14 PERMIT NO 43-037-31504

15 ELEVATIONS (Show whether OF, N, or etc) 1455' FSL, 2010' FEL

5 LEASE DESIGNATION AND SERIAL NO. NOG 8702-1116

6 IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo Tribal

7 UNIT AGREEMENT NAME

8 FARM OR LEASE NAME Lighting Rock 2J

9 WELL NO 1

10 FIELD AND POOL, OR WILDCAT Wildcat

11 SEC., T., R., N., OR BLE AND SURVEY OR AREA S2 T42S R25E

12 COUNTY OR PARISH San Juan

13 STATE Utah

16 Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE

ABANDON

CHANGE PLANS

APPROX DATE WORK WILL START

SUBSEQUENT REPORT OF

WATER SHUT OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) APD Extension

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log Form)

REPAIRING WELL

ALTERING CASING

ABANDONMENT

DATE OF COMPLETION

18 DESCRIBE PROPOSED OR COMPLETED OPERATIONS (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 to this work.)

Owing to further evaluation of the prospect and reserves, spud of this well has been delayed. Chuska Energy hereby applies for an extension to the APD approval on the subject well.

BY THE STATE
2-25-91
John Matthews

I hereby certify that the foregoing is true and correct

SIGNED [Signature] TITLE Operations Engineer DATE 11 February, 1991

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY

See Instructions On Reverse Side

| ACTION CODE | CURRENT ENTITY NO | NEW ENTITY NO | ACT NUMBER | WELL NAME | WELL LOCATION | | | | | SPUD DATE | EFFECTIVE DATE |
|------------------|-------------------|---------------|--------------|---------------------|---------------|----|-----|-----|----------|-----------|----------------|
| | | | | | QQ | SC | TP | RG | COUNTY | | |
| A | 99999 | 11568 | 43- -31504 | LIGHTING ROCK #2J-1 | NWSE | 2 | 42S | 25E | SAN JUAN | | 10-19-93 |
| WELL 1 COMMENTS. | | | | | | | | | | | |
| A | 99999 | 11569 | 43-037-31505 | LIGHTING ROCK 2L-3 | NWSW | 2 | 42S | 25E | SAN JUAN | | 10-19-93 |
| WELL 2 COMMENTS. | | | | | | | | | | | |
| A | 99999 | 11570 | 43-037-31721 | HILLSIDE 6C-1 | NWNE | 6 | 42S | 25E | SAN JUAN | | 10-19-93 |
| WELL 3 COMMENTS. | | | | | | | | | | | |
| A | 99999 | 11571 | 43-037-31632 | GARTER 9-1 | NESE | 9 | 43S | 26E | SAN JUAN | | 10-19-93 |
| WELL 4 COMMENTS: | | | | | | | | | | | |
| | | | | | | | | | | | |
| WELL 5 COMMENTS. | | | | | | | | | | | |

ACTION CODES (See instructions on back of form)

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (explain in comments section)

NOTE: Use COMMENT section to explain why each Action Code was selected.

L. CORDOVA (DOGM)
 Signature
ADMIN. ANALYST 10-19-93
 Title Date
 Phone No. () _____

FEBRUARY 8, 1994

TO: WELL FILE

FROM: K. M. HEBERTSON

RE: Status, Lightning Rock 2J-1 43-037-31504 2-42S-25E

Per telephone conversation with the operator concerning the status of this well, it was determined that the well will not be drilled and the operator has acknowledged that the APD has expired. The operator has been informed that the APD will need to be refiled in order to drill this well at a future date.

As of the above date the APD has been rescinded and the file sent to the LA archives.

KMH

