

UTAH OIL AND GAS CONSERVATION COMMISSION

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

DATE FILED 3-22-90
 LAND FEE & PATENTED STATE LEASE NO PUBLIC LEASE NO INDIAN NOG 8702-1116
 DRILLING APPROVED 4-17-90 (CAUSE NO. 17)

SPOUDED IN
 COMPLETED PUT TO PRODUCTION
 INITIAL PRODUCTION
 GRAVITY AP
 GOR
 PRODUCING ZONES

TOTAL DEPTH
 WELL ELEVATION
 DATE ABANDONED 07-10-90
 FIELD GREATER ANETH

UNIT
 COUNTY SAN JUAN
 WELL NO NORTH RUINS 16L #1 API NO. 43-037-31518
 LOCATION 1540' FSL FT FROM (N) (S) LINE 820' FWL FT FROM (E) (W) LINE NWSW 1/4 - 1/4 SEC 10

TWP	RGE	SEC	OPERATOR
40S	25E	16	CHUSKA ENERGY COMPANY

TWP	RGE	SEC	OPERATOR
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CHUSKA ENERGY COMPANY

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

RECEIVED
MAR 22 1990

DIVISION OF
OIL GAS & MINING

March 20, 1990

Slate 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 North Ruins 16L Well No. 1,
San Juan County, Utah

Gentlemen

Attached for your examination and approval is the original and two copies of an Application for Permit to Drill the North Ruins 16L 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. Chuska Energy controls the acreage surrounding the proposed site, 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\NTHRUINS.16L\UTAHCOVR

encl.

OF UTAH
DIVISION OF OIL, GAS AND MINING

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 Sidetrack Zone Multiple Zone

2. Name of Operator
 Lucha Energy, Leasing

3. Address of Operator
 315 North Behrend, Farmington, NEW MEXICO 87401

4. Location of Well (Report location clearly and in accordance with any State requirements)
 At surface: 1,540 FSL, 820 FWL, N. 50° W.

At proposed need zone: Same

11. Distance in miles and direction from nearest town or post office:
 San Juan, Utah

12. County or Parish: San Juan, Utah

13. Distance from proposed location to nearest property or lease line, ft. (Also to nearest title line if any)

14. Distance from proposed location to nearest well drilling completed or drilled for, on this lease, ft.

15. Elevations (Show whether DF, RT, GR, etc.)
 5,174 GR

16. No. of acres in lease

17. No. of acres assigned to this well

18. Proposed depth: 1,670 MSSP

19. Rotary or cable tools: Rotary

20. Approx. date work will start: 6-15-90

21. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Wt. per Foot	Setting Depth	Quantity of Cement
12 1/4"	8 5/8"	24 lb	500	371 sv. G + 67 Gal
7 1/8"	5 1/2"	15.5-20 lb	1,670	805 sv. G, 45:35 Poz + 67 Gal

Refer to attached 10-point Drilling Plan, etc.

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.

I hereby certify that this report is true and complete to the best of my knowledge.

Signature: [Signature] Title: Operations Manager Date: 3-20-90

(This space for Title and State of License)

API No: 43-037-31518 Approval Date: _____

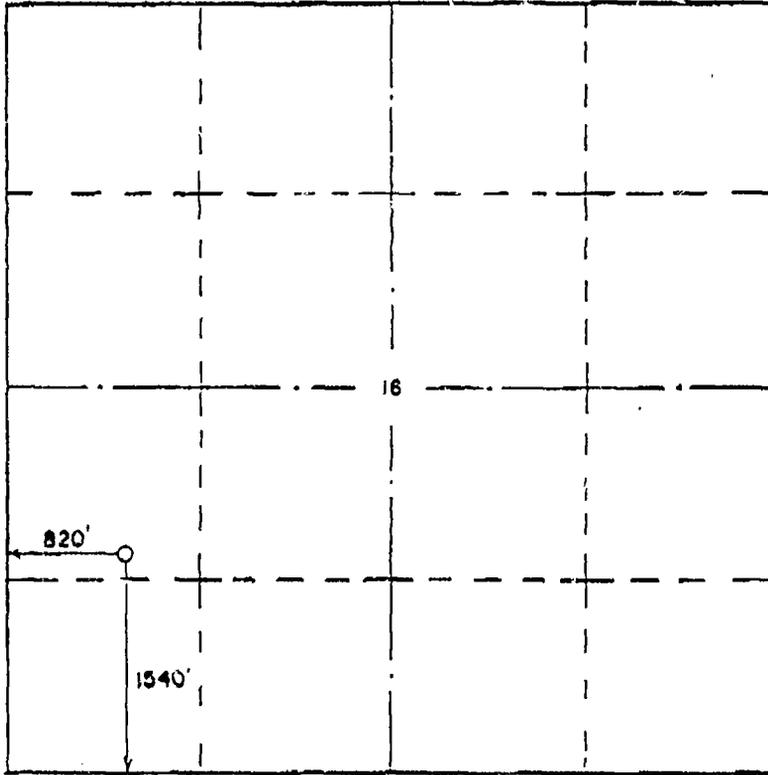
Approved by: _____ Title: _____

Conditions of approval if any

APPROVED FOR THE STATE
 OF UTAH
 DIVISION OF
 OIL, GAS AND MINING
[Signature]
 WILL SPACING - Page 11

*See Instructions On Reverse Side

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'

WELL LOCATION DESCRIPTION:

Chuska Energy Company, North Ruins 16 - L - 1
1540' FSL & 820' FWL

Section 16, T.40 S., R.25 E., SLM

San Juan County, Utah

5174' ground elevation

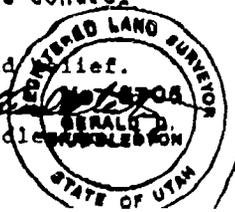
State plane : x = 2,673,887. y = 241,200.

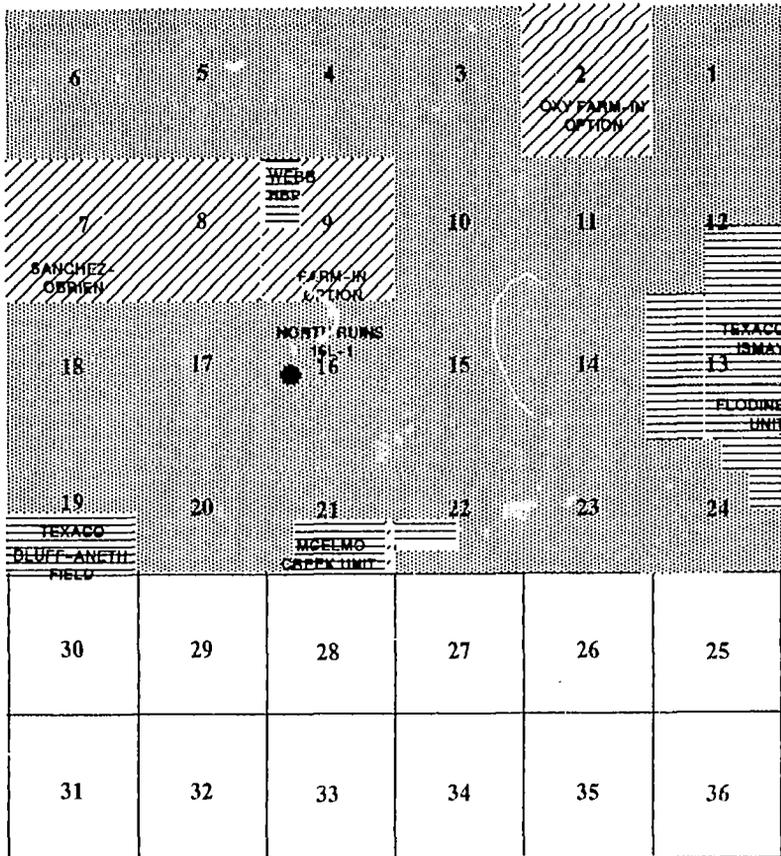
plus or minus 5', based on existing seismic control

The above plat is true and correct my knowledge and belief.

20 March 1990

Gerald G. Huddlestone

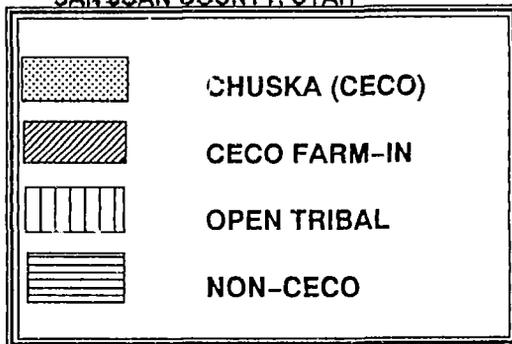




CHUSKA ENERGY COMPANY

T40S-R25E

SAN JUAN COUNTY, UTAH



CHUSKA ENERGY COMPANY

10 POINT DRILLING PLAN

North Ruins 16L Well No. 1
Section 16, Township 40S, Range 25E
1,540 FSL, 820 FWL
San Juan County, Utah

1. SURFACE FORMATION

Geological name of surface formation: Dakota

2. ELEVATION

Surface elevation is 5,174 GR

3. ESTIMATED FORMATION TOPS

<u>Depth</u>	<u>Formation</u>	<u>Sub Sea</u> <u>Elevation</u>	
Surface	Dakota	+ 5174	
74	Morrison	+ 5100	
1264	Navajo	+ 3910	
1374	Chino	+ 3300	
1700	DeChelly	+ 2170	
3114	Organ Rock	+ 2060	
3814	Cedar Mesa	+ 1360	
4919	Hermosa	+ 255	
5800	Upper Ismay	- 630	Primary Target
5934	Lower Ismay	- 760	Secondary Target
6029	Desert Creek	- 855	
6129	Akai	- 955	
6634	Barber Creek	- 1460	
7334	Mississippian	2160	
7674	Total Depth	- 2500	

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 ppf	K-55	STC
Production:	7,674	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 ppf	N-80	LTC
40 - 5,970	15.5 ppf	K-55	LTC
5,970 - 6,790'	20.0 ppf	N-80	LTC
6,790 - 7,674	17.0 ppt	K-55	LTC

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 4,700 (stage collar @ ± 4,700). Lead with 222 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 526 ft³.

Second Stage

4,700 to surface. Lead with 383 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 824 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 5900

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.

59~~00~~' 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. Mud system to be
fully converted and conditioned prior to drilling into the
Afan at \pm 6100 .

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 25 days. Anticipated spud date is 6-15-90.

EXHIBIT "A"
BLOWOUT PREVENTER

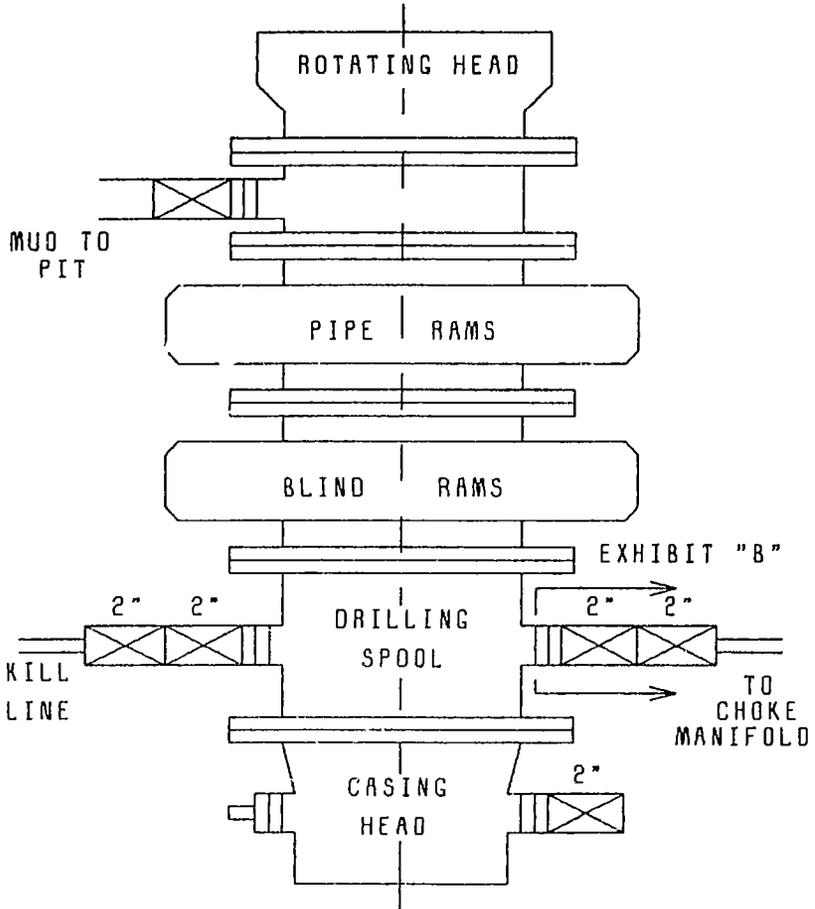
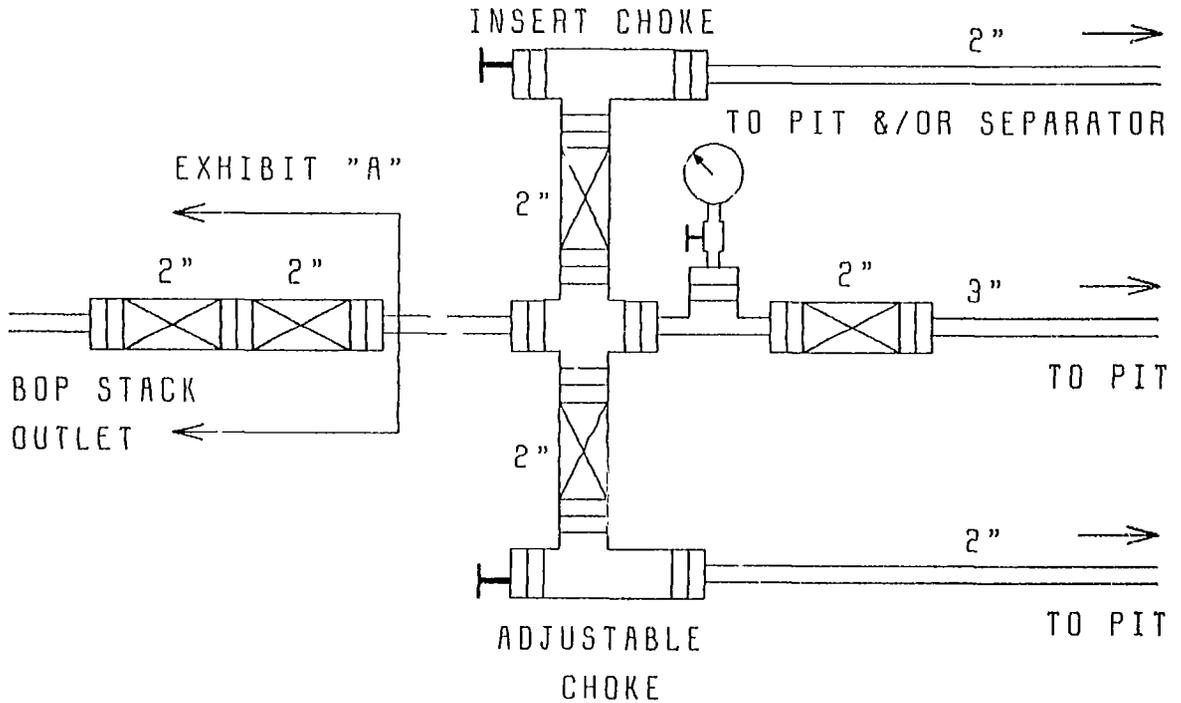


EXHIBIT "B"
CHOKE MANIFOLD



DETAILED DRILLING PROGRAM

DATE: 20 March 1990

WELL NAME: North Ruins 16L WELL NO.: 1

LOCATION: Section 16, Township 40S, Range 25E
1,540' FSL, 820' FWL
San Juan County, Utah

ELEVATION: 5,174 GR

TOTAL DEPTH: 7,674

PROJECTED HORIZON: Primary target is Upper Ismay at 5,804'.
Secondary target is Lower Ismay at 5,934'.

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 lb/ft, K-55, STC casing to TD. Cement with 37% sk (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.G.C. a minimum of 4 hours prior to tripping up BOP stack and related equipment. See BC^o schematics for details.
6. Ensure plug has been down a minimum of 8 hours prior to commencing pressure testing procedures. 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 \pm 5,900'. 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. 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 $\pm 6,100'$. Drill and survey to TD.
9. Run open hole logs and evaluate. Drill stem testing will be as per the wellsite geologist's recommendation.
10. If the well is determined to be productive, run 5 1/2" casing, as detailed in 10-Point Drilling Plan, to TD. Set stage cementing collar at $\pm 4,700'$. Cement in two stages as per cementing program in 10-point Drilling Plan.
11. Nipple down BOPE. Set 5 1/2" casing slips and cut off casing. Install well head. Release drilling rig and move rig off location.
12. If well is non-productive it will be plugged and abandoned as per State, BLM and Navajo Tribal stipulations.

North Ruins 16L Well No. 1
Section 16, Township 40S, Range 25E
1,540 FSL, 820 FWL
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.

North Ruins 16L Well No. 1
Section 16, Township 40S, Range 25E
1,540 FSL, 820 FWL
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 on the Hovenweep road 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 fiat graded, 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 1,000' of new road will be need to be constructed to the location pad.

3. LOCATION OF EXISTING WELLS & TANK BATTERIES

There are no other producing wells or facilities in the immediate 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 broadly north east south west trend. Surface terrain will necessitate from 20 to 30' of cut in the reserve pit and up to 12' of cut on the southern side of the location pad. Up to 8' of fill will be required on the northern side of the location pad. 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.

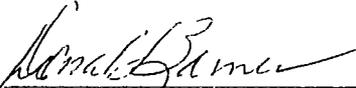
11.

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

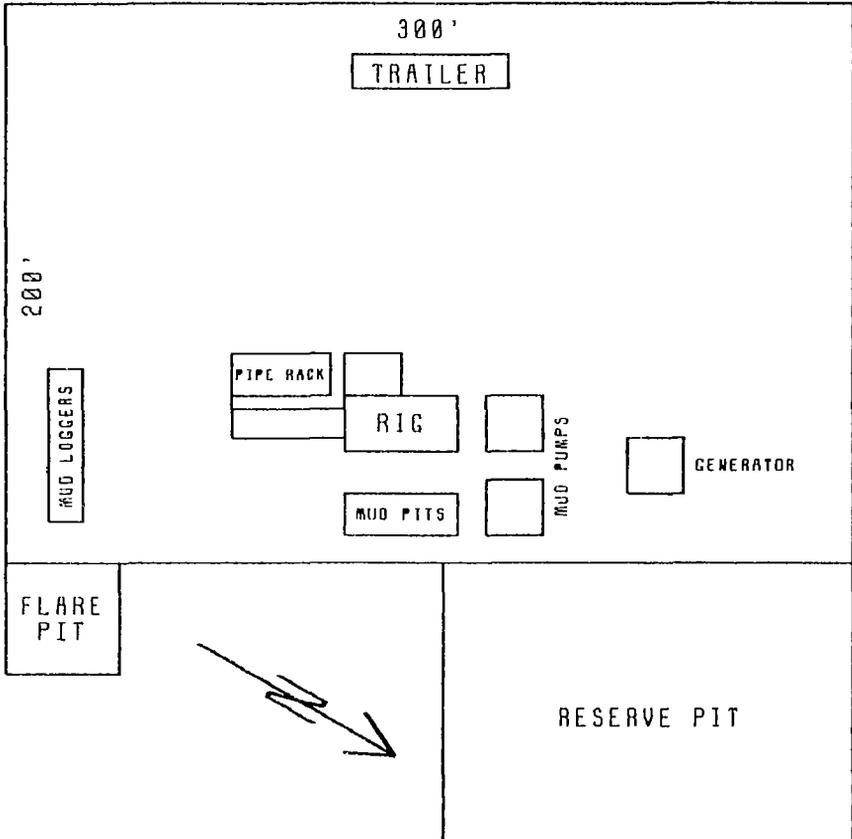
LOCATION LAYOUT

NORTH RUINS 16L-1

1540' FSL, 820' FWL

SECTION 16, TOWNSHIP 90S, RANGE 25E

SAN JUAN COUNTY, UTAH



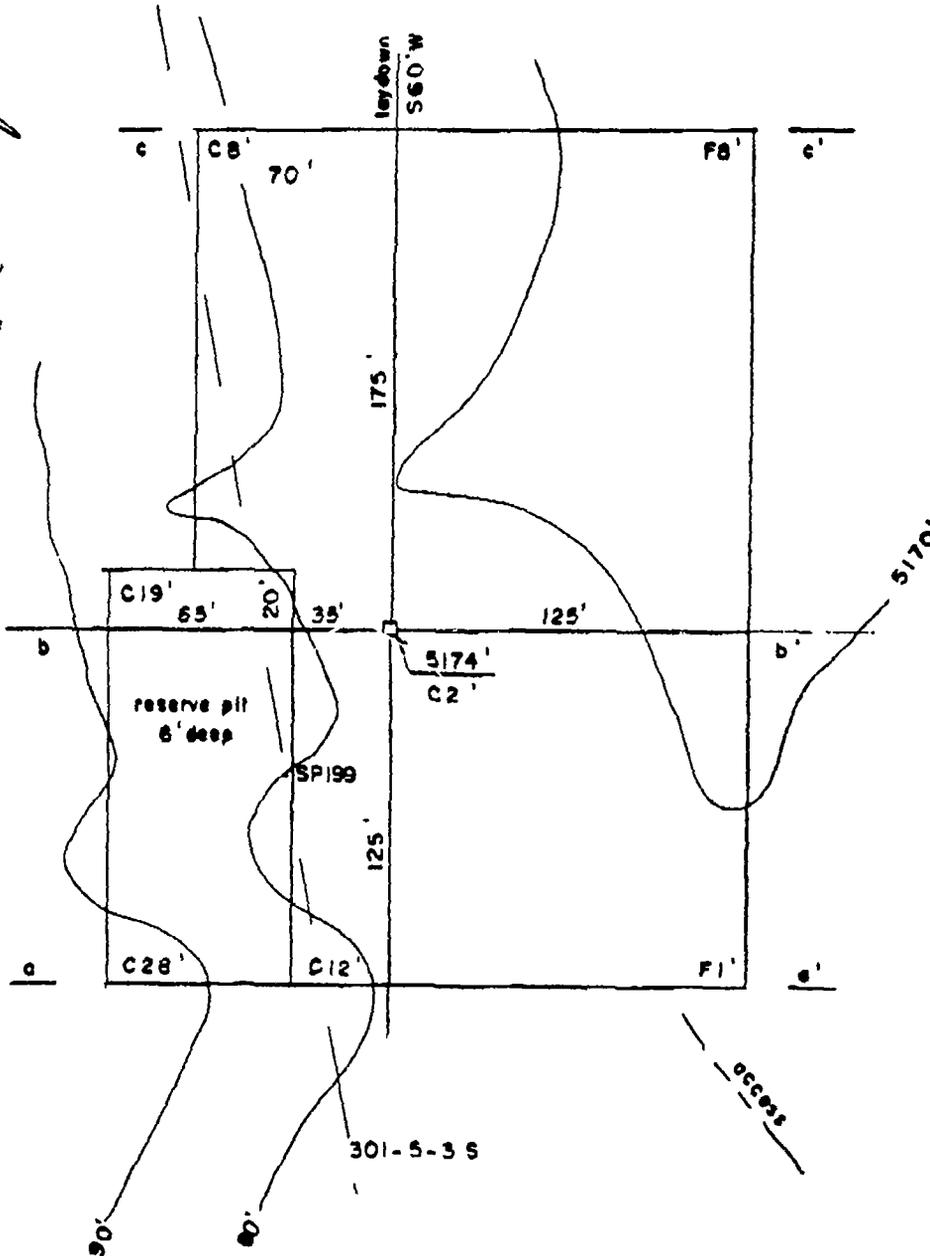
Plan View Sketch

North Ruins 16 - L - 1



North
1"=50'

cut ////
fill
□ stake

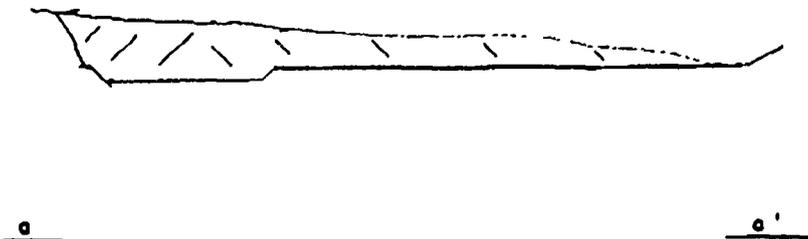


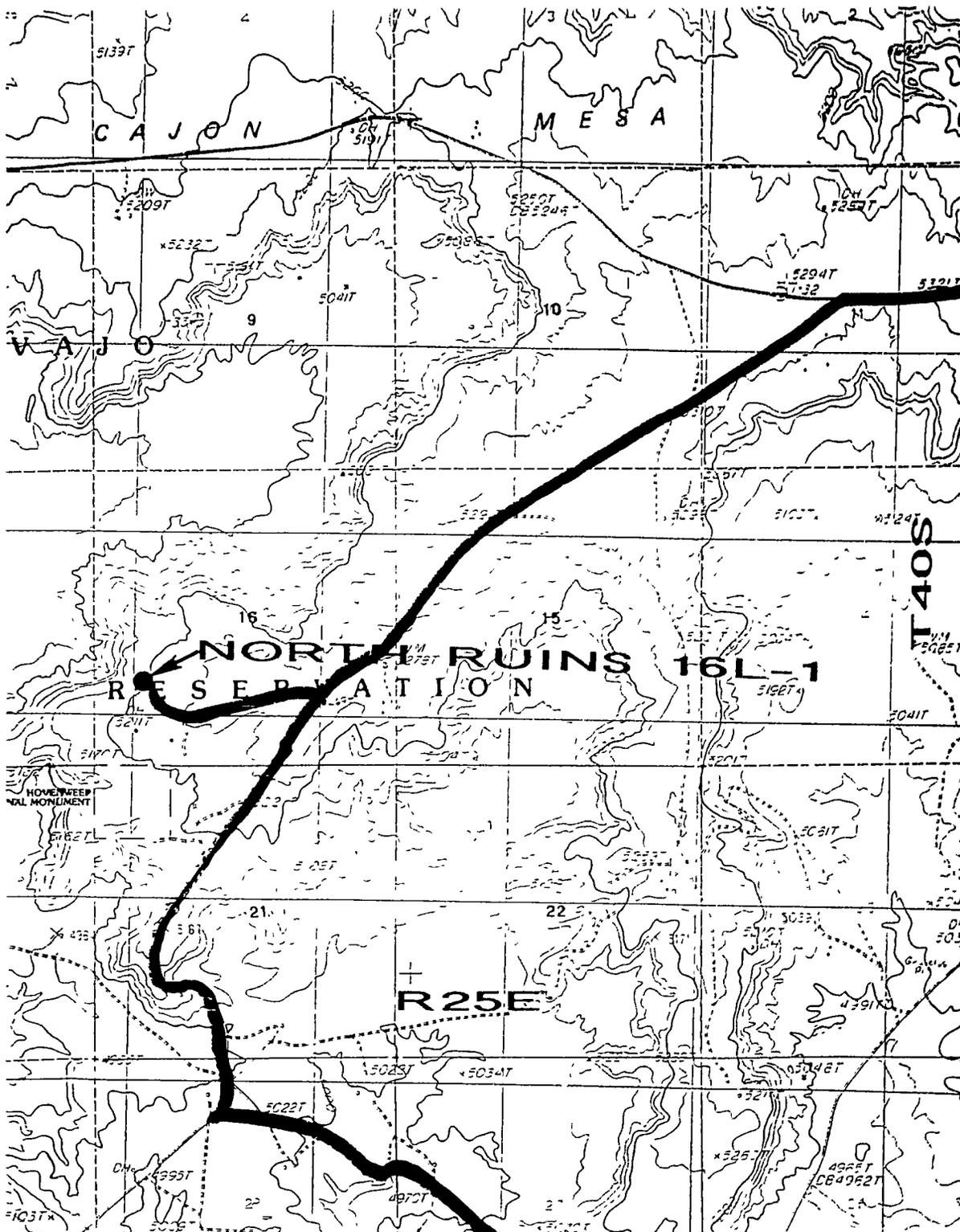
Cut 
Fill 

Cross Section

North Ruins 16 - L - 1

1"=50' Horz. & Vert.





5139T

CAJON

MESA

VAJO

NORTH RUINS RESERVATION

16L-1

R25E

T40S

5209T

5191T

5220T
DB5204T

5257T

5232T

5041T

5294T
T-32

5321T

16

15

HOVENWEEP
MONUMENT

5211T

5278T

5297T

5186T

5041T

4952T

5061T

21

22

5033T

5035T

5103T

5295T

5026T

4972T

5025T

5034T

5048T

5211T

5257T

4925T
DB4962T

BEFORE THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF UTAH

IN THE MATTER OF THE APPLICATION OF
THE TEXAS COMPANY, THE CARRIER OIL
COMPANY AND CONTINENTAL OIL COMPANY
FOR AN ORDER ESTABLISHING 80-ACRE
DRILLING UNITS FOR THE ANETH POOL,
SAN JUAN COUNTY, UTAH, WITH REFERENCE
TO THE KNOWN PRODUCING ZONES OF THE
MERMOSA FORMATION (CAUSE NO. 8)

CAUSE NO. 17
(CONSOLIDATED CAUSES NOS.
8 AND 11)

AND

IN THE MATTER OF THE APPLICATION OF
CONTINENTAL OIL COMPANY FOR AN ORDER
ESTABLISHING 80-ACRE DRILLING AND
SPACING UNITS FOR THE UPPER PARADOX
SECTIONS OF THE MERMOSA FORMATION,
DESERT CREEK AREA, SAN JUAN COUNTY,
UTAH (CAUSE NO. 11)

FINDINGS OF FACT,
CONCLUSIONS OF LAW
AND ORDER

The above captioned Cause No. 17 is before the Oil and Gas Conservation Commission of the State of Utah as a consolidation of Causes Nos. 8 and 11, such consolidation having been effected on February 2, 1959, by order of this Commission. Each of said Causes Nos. 8 and 11 arose out of an application for an order establishing 80-acre drilling and spacing units for an area defined in the particular application. Since the initiation of said proceedings, the Commission has, pursuant to several requests, permitted several additions to the areas covered by said applications as originally filed, with the result that this consolidated Cause now involves these lands hereinafter particularly described. Hearings were held in Cause No. 8 and in Cause No. 11 prior to their consolidation, and further hearings have been held in this Cause No. 17 since such consolidation. During the extensive course of the proceedings numerous witnesses testified and many exhibits were introduced both in support of and in opposition to the applications. On January 30, 1960, upon the conclusion of the hearings in this consolidated Cause, the matter was submitted to the full Commission for decision.

NOW, THEREFORE, after due and careful consideration, this Commission makes the following Findings of Fact and Conclusions of Law:

FINDINGS OF FACT

1. The area involved in this consolidated Cause, and which is hereinafter for convenience referred to as the "Greater Aneth Area," lies within San Juan County and is described as follows:

✓ T. 40 S., R. 23 E., S1EM

Section 1: All
Section 2: E $\frac{1}{2}$
Section 11: E $\frac{1}{2}$, SW $\frac{1}{4}$
Sections 12, 13, 14, 23 through 26,
34, 35, 36: All

✓ T. 40 S., R. 24 E., S1EM

Sections 7 through 11,
13 through 36: All 13-35

✓ T. 40 S., R. 25 E., S1EM

Section 16: E $\frac{1}{2}$
Section 17: E $\frac{1}{2}$
Section 18: E $\frac{1}{2}$
Sections 19, 20, 21: All
Section 22: E $\frac{1}{2}$, NW $\frac{1}{4}$
Sections 27 through 36: All

✓ T. 41 S., R. 23 E., S1EM

Sections 1, 2, 3, 10 through 15,
22, 23, 24: All
Section 25: E $\frac{1}{2}$
Section 35: E $\frac{1}{2}$
Section 36: All

✓ T. 41 S., R. 24 E., S1EM

Sections 1 through 24: All
Section 25: W $\frac{1}{2}$
Sections 26 through 35: All

✓ T. 41 S., R. 25 E., S1EM

Section 3: W $\frac{1}{2}$
Sections 4 through 9: All
Section 10: NW $\frac{1}{4}$
Sections 16 through 20: All

✓ T. 42 S., R. 23 E., S1EM

Section 1: All
Section 2: E $\frac{1}{2}$
Section 11: E $\frac{1}{2}$
Section 12: All

✓ T. 42 S., R. 24 E., S1EM

Sections 2 through 10: All

2. The Desert Creek (Aneth) formation is continuous over the Greater Aneth Area and constitutes a common source of supply. It is

found at a depth of approximately 5600 feet below the surface of the ground and varies in thickness from 100 feet to 220 feet. The formation consists essentially of carbonate material with minor amounts of other constituents. The reservoir is what is known as a "stratigraphic trap."

3. The properties of the reservoir rock, in regard to permeability and porosity distribution, indicate a degree of heterogeneity that is common in limestone reservoirs.

4. The original reservoir pressure at a datum of 900 feet subsea was approximately 2200 pounds per square inch.

5. The producing mechanism from the original reservoir pressure down to the saturation pressure or bubble point pressure is "fluid expansion." The producing mechanism below the saturation pressure or bubble point pressure is the release of gas originally in solution in the oil or so-called "solution gas drive." The predominant producing mechanism is "solution gas drive."

6. Reduced formation pressures which have been found upon the completion of new wells show that drainage of oil and gas had occurred from under the locations of the newly drilled wells by reason of production from earlier drilled wells.

7. With-the-drilling of the field on an 80-acre pattern there is and will be efficient horizontal communication. In some areas of the field there is also efficient vertical communication through interfingering of reservoir layers aided by fractures, while in other areas vertical communication between layers depends to a substantial extent upon connection provided by the well bore.

8. In the five special test wells drilled by Shell Oil Company and the well layer tested by Humble Oil and Refining Company, pressure depletion from original reservoir pressure had occurred in each of the lenses and layers tested. The pressure depletion conditions found at the location of each such well were normal for a heterogeneous reservoir of this type.

9. The various layers or lenses containing oil and gas are of sufficient size that wells drilled with a density of one well to each 80 acres will, with insignificant exceptions, pierce the various layers and

provide efficient and adequate intercommunication for all parts of the reservoir.

10. While there are varying permeabilities within the pay sections throughout the field, any so-called barriers of low permeability are not continuous and do not completely surround or isolate oil and gas or create islands but, to the contrary, the pressure history of this field along with the gas/oil ratio behavior in relationship to the total cumulative production demonstrates that the field is being efficiently and economically drained by one well to each 80-acre tract.

11. Pressure differentials exist in the reservoir. These differentials are normal, are to be expected and constitute a condition necessary to the flow of oil through the reservoir into producing wells. The variation in magnitude of the pressure differentials existing within the reservoir is attributed to differences in rate of production, cumulative production, permeability, pay thickness, porosity and water saturation and differences in shut-in times prior to measurement of pressures.

12. One well to each 80 acres will efficiently and economically drain the reservoir as found in and underlying the Greater Aneth Area.

13. Eighty-acre spacing and drilling units for the Greater Aneth Area should be established in order to prevent waste, to avoid the drilling of unnecessary wells and to protect the derivative rights of interested parties. No more than one well should be drilled on any such unit for the production of oil or gas from the Desert Creek (Aneth) formation.

14. Except for the "Specially Designated Drilling Units" hereinafter specified, the drilling and spacing units for the Greater Aneth Area should be formed by dividing each governmental quarter section into two such units to consist respectively of the east half of such quarter section and the west half of such quarter section. Each specially designated drilling unit consisting of an 80-acre tract as specifically described below should constitute a drilling and spacing unit and represents a departure from the general spacing unit pattern as set forth in the preceding sentence.

SPECIALLY DESIGNATED DRILLING UNITS

<u>80-ACRE TRACT</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>
NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$	16	40 South	26 East

<u>80-ACRE TRACT</u>	<u>SECTION</u>	<u>TOWNSHIP</u>	<u>RANGE</u>
SW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$	16	40 South	24 East
NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$	16	40 South	24 East
E $\frac{1}{2}$ SE $\frac{1}{4}$	16	40 South	24 East
S $\frac{1}{2}$ SW $\frac{1}{4}$	16	40 South	24 East
SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$	16	40 South	24 East
NW $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$	16	40 South	24 East
NE $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$	13	41 South	23 East
SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$	13	41 South	23 East
NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ NW $\frac{1}{4}$	13	41 South	23 East
NW $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$	13	41 South	23 East
SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$	13	41 South	23 East
NW $\frac{1}{4}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$	13	41 South	23 East
E $\frac{1}{2}$ SE $\frac{1}{4}$	13	41 South	23 East
S $\frac{1}{2}$ SW $\frac{1}{4}$	13	41 South	23 East
N $\frac{1}{2}$ SW $\frac{1}{4}$	11	41 South	24 East
E $\frac{1}{2}$ SW $\frac{1}{4}$	11	41 South	24 East
N $\frac{1}{2}$ SE $\frac{1}{4}$	11	41 South	24 East
E $\frac{1}{2}$ SE $\frac{1}{4}$	11	41 South	24 East
NW $\frac{1}{4}$ NE $\frac{1}{4}$)	11)	41 South	24 East
NW $\frac{1}{4}$ NW $\frac{1}{4}$)	12)		
SE $\frac{1}{4}$ NE $\frac{1}{4}$)	11)	41 South	24 East
SW $\frac{1}{4}$ NW $\frac{1}{4}$)	12)		
N $\frac{1}{2}$ NE $\frac{1}{4}$	12	41 South	24 East
N $\frac{1}{2}$ NE $\frac{1}{4}$	12	41 South	24 East
N $\frac{1}{2}$ SW $\frac{1}{4}$	18	41 South	24 East
E $\frac{1}{2}$ SW $\frac{1}{4}$	18	41 South	24 East

15. Except as may be hereafter ordered by the Commission, after notice and hearing, and as hereinafter provided, in that portion of the Greater Aneth Area lying north of the San Juan River the permitted well for a spacing unit should be located in either the northwest quarter of a governmental quarter section or in the southeast quarter of a governmental quarter section and should be not less than 500 feet from any property or lease line or governmental quarter-quarter section line. Except as

hereinafter provided, in that portion of the Greater Aneth Area lying south of the San Juan River the permitted well for a spacing unit should be located in either the northeast quarter of a governmental quarter section or in the southwest quarter of a governmental quarter section and should be not less than 300 feet from any property or lease line or governmental quarter-quarter section line. An exception should be recognized for any well which has heretofore been drilled or which is now being drilled to the Desert Creek (Aneth) formation and which is not located in accordance with the general well location pattern above defined and such heretofore drilled or now being drilled well shall be the permitted well for the drilling and spacing unit upon which it is located, provided expressly that no one of the five test wells drilled by Shell Oil Company under this Commission's order of February 24, 1959 in this Cause shall constitute the permitted well for the drilling unit upon which such well was drilled unless, after notice and hearing, specifically ordered by this Commission pursuant to said Order of February 24, 1959, or otherwise; and provided further that the water injection well drilled by Phillips Petroleum Company under this Commission's order of August-5, 1959 in Cause No. 23 shall not constitute the permitted well for the drilling unit upon which such well was drilled unless, after notice and hearing, specifically so ordered by the Commission.

16. Wherever reference is made herein to a "governmental quarter-quarter section" or to any subdivision thereof or to a "governmental quarter-quarter section" or to any specific description by subdivision, section, township and range, such reference is intended, in the case of surveyed lands, to refer to the indicated quarter section or other legal subdivision as determined by the government survey and is intended, in the case of unsurveyed lands or of partially surveyed lands, to refer to the indicated quarter section or other legal subdivision as determined by and through projection or protraction from existing township surveys and/or existing township boundary line surveys.

CONCLUSIONS OF LAW

1. The Commission has jurisdiction over the subject matter of this Cause and over the lessees and operators in the area involved. Notice

of the respective hearings and respective other proceedings in this consolidated Cause, and in Causes Nos. 8 and 11 prior to the consolidation thereof, was in each instance given in all respects as required by law.

2. The Desert Creek (Aneth) formation is continuous over the Greater Aneth Area, as such area is defined in Finding 1 of the foregoing Findings, and constitutes a common pool or source of supply.

3. One well to each 80 acres will efficiently and economically drain the said pool or common source of supply as found in and underlying the Greater Aneth Area.

4. The establishment of 80-acre spacing and drilling units for the Greater Aneth Area is necessary to prevent waste, to avoid the drilling of unnecessary wells and to protect the correlative rights of interested parties.

5. The shape and pattern of the spacing units for the Greater Aneth Area should be as set forth and defined in Finding 14 of the foregoing Findings.

6. No more than one well should be drilled on any such spacing or drilling unit for the production of oil or gas from the Desert Creek (Aneth) formation.

7. The locations or patterns of the permitted wells should be as set forth in Finding 15 of the foregoing Findings.

8. The here-involved applications for the issuance by this Commission of an Order establishing 80-acre spacing should be granted.

ORDER

IT IS THEREFORE ORDERED by the Commission as follows:

1. That 80-acre drilling and spacing units be and the same are hereby established for the production of oil and gas from the Desert Creek (Aneth) formation underlying the Greater Aneth Area;

2. That the shape and pattern of such drilling and spacing units shall be as set forth and defined in Finding 14 of the foregoing Findings;

3. That no more than one well shall be drilled on any such unit for the production of oil or gas from the Desert Creek (Aneth) formation;

4. That the location of the permitted well for each such unit shall be as set forth and defined in Finding 15 of the foregoing Findings, provided, however, that an exception in respect to the location of a permitted well may be had without notice or hearing upon the filing with the Commission of an application showing that the proposed exception location is within the quarter-quarter section specified hereunder as the situs for the permitted well; that topographic conditions exist which reasonably require a well location nearer than 500 feet to one or more boundaries of said quarter-quarter section; and either that the ownership of all oil and gas leases within a radius of 660 feet of the proposed exception location is common with the ownership of the oil and gas leases upon the proposed exception location or that all owners of oil and gas leases within such radius have consented in writing to the proposed exception location.

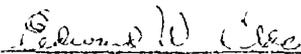
5. That nothing in the foregoing Findings of Fact or Conclusions of Law or in this Order is intended or shall be construed in any manner to determine or affect any question relating to the boundaries of any lease or the title to any lands or to determine the rights of any party in respect to any voluntary or involuntary pooling of interests within any hereby established spacing or drilling unit.

6. That this Order shall be effective forthwith; and

7. The Commission retains continuing jurisdiction of all matters covered by this Order.

DATED this 24th day of February, 1960.

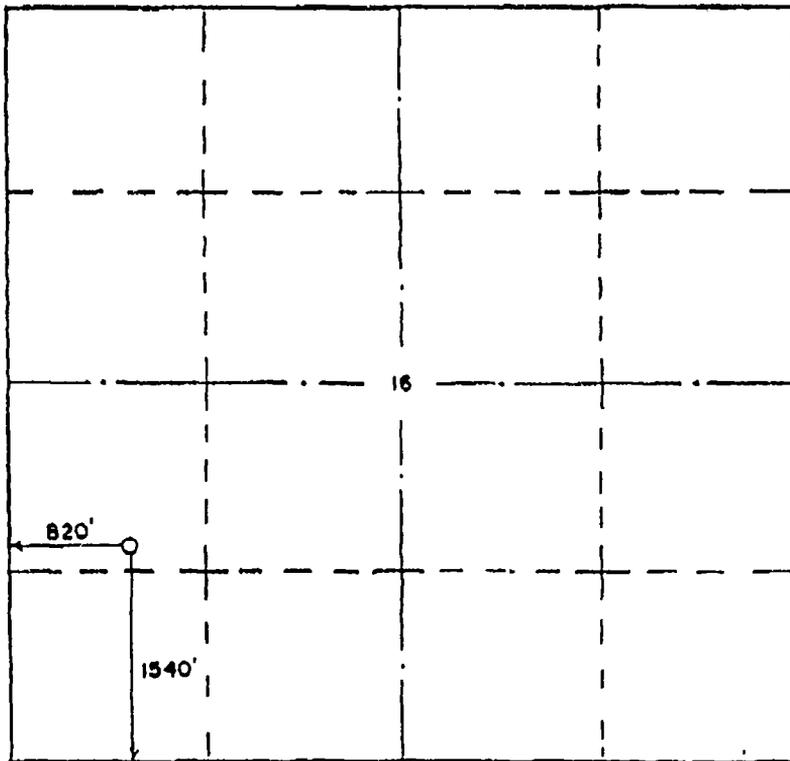
By Order of
THE OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF UTAH


EDWARD W. CLYDE,
Commissioner Presiding

APPROVED:



WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'

WELL LOCATION DESCRIPTION:

Chuska Energy Company, North Ruins 16 - L - 1
 1540'FSL & 820'FWL
 Section 16, T.40 S., R.25 E., SLM
 San Juan County, Utah
 5174' ground elevation
 State plane : x = 2,673,887. y = 241,200.
 plus or minus 5', based on existing seismic control

The above plat is true and correct my knowledge and belief.

20 March 1990

Gerald G. Huddlestone
 Gerald G. Huddlestone
 REGISTERED LAND SURVEYOR
 STATE OF UTAH

OPERATOR Chuska Energy Company (N9296) DATE 3-27-90

WELL NAME North Ruins 16L #1

SEC N45W 16 T 40S R 25E COUNTY San Juan

43-037-31518
API NUMBER

Indian (2)
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well within 921' (see 16' 17)

Under Permit 09-1419 / 160809 (H₂ Hot Oil, Fnc)

Exc to Gen State Spacing requested, however an exc. to Cause No. 17 needs to be requested. (H₂ Oil/Gtr ok, 600' ownership radius ok, well is not 500' from Gtr/Gtr boundary.

APPROVAL LETTER:

SPACING: R615-2-3

N/A
UNIT

R515-3-2

17 2-24-60
CAUSE NO. & DATE

R615-3-3

STIPULATIONS:

CC: BIA



STATE OF UTAH
NATURAL RESOURCES
Water Rights

Southeastern Area • 453 S. Carbon Avenue • P.O. Box 718 • Price, UT 84501-0718 • 801-532-1800

Norman H. Bangerter Governor
Dee C. Hansen Executive Director
W. Curtis Morgan State Engineer

RECEIVED
MAR 29 1990

DIVISION OF
OIL, GAS & MINING

March 27, 1990

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

Re: 1) Banger 24N Well #1: SE4SW4 Sec. 24, T42S, R24E, SLB&M
2) Hovenweep 10P Well #2: SE4SE4 Sec. 10, T40S, R25E, SLB&M
3) North Ruins 16L Well #1: NW4SW4 Sec. 16, T40S, R25E, SLB&M

Dear Mr. Barnes:

This letter will serve as authorization from this Division to proceed with the drilling at the above noted location. It is understood that the drilling and maintenance water will be hauled to the site by Hay Hot Oil Inc. under their existing water right 09-1419 (A60809). It is also noted on your request that 1.0 acre feet of water will be required at each well site.

Please contact me if you have any questions.

Sincerely,

Mark P. Page
Area Engineer

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

MPP/mjk



CHUSKA ENERGY COMPANY

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

RECEIVED

MAR 23 1990

March 20, 1990

WATER RIGHTS
PRICE

State of Utah
Water Rights Division
P.O. Box 718
Price, Utah 84501-0718

RECEIVED
MAR 29 1990

Attn: Mr Mark Page

UNIT
OIL, GAS & MINING

Ref: Water Use Permits: Banger 24N Well No. 1 *SE 1/4 SEC 24 T40S R23E*
Hovenweep 10P Well No. 2 *SE 1/4 SEC 10 T40S R23E*
North Ruins 16L Well No. 1 *NW 1/4 SEC 16 T40S R23E*

Dear Mr Page

Chuska Energy Company proposes to drill the subject wells commencing in June. We intend to haul water in tank trucks, utilizing Hay Hot Oil Service who will obtain water from their artesian well, details of which are as follows:

1050' FNL, 1575' FWL
S27 T40S R23E
San Juan County, Utah

Permit No: 09-1419 (A60809)

Anticipated water requirement is 1.0 acre-feet per well. Site locations are as detailed in the attached topographic map and staking plats.

Please advise if you require any further information.

Sincerely yours

Donald S. Barnes
Operations Manager

DSB/csw
File: C:\WP\CSWH\BANGER_2.4N1\WATER

encl.



CHUSKA ENERGY COMPANY

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

8 April, 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

Ref: Sundry Notice: North Ruins 16L-1 Well
Application for Extension of APD Approval

Gentlemen

Attached for your examination and approval are 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\NRUINS.16L\EXAPDSUN.CVR

encl.

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APR 11 1991

DIVISION OF
OIL GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

6 Lease Designation and Serial Number
NOG 8702-1116

7 Indian Allottee or Tribe Name
Navajo Tribal

8 Unit or Communitization Agreement

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.
Use APPLICATION FOR PERMIT-- for such proposals

1. Type of Well
 Oil Well Gas Well Other (specify)

2. Name of Operator
Chuska Energy Company

3. Address of Operator
3315 Bloomfield Highway, Farmington, NM 87401

4. Telephone Number
505-326-5525

9. Well Name and Number
North Ruins 16L 1

10. API Well Number
43-037-31518 *del*

11. Field and Pool, or Wildcat
Wildcat

12. Location of Well
Footage . 1540' FSL, 820' FWL
OO, Sec. 1, R. M. NW/4 SW/4 S16 T40S R25E
County . San Juan
State UTAH

12. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER ACTION

<p>NOTICE OF INTENT (Submit in Duplicate)</p> <p><input type="checkbox"/> Abandonment <input type="checkbox"/> New Construction <input type="checkbox"/> Casing Repair <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Change of Plans <input type="checkbox"/> Recompletion <input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Shoot or Acidize <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Multiple Completion <input type="checkbox"/> Water Shut-Off <input checked="" type="checkbox"/> Other <u>APD Extension</u></p>		<p>SUBSEQUENT REPORT (Submit Original Form Only)</p> <p><input type="checkbox"/> Abandonment <input type="checkbox"/> New Construction <input type="checkbox"/> Casing Repair <input type="checkbox"/> Pull or Alter Casing <input type="checkbox"/> Change of Plans <input type="checkbox"/> Recompletion <input type="checkbox"/> Conversion to Injection <input type="checkbox"/> Vent or Flare <input type="checkbox"/> Fracture Treat <input type="checkbox"/> Water Shut-Off <input type="checkbox"/> Other _____</p>	
--	--	--	--

Approximate Date Work Will Start 3-31-92

Date of Work Completion _____

Report results of Multiple Completions and Recompletions to different reservoirs on WELL COMPLETION OR RECOMPLETION AND LOG FORM
* Must be accompanied by a cement verification report.

13 DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Following further seismic and geological evaluation, the drilling of this well has been delayed. Chuska Energy therefore applies for an extension to the approval of the APD on the subject well.

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APR 11 1991

DIVISION OF
OIL GAS & MINING

I hereby certify that the foregoing is true and correct.

Name & Signature Christopher S. Hill *[Signature]* Title Operations Engineer Date 8 Apr 91

(State Use Only)

APPROVED BY TIME OF
DATE 4-17-91
[Signature]



Norman H. Bangerter
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 84160 1203
801 538 5340

April 17, 1990

Chuska Energy Company
315 North Behrend
Farmington, New Mexico 87401

Gentlemen.

Re. North Ruins 16L #1 - NW SW Sec. 16, T. 40S, R. 25E - San Juan County, Utah
1540' FSL, 820' FWL

Approval to drill the referenced well is hereby granted in accordance with the Order of Cause No. 17 dated February 24, 1960.

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

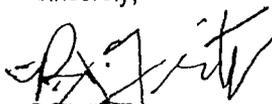
- 1 Spudding notification within 24 hours after drilling operations commence.
- 2 *Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change*
3. Submittal of the Report of Water Encountered During 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
North Ruins 16L #1
April 17, 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 43-037-31518.

Sincerely,



R. J. Firth
Associate Director, Oil & Gas

lcr

Enclosures

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

WE14/23-24



CHUSKA ENERGY COMPANY

1775 SHERMAN STREET SUITE 1800 • DENVER, COLORADO 80203 • PHONE (303) 863 7021
FAX # (303) 863 7210

May 17, 1991

Ms. Vicki Kearney
Utah Oil & Gas Commission
355 West North Temple
Three Triad Center
Suite 350
Salt Lake City, Utah
84180-1203

Dear Ms. Kearney:

Please keep all Chuska Energy Company information confidential until further notice.

Thanks,

A handwritten signature in cursive script, appearing to read "Herb".

Herbert P. Mosca
Chuska Staff Geologist

RECEIVED

MAY 20 1991

DIVISION OF
OIL GAS & MINING

ACTION CODE	CURRENT ENTITY NO	NEW ENTITY NO.	API NUMBER	WELL NAME	WELL LOCATION					SPUD DATE	EFFECTIVE DATE
					QQ	SC	TP	RG	COUNTY		
A	99999	11548	43-0...-31518	<i>Pen</i> NORTH RUINS 16L-1*	NWSW	16	40S	25E	SAN JUAN		10-19-93
WELL 1 COMMENTS:											
A	99999	11549	43-037-31552	<i>Pen</i> MONUMENT 17L-3	NWSW	17	40S	25E	SAN JUAN		10-19-93
WELL 2 COMMENTS:											
A	99999	11550	43-037-31521	<i>Pen</i> BARNES 18M #1	SWSW	18	40S	25E	SAN JUAN		10-19-93
WELL 3 COMMENTS:											
A	99999	11551	43-037-31553	<i>Pen</i> MONUMENT 18H #2	SENE	18	40S	25E	SAN JUAN		10-19-93
WELL 4 COMMENTS:											
A	99999	11552	43-037-31496	<i>Pen</i> BIG BEND 7A-1	NENE	7	40S	26E	SAN JUAN		10-19-93
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

pe
L. CORDOVA (DOG M)

Signature

ADMIN. ANALYST

Title

10-19-93

Date

Phone No. () _____

FEBRUARY 8, 1994

TO: WELL FILE

FROM: K. M. HEBERTSON

RE: Status, North Ruins 16L-1 43-037-31518 16-40S-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