



CHUSKA ENERGY COMPANY

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

March 20, 1990

RECEIVED
MAR 22 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

DIVISION OF
OIL, GAS & MINING

Ref: Application for Permit to Drill: Banger 24N 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 Banger 24N 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/cswH

File: C:\WP\CSWH\BANGER_2.4N1\UTAHCOVR

encl.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

RECEIVED
MAR 22 1990
SINGAPORE ZONE

DIVISION OF OIL, GAS & MINING

APPLICATION FOR PERMIT TO DRILL, DEEPEN OR PLUG BACK

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
Banger 24N

9. Well No.
1

10. Field and Pool, or Wildcat
 Wildcat (001)

11. QO, Sec., T., R., M., or Blk. and Survey or Area
S24 T42S R24E

12. County or Parrish
San Juan

13. State
Utah

1a. Type of Work
DRILL DEEPEN PLUG BACK

b. Type of Well
Oil Well Gas Well Other

2. Name of Operator
Chuska Energy Company

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 120' FSL, 2,210' FWL SESW

At proposed prod. zone Same

14. Distance in miles and direction from nearest town or post office*

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. line, if any)

16. No. of acres in lease

17. No. of acres assigned to this well

18. Distance from proposed location* to nearest well, drilling, completed, or applied for, on this lease, ft.

19. Proposed depth
7,078' *msf*

20. Rotary or cable tools
Rotary

21. Elevations (Show whether DF, RT, GR, etc.)
5,578' GR

22. Approx. date work will start*
6-15-90

23. PROPOSED CASING AND CEMENTING PROGRAM

Size of Hole	Size of Casing	Weight per Foot	Setting Depth	Quantity of Cement
12 1/4"	8 5/8"	24 lb	500'	371 sx '6' + 6% CaCl ₂
7 7/8"	5 1/2"	15.5-20 lb	7,078'	750 sx '6', 65:35 Poz + 6% Gel

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.

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

Signed: Donald S. Barnes Title: Operations Manager Date: 3-20-90

(This space for Federal or State office use)

API NO. 43-037-31520 Approval Date

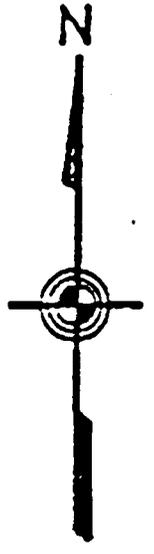
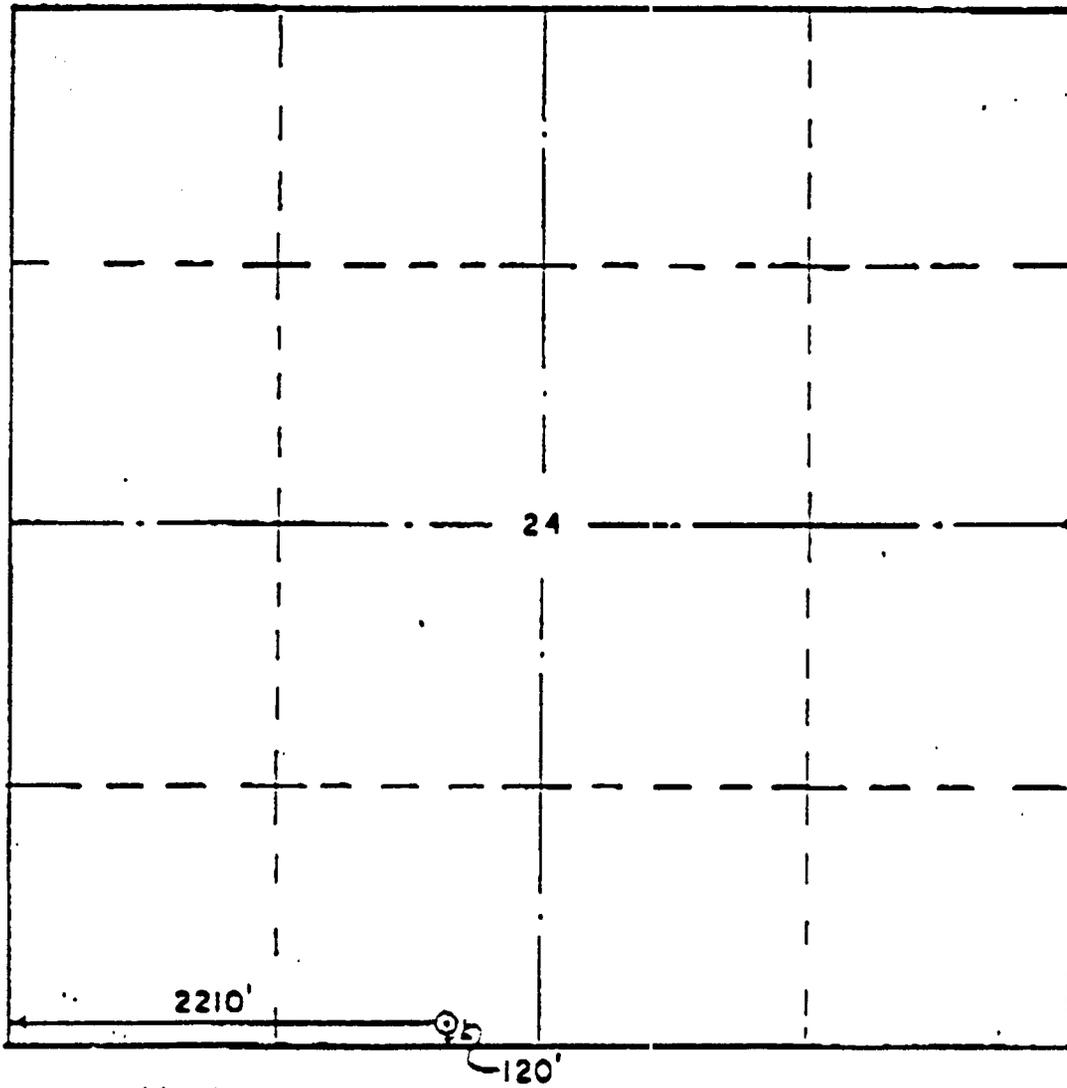
Approved by: _____ Title: _____

Conditions of approval, if any: _____

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 4-17-90
BY: John R. Bay
WELL SPACING: RG15-3-3

*See Instructions On Reverse Side

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'

◆ brass cap

WELL LOCATION DESCRIPTION:

Chuska Energy Company, Banger 24 - N - 1

120' FSL & 2210' FWL

Section 24, T.42 S., R.24 E., SLM

San Juan County, Utah

5578' ground elevation

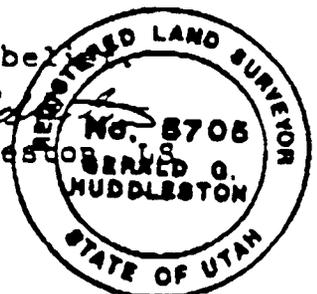
State plane : x = 2,660,795. y = 171,498.

plus or minus 5', based on existing seismic control

The above plat is true and correct my knowledge and belief

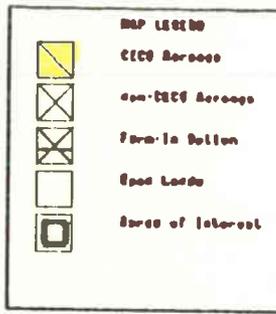
19 March 1990

Gerald G. Huddleston
Gerald G. Huddleston

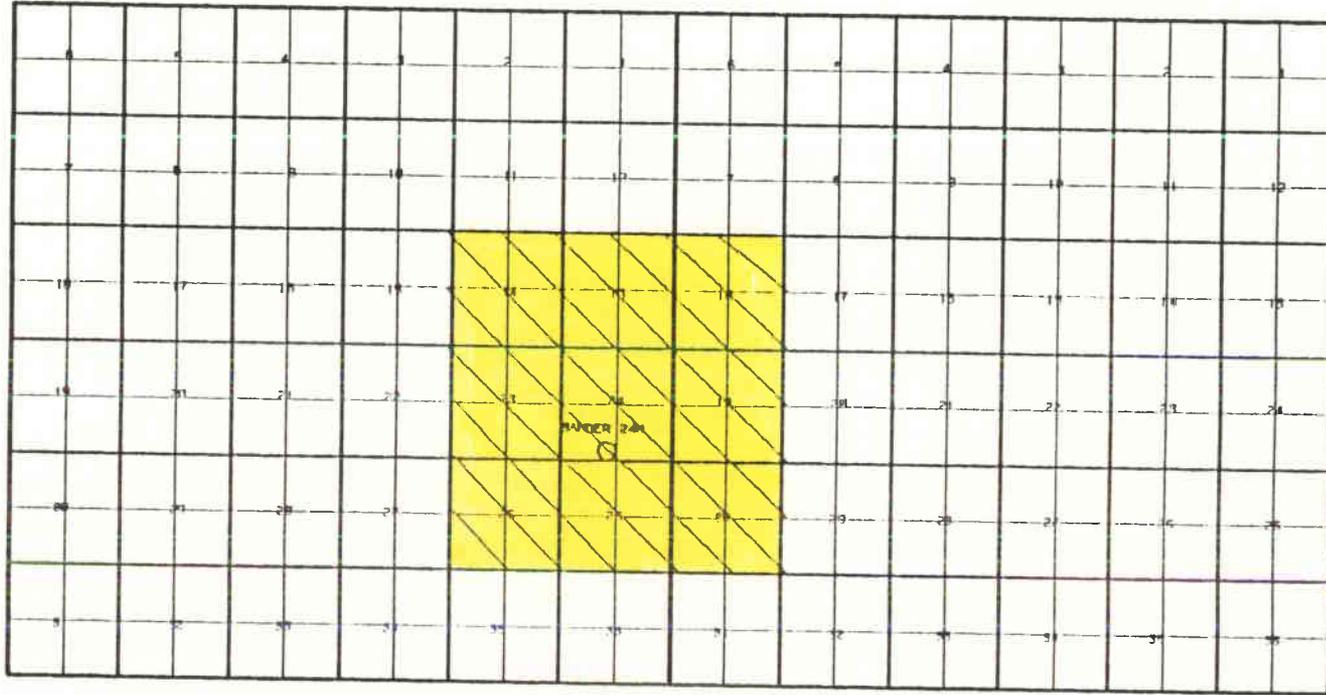


213 East Montezuma Avenue • Cortez, Colorado 81321 • 303-565-3330

T42S-R24E
SAN JUAN COUNTY
UTAH



T42S-R24E
SAN JUAN COUNTY
UTAH



CHUSKA ENERGY COMPANY

10 POINT DRILLING PLAN

Banger 24N Well No. 1
Section 24, Township 42S, Range 24E
120' FSL, 2210' FWL
San Juan County, Utah

1. SURFACE FORMATION

Geological name of surface formation: Dakota

2. ELEVATION

Surface elevation is 5,578' GR.

3. ESTIMATED FORMATION TOPS

<u>Depth</u>	<u>Formation</u>	<u>Sub Sea Elevation</u>
Surface	Dakota	+ 5578'
578'	Morrison	+ 5000'
1262'	Navajo	+ 4316'
3282'	DeChelly	+ 2296'
3419'	Organ Rock	+ 2159'
4098'	Cedar Mesa	+ 1480'
5083'	Hermosa	+ 495'
5995'	Ismay	- 417'
6199'	Desert Creek	- 621'
6319'	Akah	- 741'
6629'	Barker Creek	- 1051' Primary Target
6699'	Mississippian	- 1121'
7078'	Total Depth	- 1500'

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:	7,078'	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' - 6,160'	15.5 ppf	K-55	LTC
6,160' - 6,780'	20.0 ppf	N-80	LTC
6,780' - 7,078'	17.0 ppf	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 4,600' (stage collar @ ± 4,600'). Lead with 176 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 440 ft³.

Second Stage

4,600' to surface. Lead with 374 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 807 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 6000'

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.

6000' 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 Akah at ± 6300'.

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 23 days. Anticipated spud date is 7-1-90.

EXHIBIT "A"
BLOWOUT PREVENTER

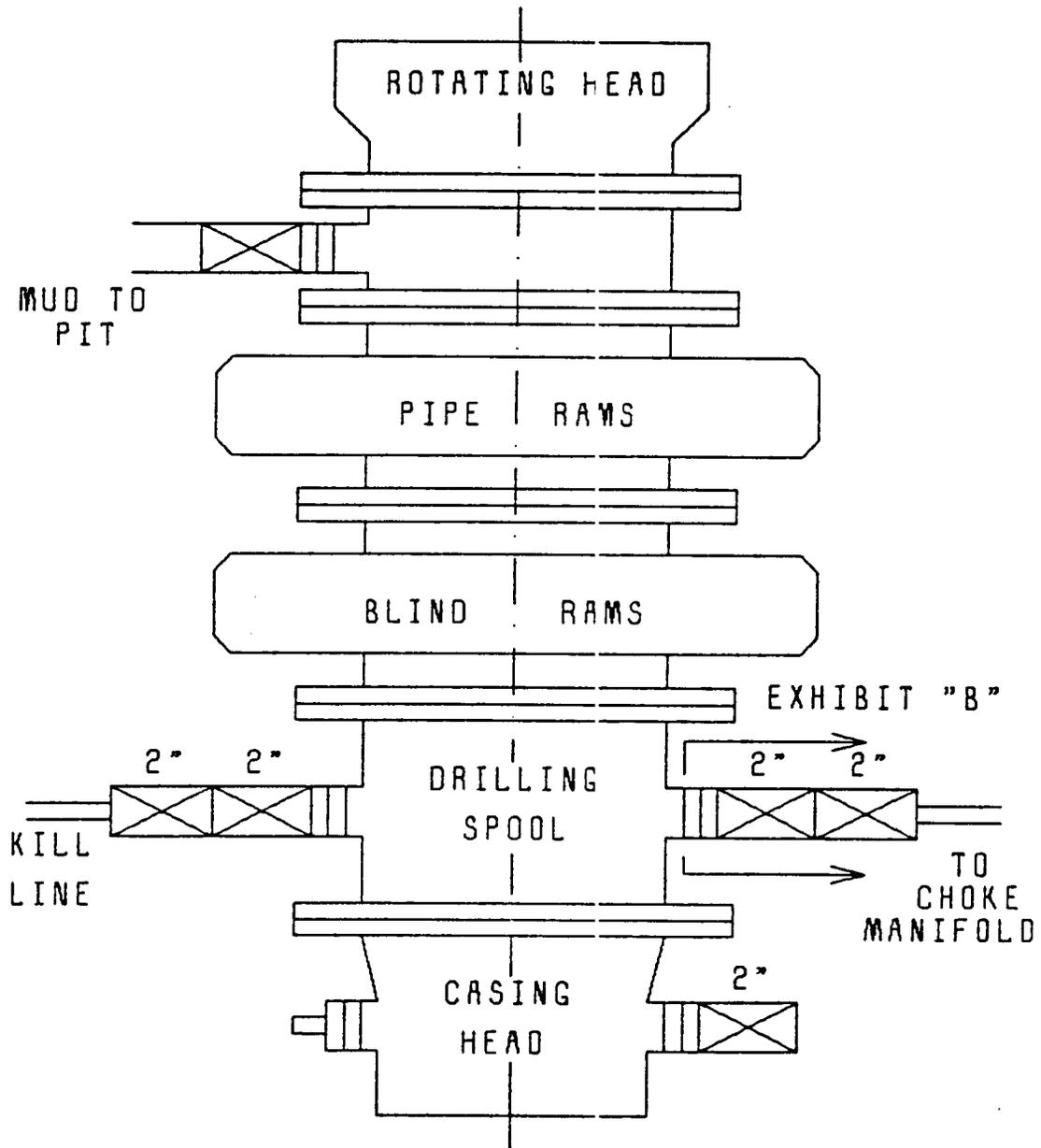
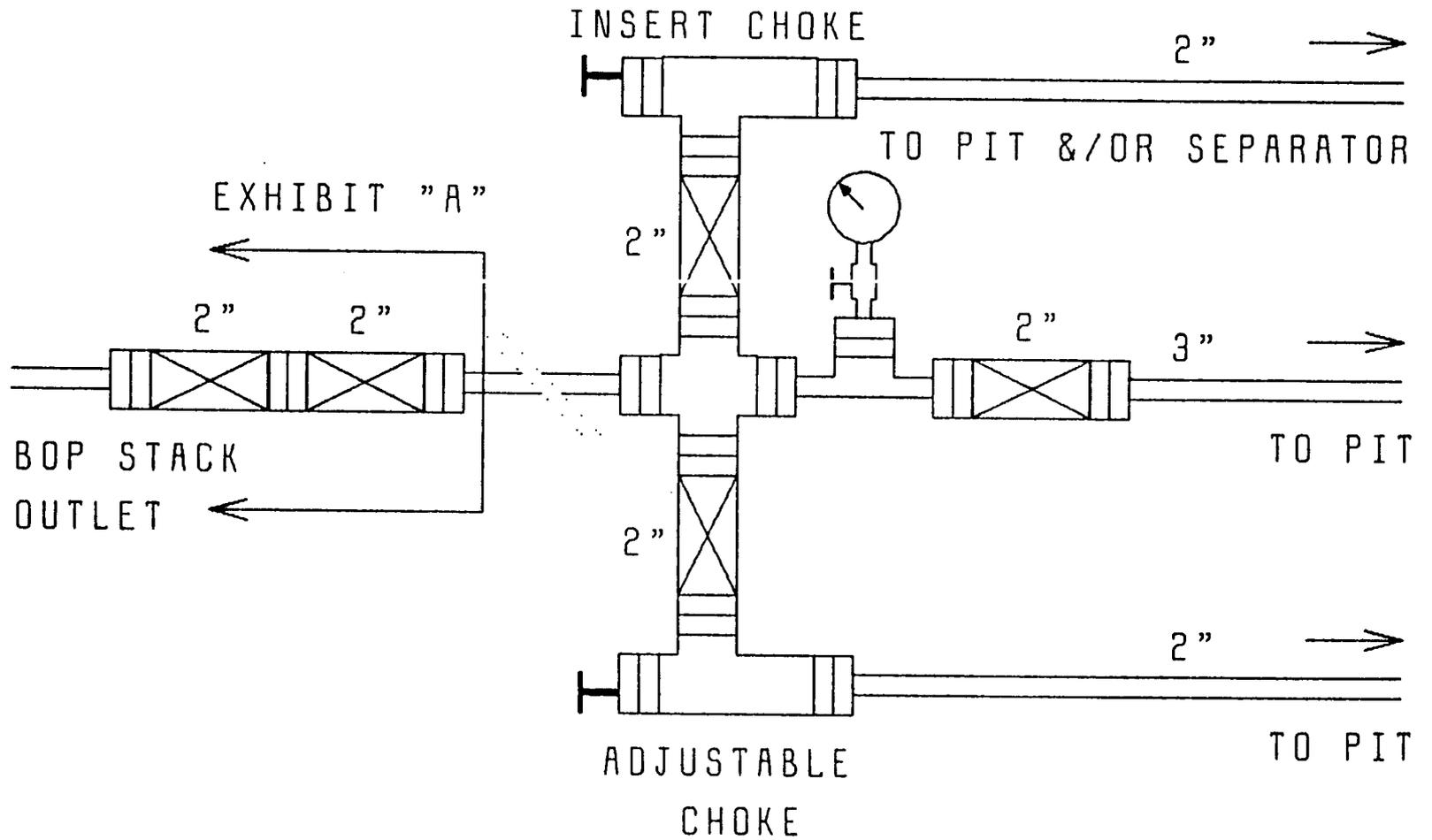


EXHIBIT "B"
CHOKE MANIFOLD



DETAILED DRILLING PROGRAM

DATE: 19 March 1990

WELL NAME: Banger 24N WELL NO.: 1

LOCATION: Section 24, Township 42S, Range 24E
120' FSL, 2210' FWL
San Juan County, Utah

ELEVATION: 5,578' GR

TOTAL DEPTH: 7,078'

PROJECTED HORIZON: Primary target is Barker Creek at 6,319'.

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 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. 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 6,000'. 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 $\pm 6,300'$. 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 $\pm 4,000'$. 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.

Banger 24N Well No. 1
Section 24, Township 42S, Range 24E
120' FSL, 2210' 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.

Banger 24N Well No. 1
Section 24, Township 42S, Range 24E
120' FSL, 2210' 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 from Montezuma Creek. 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. It is estimated that less than 500' of new road will be required 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 north east south west trend and will require up to 11' of cut in the reserve pit (up to 4' on the northern corner of the location pad) and 1' to 4' of fill on the southern side and north western corner, respectively, 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

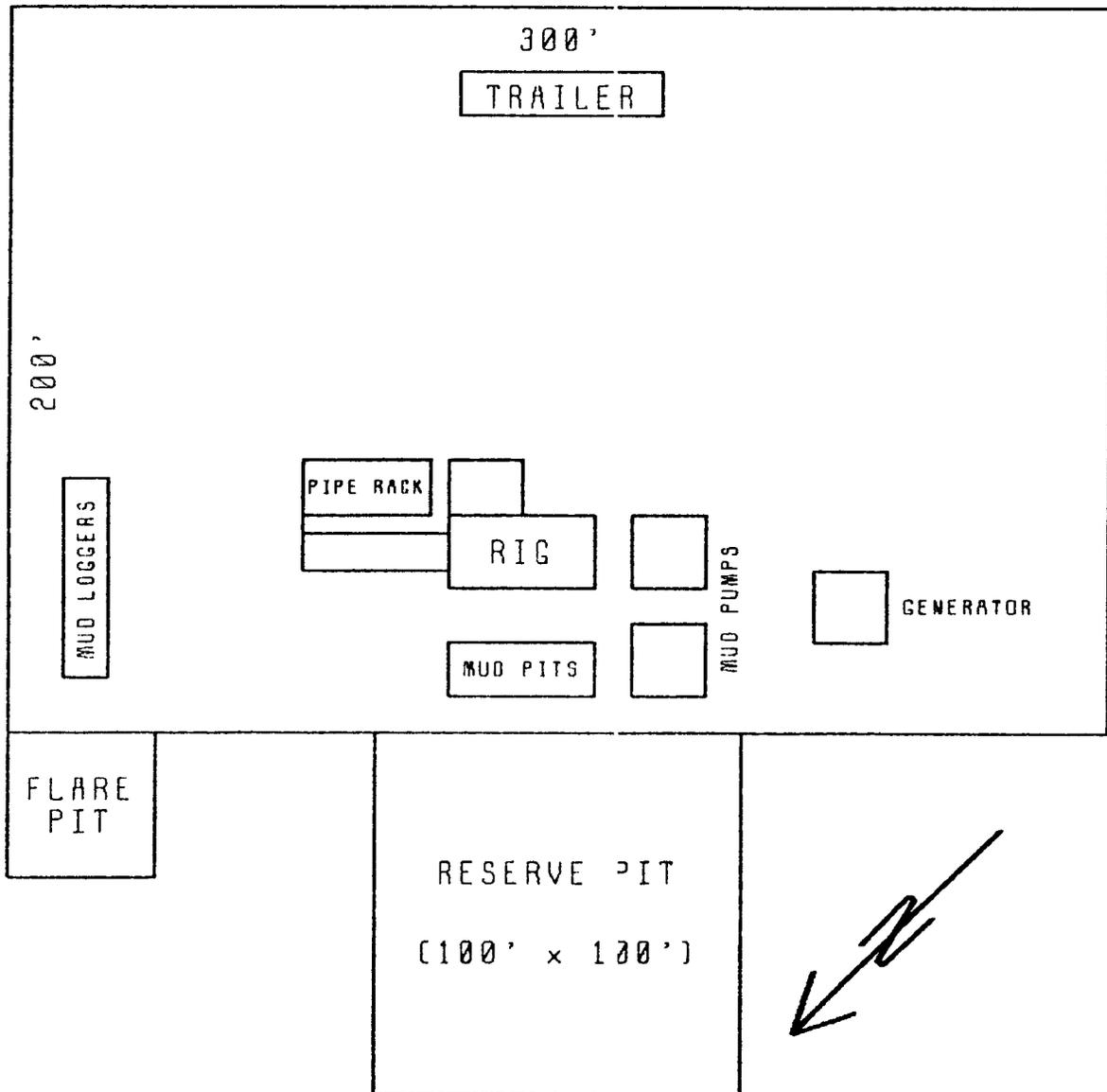
LOCATION LAYOUT

BANGER 24N-1

120' FSL, 2210' FWL

SECTION 24, TOWNSHIP 42S, RANGE 29E

SAN JUAN COUNTY, UTAH

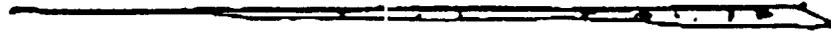


Cross Section

Banger 24 - N - 1

Cut 
Fill 

1"=50' Horz. & Vert.



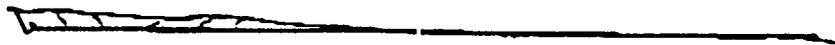
c

c'



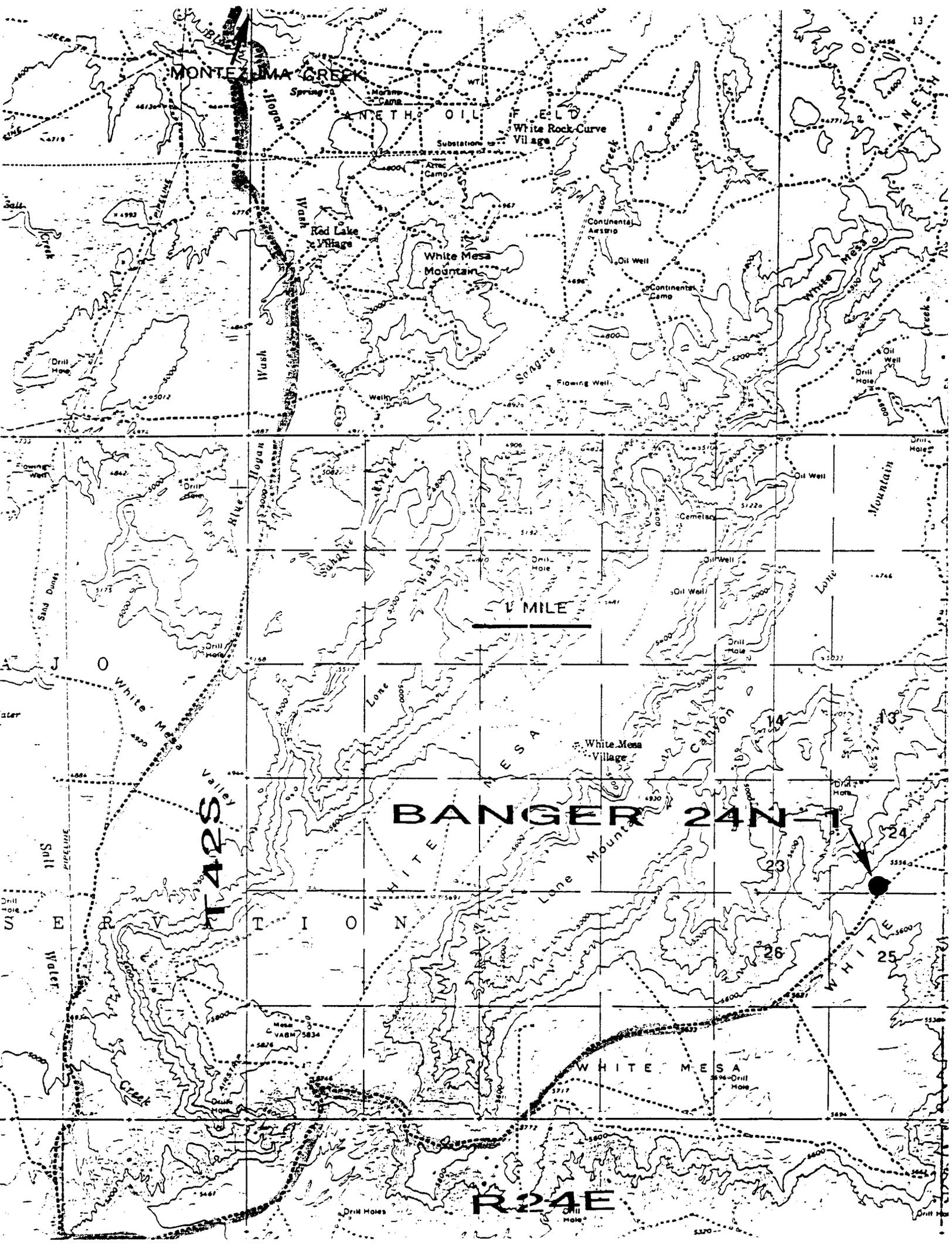
b

b'



a

a'



MONTEZUMA CREEK

WHITE OIL FIELD

White Rock Curve Village

White Mesa Mountain

Red Lake Village

Continental Airstrip

Oil Well

Continental Camp

Flowing Well

Oil Well

Drill Hole

1 MILE

BANGER 24N-1

R24E

T42S

WHITE MESA

White Mesa Village

Lone Mountain

WHITE MESA

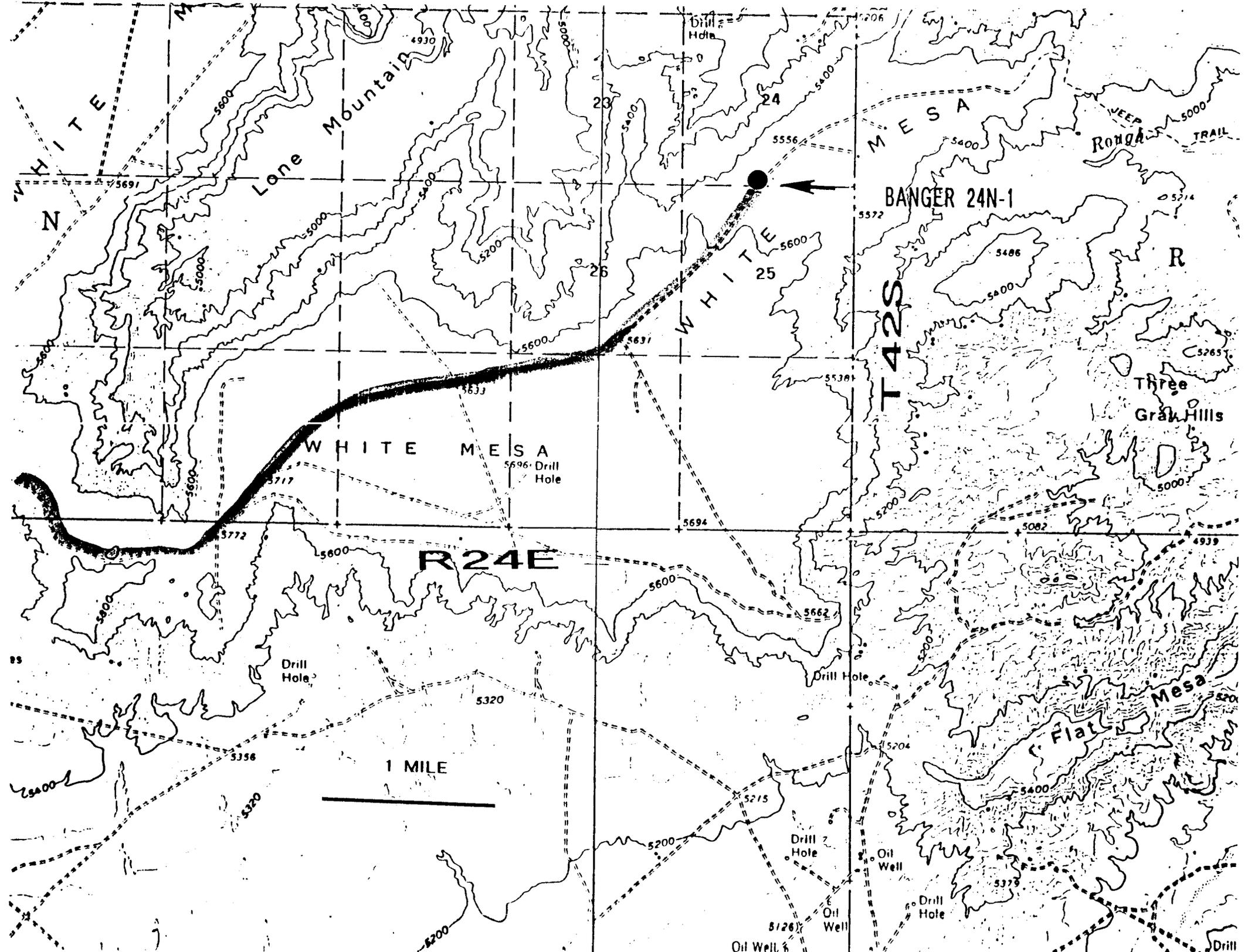
Oil Well

Drill Hole

Drill Holes

Oil Well

5370



OPERATOR Chuska Energy Company (N9290) DATE 3-27-90

WELL NAME Banger 24N #1

SEC SESW 24 T 42S R 24E COUNTY San Juan

43-037-31520
API NUMBER

Indian (27)
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well within 920' (sec. 24 & 25)
Water Permit 09-1419 / A60809 (Hay Hot Oil, Inc.)
RDC 3-27-90 / Process 4-11-90
Exception Location requested (460' Radius)

APPROVAL LETTER:

SPACING: R615-2-3 N/A R615-3-2
UNIT

N/A R615-3-3
CAUSE NO. & DATE

STIPULATIONS:

CC: BIA



STATE OF UTAH
NATURAL RESOURCES
Water Rights

Southeastern Area • 453 S. Carbon Avenue • P.O. Box 718 • Price, UT 84501-0718 • 801-637-1301

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Joseph L. 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

STATE ACTIONS

Mail to:
RDCC Coordinator
116 State Capitol
Salt Lake City, Utah 84114

-
1. ADMINISTERING STATE AGENCY
OIL, GAS AND MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, UT 84180-1203
2. STATE APPLICATION IDENTIFIER NUMBER:
(assigned by State Clearinghouse)
-
3. APPROXIMATE DATE PROJECT WILL START:
6-15-90

-
4. AREAWIDE CLEARING HOUSE(S) RECEIVING STATE ACTIONS:
(to be sent out by agency in block 1)
Southeastern Utah Association of Governments

-
5. TYPE OF ACTION: Lease Permit License Land Aquisition
 Land Sale Land Exchange Other_____

-
6. TITLE OF PROPOSED ACTION:
Application for Permit to Drill

-
7. DESCRIPTION:
Chuska Energy Company proposes to drill a wildcat well, the Banger 24N #1, on Navajo Tribal lease number NOG 8702-1116 in San Juan, County, Utah. This action is being presented to RDCC for consideration of resource issues affecting state interests. The U.S. Bureau of Land Management or the Bureau of Indian Affairs is the primary administrative agency in this case and must issue approval to drill before operations can commence.

-
8. LAND AFFECTED (site location map required) (indicate county)
SE/4 SW/4, Section 24, Township 42 South, Range 24 East, San Juan County, Utah

-
9. HAS THE LOCAL GOVERNMENT(S) BEEN CONTACTED?
Unknown

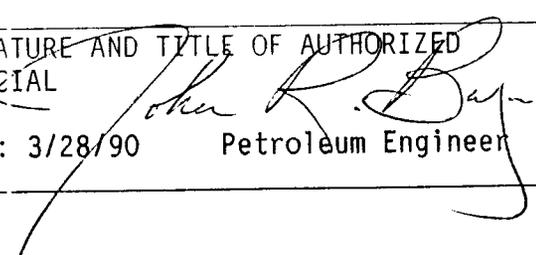
-
10. POSSIBLE SIGNIFICANT IMPACTS LIKELY TO OCCUR:
Degree of impact is based on the discovery of oil or gas in commercial quantities.

-
11. NAME AND PHONE NUMBER OF DISTRICT REPRESENTATIVE FROM YOUR AGENCY NEAR PROJECT SITE, IF APPLICABLE:
Glenn Goodwin, Monticello, 587-2561

-
12. FOR FURTHER INFORMATION, CONTACT: 13. SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL

John Baza
PHONE: 538-5340

DATE: 3/28/90


Petroleum Engineer



CHUSKA ENERGY COMPANY

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

RECEIVED

MAR 23 1990

WATER RIGHTS
PRICE

March 20, 1990

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

RECEIVED
MAR 29 1990

Attn: Mr Mark Page

DEPARTMENT OF
OIL GAS & MINING

Ref: Water Use Permits: Banger 24N Well No. 1 *SESE SRC 24 T42S R23E*
Hovenweep 10P Well No. 2 *SESE RC 10 T40S R23E*
North Ruins 15L Well No. 1 *11W S10 S2C 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.

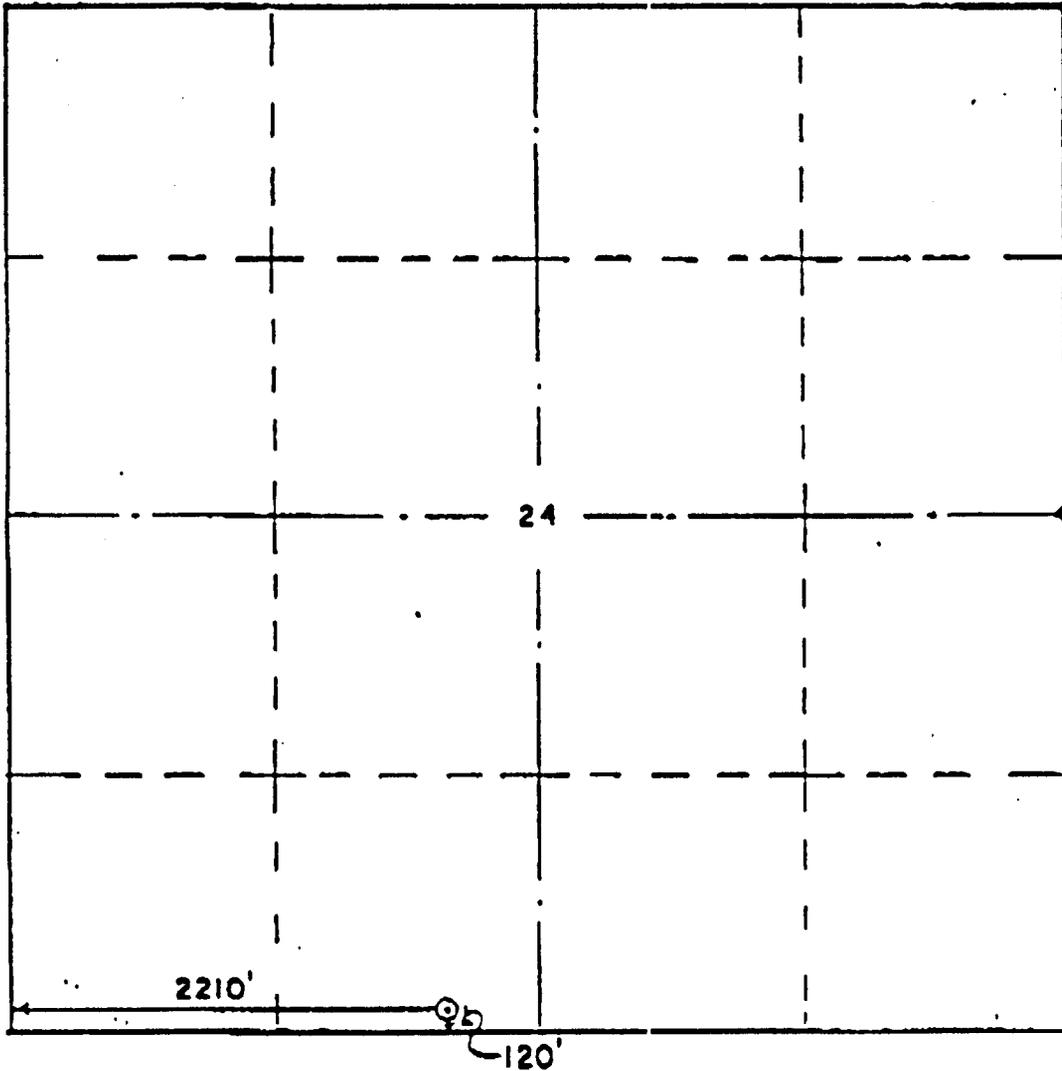
Sincerely yours

Donald S. Barnes
Operations Manager

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

encl.

WELL LOCATION AND ACREAGE DEDICATION PLAT



WELL LOCATION DESCRIPTION:

Chuska Energy Company, Barger 24 - N - 1

120' FSL & 2210' FWL

Section 24, T.42 S., R.24 E., SLM

San Juan County, Utah

5578' ground elevation

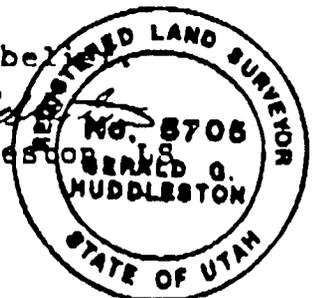
State plane : x = 2,660,795. y = 171,498.

plus or minus 5', based on existing seismic control

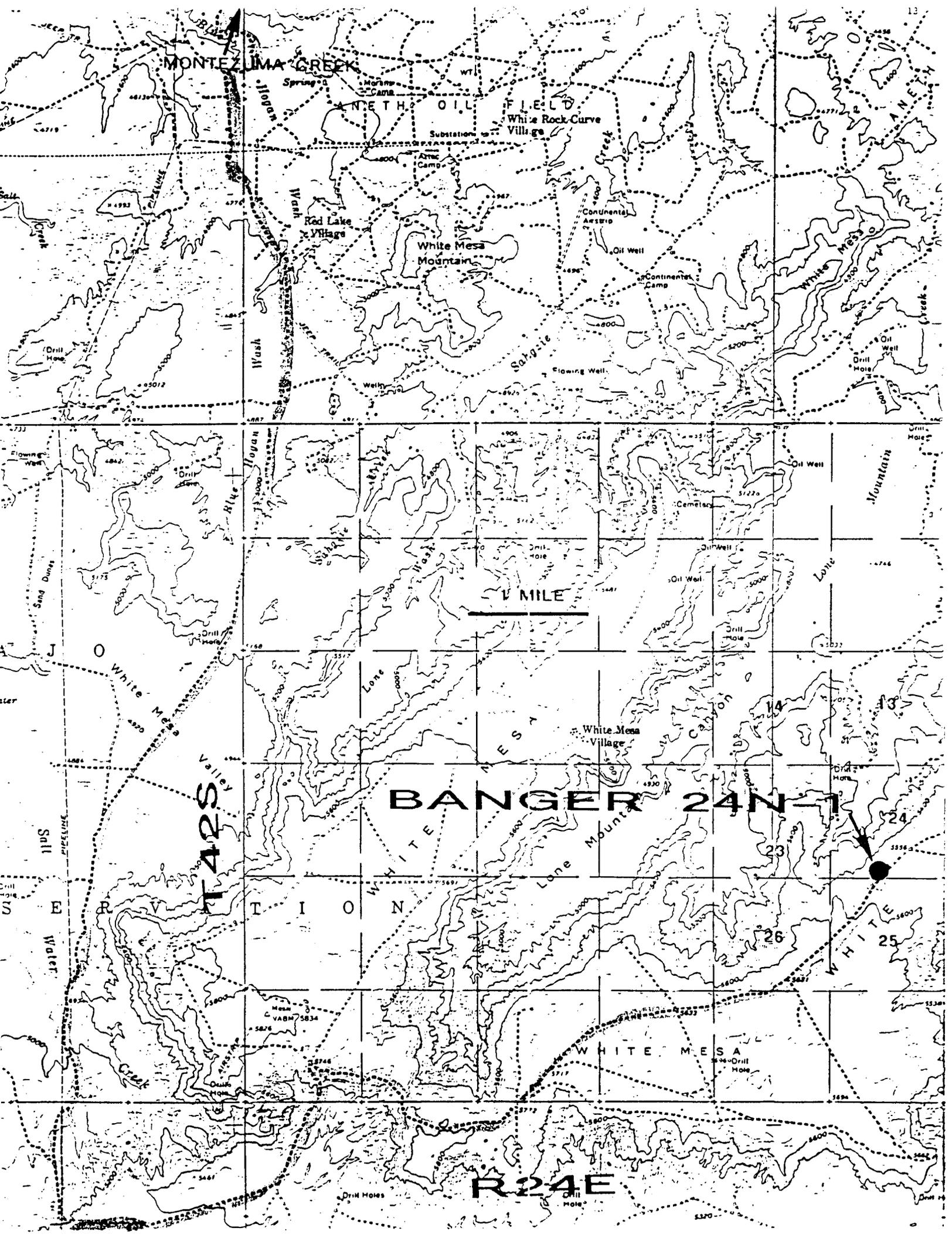
The above plat is true and correct my knowledge and belief

19 March 1990

Gerald G. Huddleston
Gerald G. Huddleston



213 East Montezuma Avenue • Cortez, Colorado 81321 • 303-565-3330



MONTEZUMA CREEK

ANETH OIL FIELD

White Rock Curve Village

White Mesa Mountain

Red Lake Village

BANGER 24N-1

R24E

1 MILE

T42S

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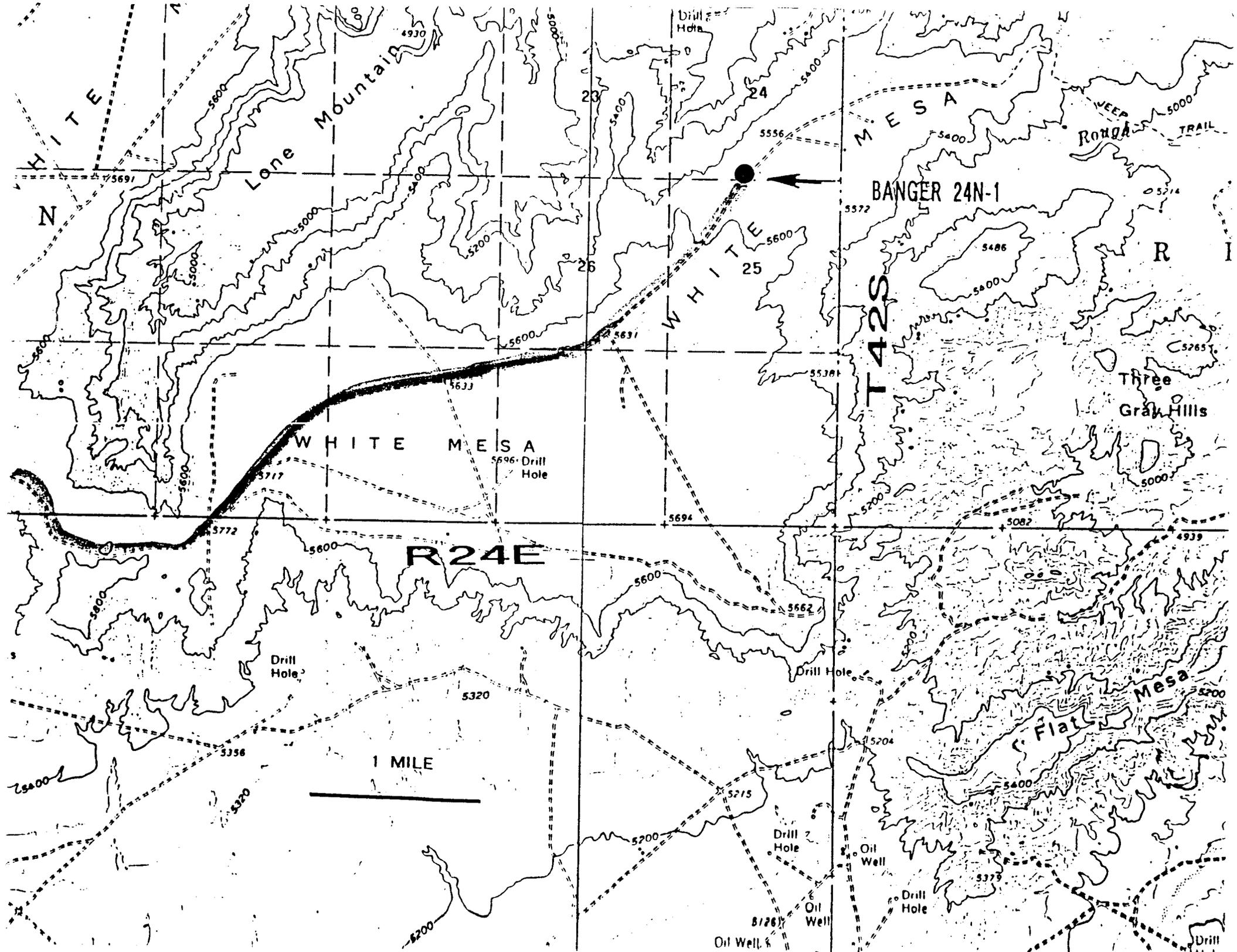
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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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

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

April 17, 1990

Chuska Energy Company
315 North Behrend
Farmington, New Mexico 87401

Gentlemen:

Re: Banger 24N #1 - SE SW Sec. 24, T. 42S, R. 24E - San Juan County, Utah
120' FSL, 2210' FWL

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:

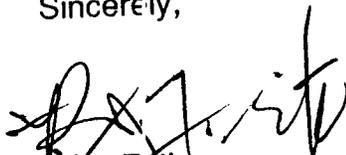
1. Spudding notification within 24 hours after drilling operations commence.
2. Submittal of an Entity Action Form within five working days following spudding and whenever a change in operations or interests necessitates an entity status change.
3. Submittal of the Report of Water Encountered During 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
Banger 24N #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 43-037-31520.

Sincerely,



R.J. Ethel
Associate Director, Oil & Gas

lcr
Enclosures
cc: Bureau of Land Management
Bureau of Indian Affairs
D. R. Nielson
J. L. Thompson
WE14/27-28

SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

HAROLD JACOBS
Chairman
WILLIAM D. HOWELL
Executive Director

P. O. Drawer A1 • Price, Utah 84501 Telephone 637-5444

AREAWIDE CLEARINGHOUSE A-95 REVIEW

NOI ___ Preapp ___ App ___ State Plan ___ State Action X Subdivision ___ (ASP # 4-42-3)

Other (indicate) _____ SAI Number UT900330-060

Applicant (Address, Phone Number):

Federal Funds:
Requested: _____

Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

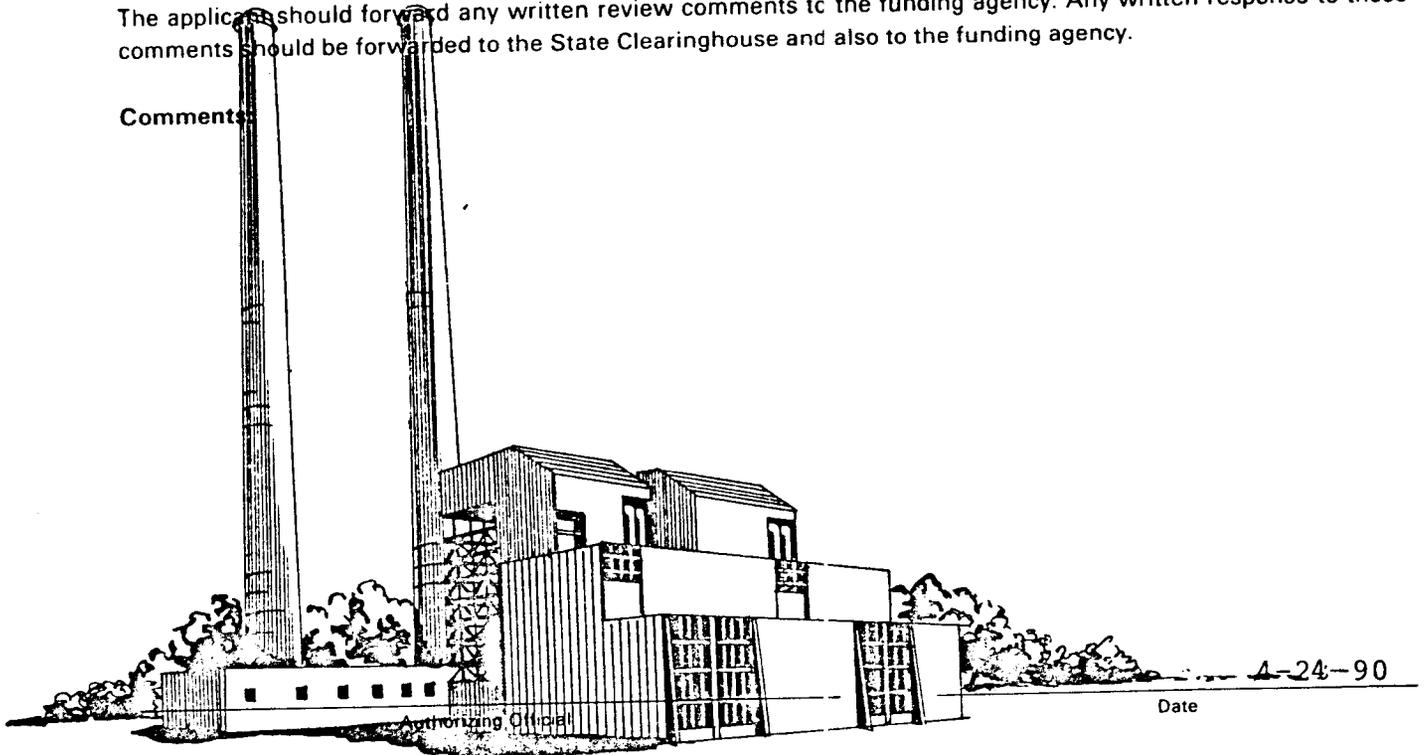
Title:

APPLICATION FOR PERMIT TO DRILL (Banger 24N #1)
42S 24E Sec. 24 43-037-31520

- No comment
- See comments below
- No action taken because of insufficient information
- Please send your formal application to us for review. Your attendance is requested

The applicant should forward any written review comments to the funding agency. Any written response to those comments should be forwarded to the State Clearinghouse and also to the funding agency.

Comments:



4-24-90

Date



CHUSKA ENERGY COMPANY

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

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

RECEIVED
JUN 04 1990

DIVISION OF
OIL, GAS & MINING

June 1, 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

RE: Sundry Notice - Change Plans - Banger 24 N 1

Gentlemen:

Enclosed you will find for your examination and approval the original and two copies of the above-referenced Sundry Notice.

Please advise if you require any additional information.

Sincerely,

ROBERT R. GRIFFEE
Operations Engineer

RRG:bnp
Enclosures
File:RRG\SUNCHBAN.24N

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS <small>(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.)</small>		1. LEASE DESIGNATION & SERIAL NO. NOG 8702-1116
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo Tribal
1. NAME OF OPERATOR Chuska Energy Company		7. UNIT AGREEMENT MADE
2. ADDRESS OF OPERATOR P. O. Drawer 780, Farmington, New Mexico 87499		8. FARM OR LEASE NAME Bangor 24 N
3. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also pages 17 below.) At surface: 120' FSL x 2210' FWL		9. WELL NO. 1
		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SECTION, T42S, R24E AND SURVEY OR AREA Sec. 24, T42S, R24E
14. API NO. 43-037-31520	15. ELEVATIONS (Show whether DP, RT, SR, etc.)	12. COUNTY San Juan
		13. STATE Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETES <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	(Other): _____	
(Other) _____		<small>(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)</small>	
APPROX. DATE WORK WILL START _____		DATE OF COMPLETION _____	

17. 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.)

* Must be accompanied by a cement verification report.

Due to additional geologic and seismic evaluation, Chuska desires to amend our APD on the above-mentioned well as follows:

CLEAR GAS
2- ✓
1-DME 3-DME
4- MICROFILM
5- FILE

Total Proposed Depth 7243' (Previously 7078')

Revised Casing Program:

Interval	Weight	Grade	Coupling
7242-6712	17 ppf	K55	LTC
6712-6111	20 ppf	N80	LTC
6111-40	15.5 ppf	K55	LTC
40-0	20	N80	LTC

Revised Cementing Program:
 Stage collar @ 4000'. Stage 1: 570 sks (656 cf), Salt Bond II
 Stage 2: 370 sks 65/35/6 POZ followed by 100 sks Class "G" neat (800 cf) (calculated to circulate cement to surface)

18. I hereby certify that the foregoing is true and correct:

SIGNED Robert R. Griffie TITLE Operations Engineer DATE 6-1-90

(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

DATE 6-16-90
BY John R. Byr

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

DIVISION OF OIL, GAS AND MINING

API NO. 43-037-31520

SPUDDING INFORMATION

NAME OF COMPANY: CHUSKA ENERGY

WELL NAME: BANGER 24N#1

SECTION SESW 24 TOWNSHIP 42S RANGE 24E COUNTY SAN JUAN

DRILLING CONTRACTOR AZTEC

RIG # 184

SPUDDED: DATE 6/1/90

TIME 1:30 a.m.

HOW ROTARY

DRILLING WILL COMMENCE _____

REPORTED BY JOHN

TELEPHONE # 505-326-5525

06/12/90
SLS
TAS
3 - MICROFILM ✓
3 - FILE

DATE 6/12/90 SIGNED TAS



CHUSKA ENERGY COMPANY

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

RECEIVED
JUN 21 1990
DIVISION OF
OIL, GAS & MINING

13 June 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: Sundry Notice - Banger 24N-1: Spud/Set Surface Casing

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 application.

Sincerely,

Larry G. Sessions

Larry G. Sessions
Operations Manager

LGS/csw
File: C:\WP\CSWH\BANGER.24N\SPUDSFC.SUN

OIL AND GAS	
MIN	RJF
JFB	GM
MS	MS
1-TAS	✓
2-LCRV	✓
2-DME	✓
4- [REDACTED]	✓
5- FILE	

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS <small>(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.)</small>		3. LEASE DESIGNATION & SERIAL NO. NOG 8702-1116
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo Tribal
1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR Chuska Energy Company		4. FARM OR LEASE NAME Banger 24N
3. ADDRESS OF OPERATOR P.O. Box 780, Farmington, New Mexico 87499		9. WELL NO. 1
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface: 120' FSL, 2210' FWL At proposed prod. zone: Same		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC. T. R. N. OR BLM. AND SURVEY OR AREA S24 T42S R24E
14. API NO. 43-037-31520	13. ELEVATIONS (Show whether DF, RT, GR, etc.) 5578' GR	12. COUNTY San Juan 11. STATE Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL (Other) <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Spud/Set Surface Casing <input checked="" type="checkbox"/>	
APPROX. DATE WORK WILL START _____		DATE OF COMPLETION <u>6-9-90</u>	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. 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.)

* Must be accompanied by a cement verification report.

Spudded well 0130 hrs, 6-9-90, with Aztec Well Servicing Rig 184. Verbal notification to State of Utah 1330 hrs, 6-8-90.

Drilled 12 1/4" hole to 515'. Rigged up and ran 12 jts, 8-5/8", 24 #/ft, K-55 casing and landed at 510'. Cemented with 400 sx Class 'G' cement with 2% CaCl₂ and 1/4 lb/sk Celloflake. Cement in place 2300 hrs, 6-9-90. Circulated 18 bbl cement to surface.

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

SIGNED Larry G. Sessions TITLE Operations Manager DATE 6-13-90
(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY: _____

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

ENTITY ACTION FORM - FORM 6

OPERATOR Chuska Energy Company *N9290*

OPERATOR ACCT. NO. N

ADDRESS P.O. Box 780, Farmington

New Mexico 87499

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	11093	43-037-31520	Banger 24N-1	SESW	24	42S	24E	San Juan	6-9-90	
<p>WELL 1 COMMENTS: Spudded well 0130 hrs, 6-9-90, Using Aztec Well Servicing Rig 184. Notified BLM and State of Utah verbally of spud on 6-8-90. <i>Indian Lease Unit - N/A</i> <i>Field - Wildcat Proposed Zone - mssp (Entity 11093 added 6-23-90) for</i></p>											
WELL 2 COMMENTS:											
WELL 3 COMMENTS:											
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.

Larry G. Sessions
Signature Larry G. Sessions
Operations Manager 6-13-90
Title 6-13-90 Date
Phone No. (505) 326-5525

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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.)

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Chuska Energy Company

3. ADDRESS OF OPERATOR

P. O. Box 780, Farmington, New Mexico 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.
See also space 17 below.)
At surface

120' FSL x 2210' FWL

14. PERMIT NO.

43-037-31520

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

5578 GR

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

Banger 24 N

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 24, T42S, R24E

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 <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>

(Other)

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

17. 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.)

As per our telephone discussion with Ken Townsend, Farmington, New Mexico, on June 22, 1990, we are amending our proposed total depth to 7300' for the above-named well.

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

SIGNED Robert R. Grivelle
ROBERT R. GRIVELLE

TITLE Operations Engineer

DATE 6-22-90

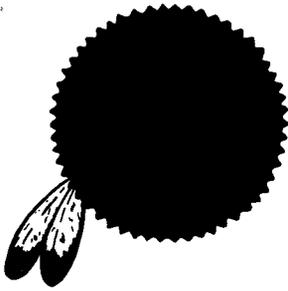
(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side



CHUSKA ENERGY COMPANY

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

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

RECEIVED
JUN 25 1990

DIVISION OF
OIL, GAS & MINING

June 22, 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

RE: Sundry Notice - Change of Plan - Eanger 24 N 1

43-037-31520

Gentlemen:

Enclosed you will find for your examination and approval the original and two copies of the above-referenced Sundry Notice.

Please advise if you require any additional information.

Sincerely,

ROBERT R. GRIFFEE
Operations Engineer

RRG:bnp
Enclosures
File:RRG\CHPLBANG.24N

OIL AND GAS	
DFN	RJF
2-JPB ✓	GLH
DTS	SLS
1-TAS	
3-TAS	
	MICROFILM ✓
	FILE

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

3. LEASE DESIGNATION & SERIAL NO.

NOG 8702 - 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

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Banger 24 N

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC. T. R. M. OR BLK. AND SURVEY OR AREA

Sec. 24, T42S, R24E

12. COUNTY

San Juan

13. STATE

Utah

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

Chuska Energy Company

3. ADDRESS OF OPERATOR

P. O. Box 780, Farmington, New Mexico 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)

At surface

120' FSL x 2210' FWL

At proposed prod. zone

RECEIVED JUN 25 1990

DIVISION OF OIL, GAS & MINING

14. API NO.

43-037-31520

15. ELEVATIONS (Show whether OF, AT, OR, etc.)

5578 GR

12. COUNTY

San Juan

13. STATE

Utah

18.

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 COMPLETE

ABANDON

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

APPROX. DATE WORK WILL START _____

DATE OF COMPLETION _____

17. 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.)

* Must be accompanied by a cement verification report.

As per our telephone discussion with John Baza, Salt Lake City, Utah, on June 22, 1990, we are amending our proposed total depth to 7300' for the above-named well.

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

SIGNED

Robert R. Grivver
ROBERT R. GRIVVER

TITLE

Operations Engineer

DATE

6-22-90

(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

See Instructions On Reverse Side

DATE: 7-6-90

John R. Baza
John R. Baza

(3/89) Federal approval of this action is required before commencing operations



CHUSKA ENERGY COMPANY

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

RECORDED
JUN 29 1990

27 June 1990

DIVISION OF
OIL, GAS & MINING

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 - Banger 24N-1: Plug and Abandon

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 application.

Sincerely,

Larry G. Sessions
Larry G. Sessions
Operations Manager

LGS/csw
File: C:\WP\BANGER.24N\P&A.SUN

OIL AND GAS	
DFN	RJF
JFB	GLH
DJS	SLS
1-DME ✓	
2-	MICROFILM ✓
3-	FILE

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS <small>(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.)</small>		3. LEASE DESIGNATION & SERIAL NO. NOG 8702-1116
		6. IF INDIAN ALLOTTEE OR TRIBE NAME Navajo Tribal
1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		
2. NAME OF OPERATOR Chuska Energy Company	8. FARM OR LEASE NAME Banger 24N	
3. ADDRESS OF OPERATOR P.O. Box 780, Farmington, New Mexico 87499	9. WELL NO. 1	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 120' FSL, 2210' FWL	10. FIELD AND POOL, OR WILDCAT Wildcat	
At proposed prod. zone	11. SEC. T., R., M., OR BLK. AND SURVEY OR AREA S24 T42S R24E	
14. API NO. 43-037-31520	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5578' GR	12. COUNTY 13. STATE San Juan Utah

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	(Note: Report results of multiple completion or Well Completion or Recompletion Report and Log form.)
APPROX. DATE WORK WILL START _____		DATE OF COMPLETION 6-26-90	

17. 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.)

* Must be accompanied by a cement verification report.

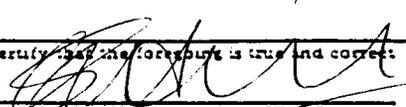
Plugged and abandoned well as follows, using Class 'G' cement plugs displaced with 10.5 ppg salt saturated mud:

- Plug #1 - 50 sx: 7,220' - 7,120'
- Plug #2 - 50 sx: 6,007' - 5,907'
- Plug #3 - 50 sx: 5,106' - 5,006'
- Plug #4 - 50 sx: 3,228' - 3,128'
- Plug #5 - 60 sx: 2,004' - 1,904'
- Plug #6 - 50 sx: 566' - 466'
- Plug #7 - 25 sx: 50' - 0'

Rig released 0300 hrs, 6-27-90.

Verbal approval from State of Utah (Jim Thompson) at 0830 hrs, 6-26-90.

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

SIGNED  TITLE Petroleum Engineer DATE 6-27-90
Christopher SW Hill

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:



CHUSKA ENERGY COMPANY

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

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

RECEIVED
JUL 09 1990

DIVISION OF
OIL, GAS & MINING

3 July 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: Completion Report: Banger 24N-1

Gentlemen

attached for your examination and approval is the original and two copies of the subject Completion Report.

Please advise if you require additional information concerning this application.

Sincerely,

Larry G. Sessions

Larry G. Sessions
Operations Manager

LGS/csw
File: C:\WP\BANGER.24N\COMPLETE.SUN

OIL AND GAS	
DFN	RJF
1-JRB ✓	GLH
DIS	SLS
2-DME	
2	MICROFILM ✓
4	FILE

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING

5. LEASE DESIGNATION AND SERIAL NO.

NOG 8702 - 1116

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo Tribal

UNIT AGREEMENT NAME

WELL COMPLETION OR RECOMPLETION REPORT

RECEIVED AND LOGGED
JUL 09 1990
DIVISION OF OIL, GAS & MINING

1a. TYPE OF WELL: OIL WELL GAS WELL DRY

1b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEPEN PLUG BACK DIFF. RESVR. Other _____

2. NAME OF OPERATOR
Chuska Energy Company

3. ADDRESS OF OPERATOR
P. O. Box 780, Farmington, New Mexico 87499

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)

At surface 120' FSL, 2210' FWL

At top prod. interval reported below

At total depth

5. FARM OR LEASE NAME

Banger 24 N

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 24, T42S, R24E

14. API NO. 43-037-31520

DATE ISSUED _____

12. COUNTY San Juan

13. STATE Utah

15. DATE SPUNDED 6-1-90

16. DATE T.D. REACHED 6-25-90

17. DATE COMPL. (Ready to prod.) N/A

18. ELEVATIONS (DF, REB, RT, GR, ETC.) 5578' GR

19. ELEV. CASINGHEAD N/A

20. TOTAL DEPTH, MD & TVD 7240' MD

21. PLUG BACK T.D., MD & TVD N/A

22. IF MULTIPLE COMPL., HOW MANY N/A

23. INTERVALS DRILLED BY Rotary

ROTARY TOOLS _____

CABLE TOOLS _____

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)

25. WAS DIRECTIONAL SURVEY MADE No

26. TYPE ELECTRIC AND OTHER LOGS RUN DLL/MSFL/GR/Cal, LDT/CNL, Sonic

27. WAS WELL CORED YES NO (Submit analysis)

DRILL STEM TEST YES NO (See reverse side)

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
8 5/8"	24	510'	12 1/4"	400 Sx "G" + 2% CaCl ₂	
				Circulated cement to surface	

29. LINER RECORD					30. TUBING RECORD		
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT	SCREEN (MD)	SIZE	DEPTH SET (MD)	PICKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.	
DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED	DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33. PRODUCTION

DATE FIRST PRODUCTION _____

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) _____

WELL STATUS (Producing or shut-in) _____

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) _____

TEST WITNESSED BY _____

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED CHRISTOPHER S. W. HILL TITLE Petroleum Engineer DATE July 3, 1990

See Spaces for Additional Data on Reverse Side

INSTRUCTIONS

This form should be completed in compliance with the Utah Oil and Gas Conservation General Rules. If not filed prior to this time, all logs, tests, and directional surveys as required by Utah Rules should be attached and submitted with this report.

ITEM 18: Indicate which elevation is used as reference for depth measurements given in other spaces on this form and on any attachments.

ITEMS 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

ITEM 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

ITEM 33: Submit a separate completion report on this form for each interval to be separately produced (see instruction for items 22 and 24 above).

37. SUMMARY OF POROUS ZONES: Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.				38. GEOLOGIC MARKERS		
Formation	Top	Bottom	Description, contents, etc.	Name	Top	
					Meas. Depth	True Vert. Depth
				Navajo	1294	
				Chinle	1954	
				DeChelly	3178	
				Organ Rock	3446	
				Hermosa	5056	
				Upper Ismay	5957	
				Lower Ismay	6076	
				Akah	6288	
				Barker Creek	6648	
				Pinkerton Trail	6880	
				Molas	7065	
				Mississippian	7170	



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 data confidential until further notice.

Thanks,

Herb

Herbert P. Mosca
Chuska Staff Geologist

RECEIVED

MAY 20 1991

DIVISION OF
OIL GAS & MINING

BANGER 24-N-1

SE SW S24 T 42S R 24E

ENGINEERING DATA

<u>CASING</u>		<u>ABANDONMENT PLUGS</u>		
<u>Size</u>	<u>Shoe Depth</u>	<u>Formation</u>	<u>Interval</u>	<u>Volume (Sx)</u>
8 ⁵ / ₈ "	510'	Leadville	7220-7120	50
		U. Ismay	6007-5907	50
		U. Ismay	5106-5006	50
		U. Ismay	3228-3128	50
		U. Ismay	2004-1904	60
		Csg Shoe	566-466	50
		Surface	50-0	25

FORMATION TREATMENT

<u>Type</u>	<u>Volume (gal.)</u>	<u>Formation</u>
-------------	--------------------------	------------------

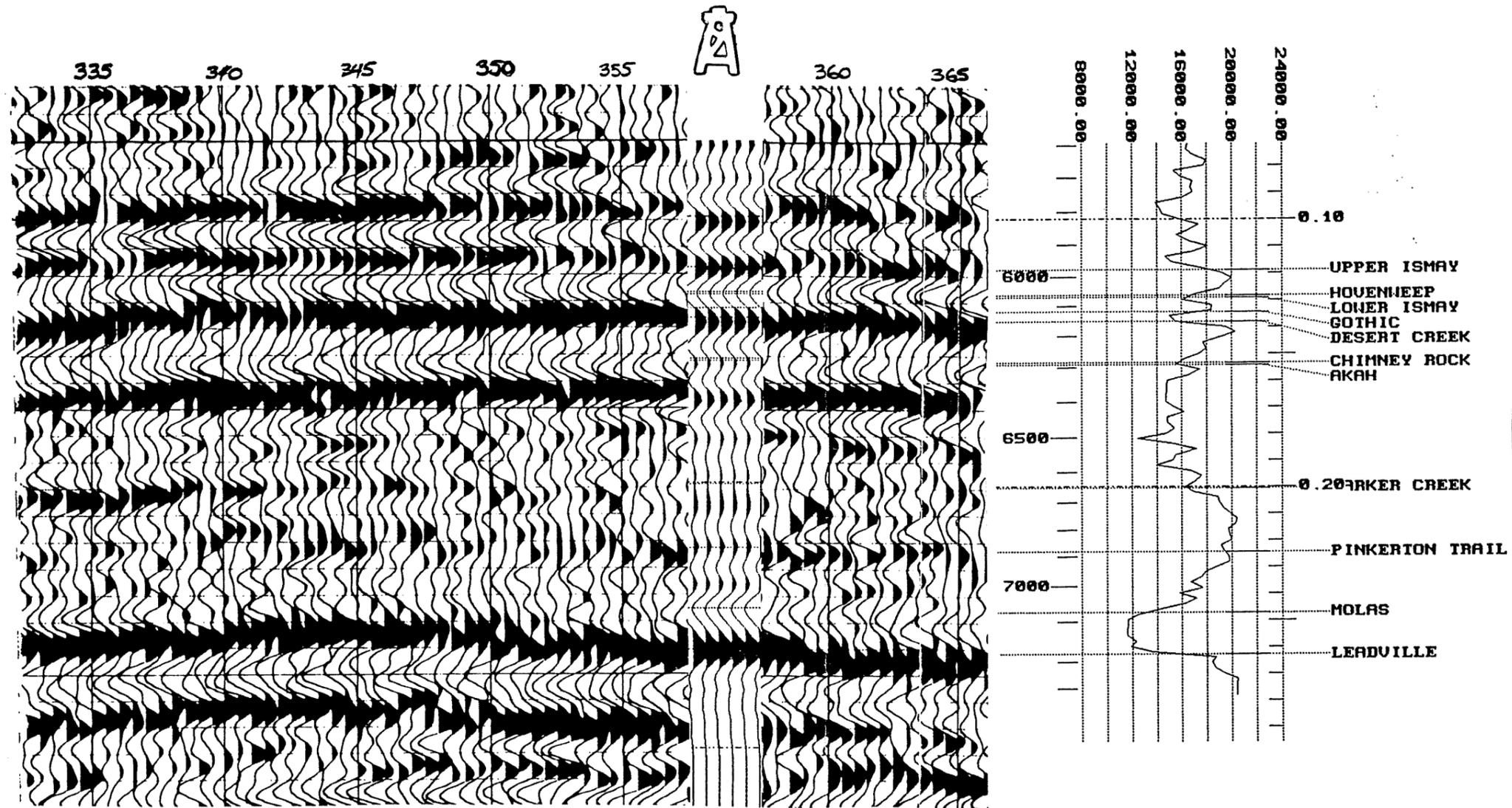
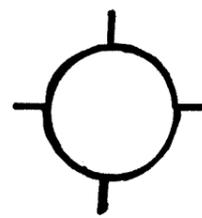
SUMMARY

Banger 24-N-1 was an exploration well drilled to the south of the Aneth oil field to test a Barker Creek seismic anomaly. The anomaly seen on the seismic was a dim out of the Barker Creek reflector and was noticeable across several seismic lines. This dim out was thought to be associated with porosity development in the Barker Creek. The anomaly occurred across a structural high to the southwest of the edge of the Barker Creek salt and this was considered to be a favourable location for the development of algal mounds during Barker Creek time. The Barker Creek when drilled at Banger did not prove to be porous as prognosed. The top 60 ft of the Formation was anhydrite and the underlying carbonate was a tight dolomite.

The Davis Sec. 17 well is the nearest deep well for which a sonic log was available. A model using this well and the Banger 24-N-1 well was made and is included with the PWA. The dimout as observed on the seismic lines can be seen on the model. The model and synthetic seismogram show that the lack of a pronounced peak at the Barker Creek level is a function of the basal Akah lithology rather than upper Barker Creek as was expected. The Sec. 17 well and the Carter Sec. 22 well recorded shaley or salt facies in the lower Akah. At Banger these facies were replaced by anhydrites and carbonates, shallower water facies, consistent with the paleo high seen on the seismic. Since these facies are similar to the Upper Barker Creek there is little impedance contrast.

Only a minor gas show was recorded in the base of the Barker Creek. The only other shows encountered while drilling were gas shows associated with small drilling breaks in the Lower Ismay, Desert Creek and Akah.

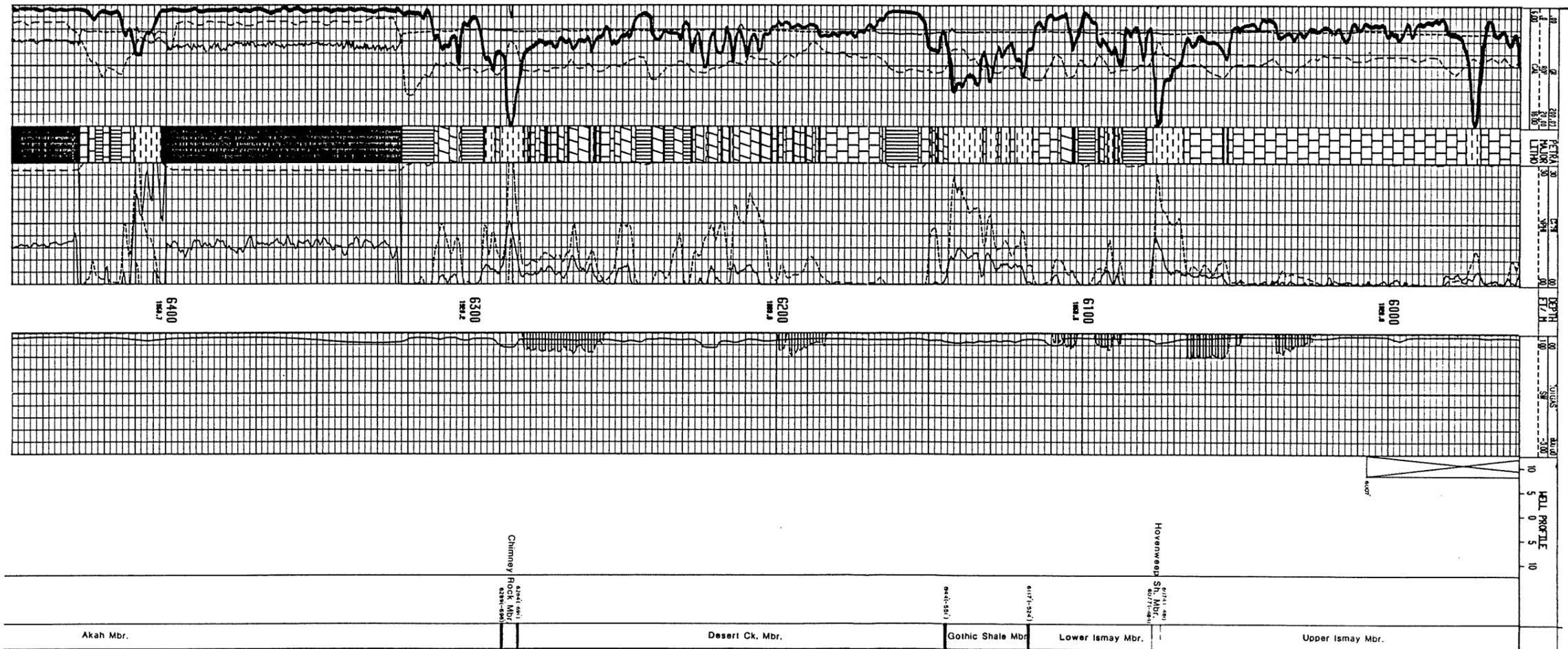
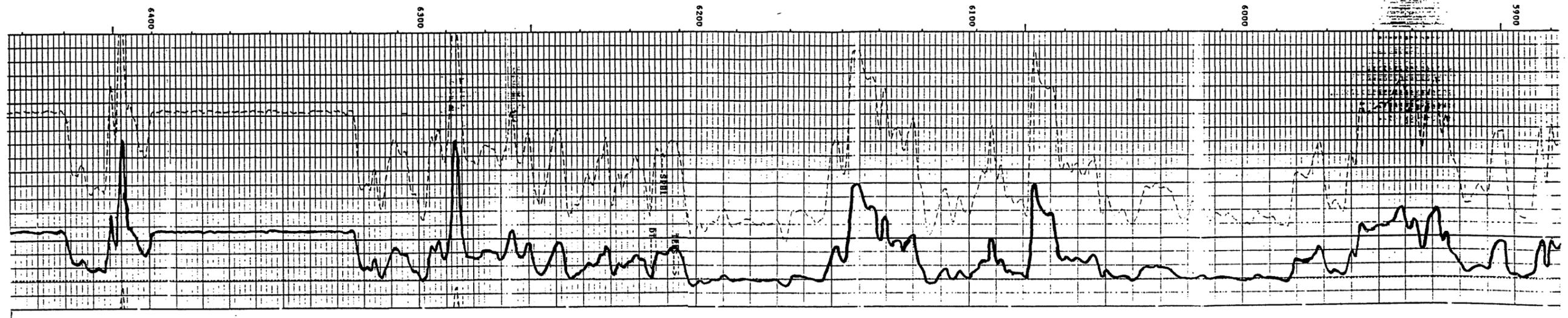
Banger 24-N-1 was subsequently plugged and abandoned.

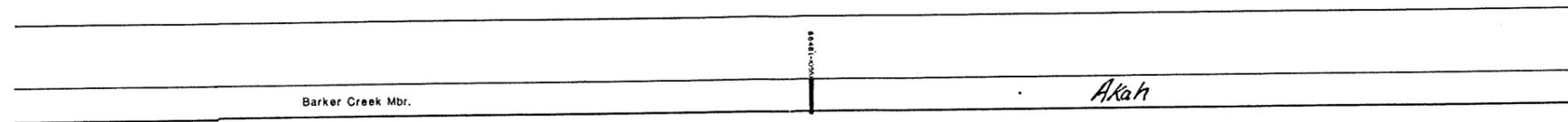
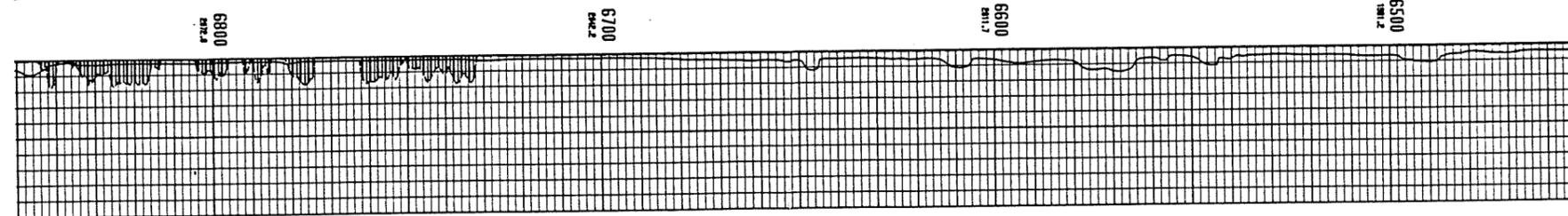
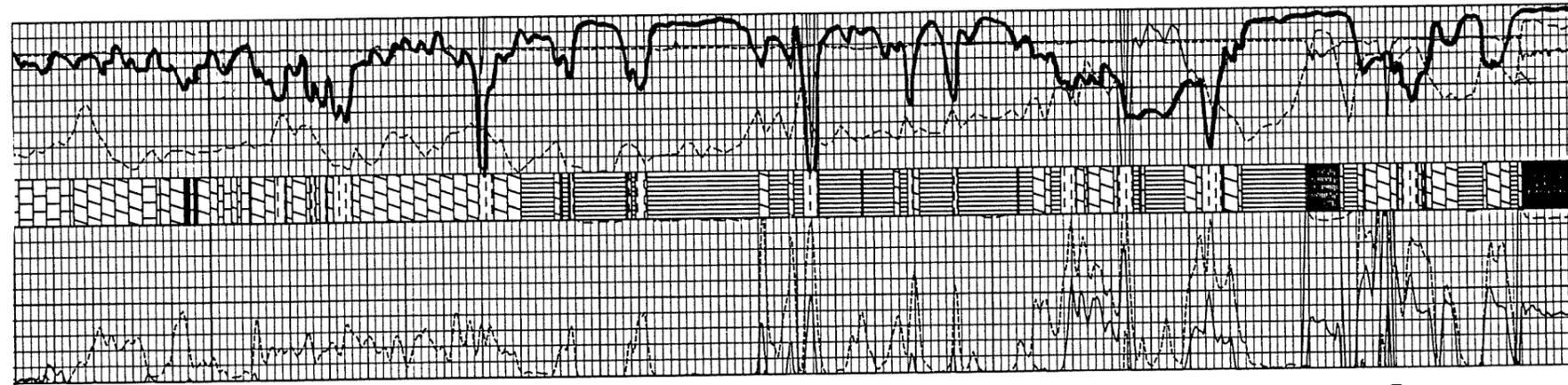
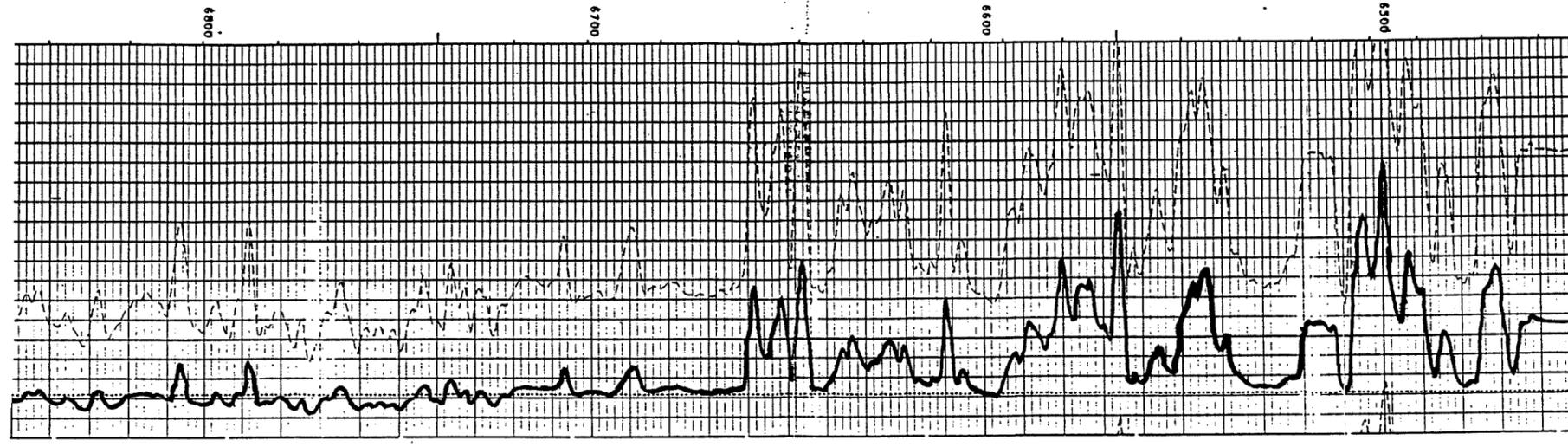


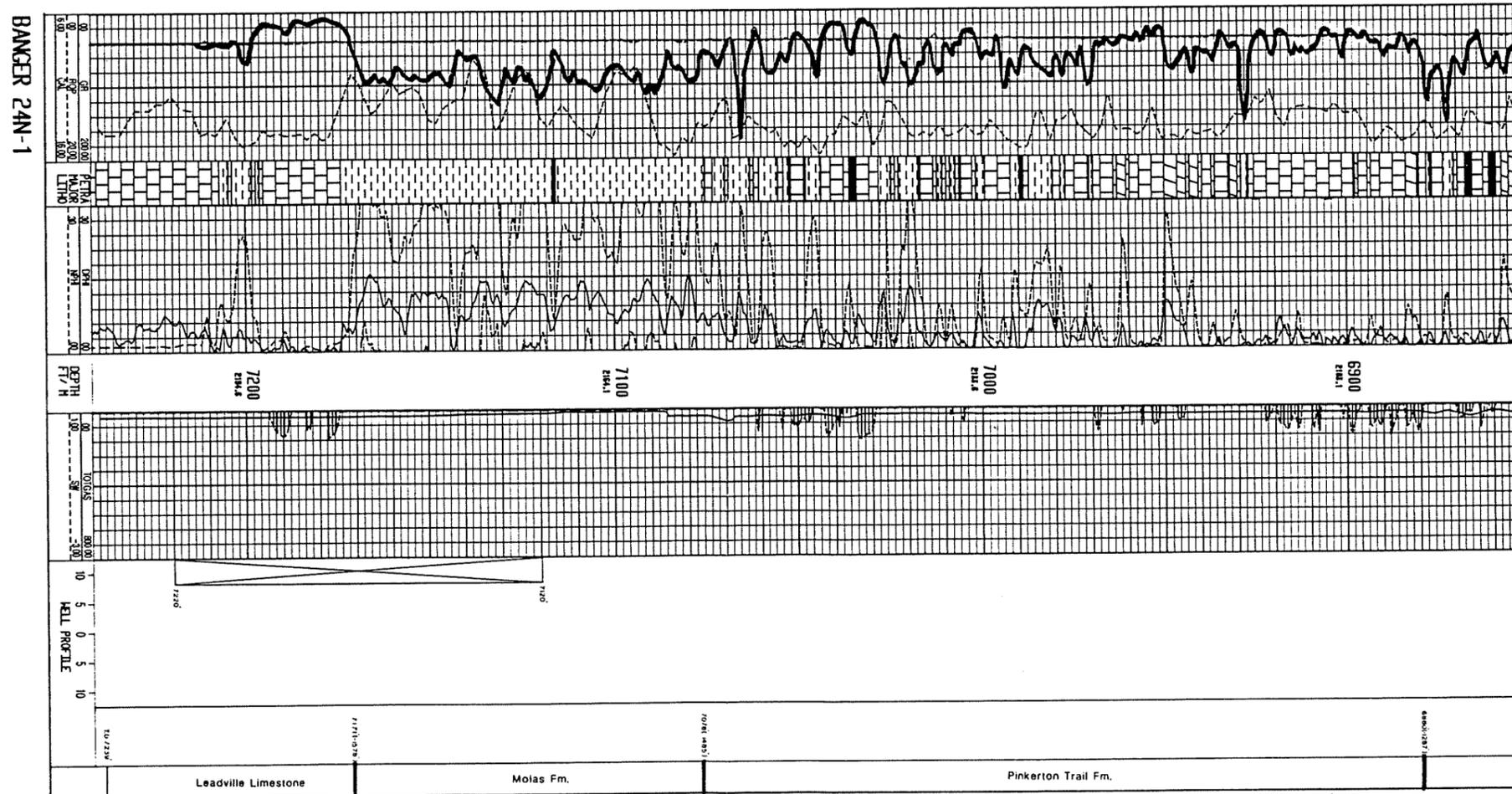
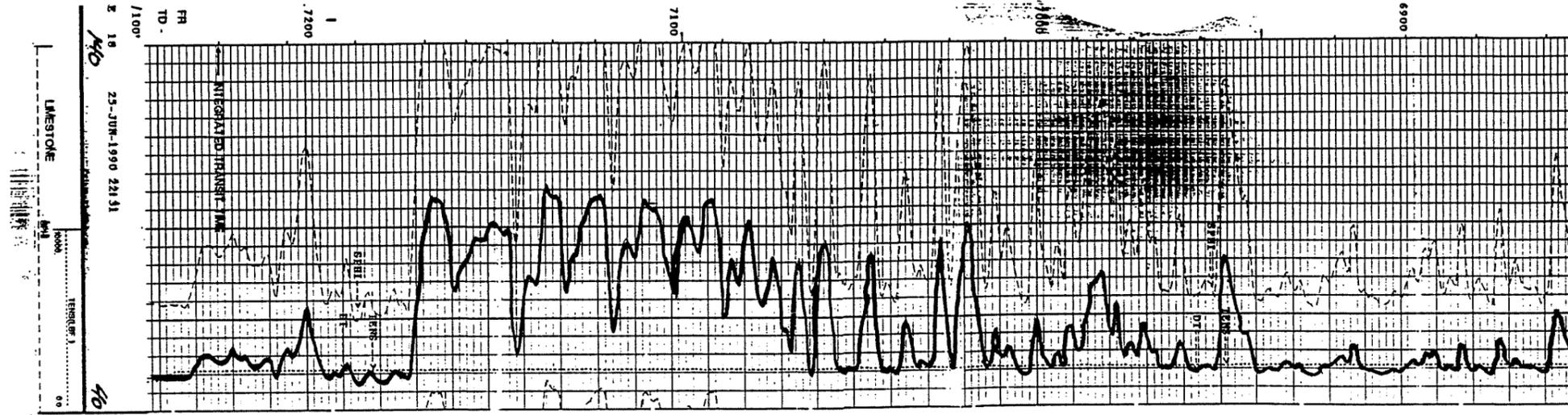
PROGRAMME 4 LINE 400-17-S

NORMAL POLARITY

WESTERN PROCESSING







LOG INTERPRETATION

WELL: **BANGER 24N-1**

AUTHOR: M.D.BERRY

COMPANY: MAGELLAN

OPERATOR: CHUSKA ENERGY

FIELD: WILDCAT

LOCATION: 120' FSL, 2210' FWL

SECTION: 24

TOWNSHIP: 42S

RANGE: 24E

INTERVAL: 5957' - 7242'

TOTAL DEPTH: DRILLER: 7239'

LOGGER: 7239'

ELEVATIONS: KB: 5593'

GL: 5578'

DATUM: MEAN SEA LEVEL

STATUS : PLUGGED & ABANDONED

TYPE OF FLUID IN HOLE: SALT MUD

DENSITY: 10.5ppg

VISCOSITY: 52.0 S

pH: 10.0

FLUID LOSS: 12.0 C3

SOURCE OF SAMPLE: FLOWLINE

RM: .211 ohm-m @ 92°F

RMF: .158 ohm-m @ 92°F

RMC: .317 ohm-m @ 92°F

MAX. RECORDED TEMP: 138°F

MEAN SURFACE TEMP.: 65°F

STABILISED BHT: -

POROSITY, ϕ , (PHI) : NEUTRON - DENSITY POROSITY USED, HYDROCARBON CORRECTED. NO SIDEWALL
CORE DATA AVAILABLE. DENSITY POROSITY USED BETWEEN 6930' - 7065'

LOG EVALUATION ON THE FIRST ELEVEN WELLS
CHAP JOINT VENTURE

MAGELLAN PETROLEUM AUSTRALIA LTD.

LOG EVALUATION ON THE FIRST ELEVEN WELLS
CHAP JOINT VENTURE

Log evaluations have now been carried out on the first eleven wells drilled by the CHAP Joint Venture up to and including Banger 24N-1. These evaluations are comprehensive and incorporate all the available drilling and wireline log data.

The analysis is performed using Terrasciences Inc. TLOG log analysis software and includes data verification, environmental corrections, porosity evaluation and saturation computation. A neutron-density porosity is generally used which is corrected to sidewall core data where available. The Archie equation is used for saturation and currently a value of 2 has been used for both the cementation and saturation exponents. Finally an estimation of the relative lithological components is carried out using a variable number of input logs.

The analyses have been carried out from the top of the Upper Ismay to total depth in each well and the results presented graphically as a strip log with header (see Enclosures). The format is basically a 4 track display with GR-CAL, hydrocarbon analysis, mobile oil plot and computed lithology. The porosity in track 3 is corrected from core analysis results and spurious data is removed (cosmetic function) so as to represent 'effective porosity'. The plot format attempts to present the resultant data as concisely as possible.

Net pay figures have been calculated for specific formations, the producing horizons in each completed well and, for comparison, the equivalent formations in the non-producing wells.

TABLE 1
PROVED + PROBABLE NET PAYS FOR PRODUCING INTERVALS
IN COMPLETED OIL + GAS WELLS
CUTOFFS : POROSITY = 6%, SW = 50%

<u>WELL</u>	<u>FORMATION</u>	<u>INTERVAL (FT)</u>	<u>AVERAGE POROSITY</u>	<u>AVERAGE SW</u>	<u>NET PAY (FT)</u>
SAHGZIE-1	DESERT CREEK	5590-5604	13.5	24	7.0
	DESERT CREEK	5642-5666	10.3	30	22.0
ANASAZI-1	DESERT CREEK	5573-5630	15.9	26	41.5
	DESERT CREEK	5642-5672	10.4	33	25.0
BLACK ROCK-8*	LOWER ISMAY	4911-5003	8.1	16	6.0
	DESERT CREEK	5003-5140	8.8	36	7.0
	BARKER CREEK	5296-5422	10.7	30	16.0
	PINKERTON TRAIL	5422-5586	5.0	27	1.5
BLACK ROCK-5*	LOWER ISMAY	5341-5428	5.6	20	6.5
	DESERT CREEK	5428-5567	-	-	0.0
	BARKER CREEK	5722-5844	4.6	47	2.0
	PINKERTON TRAIL	5844-6050	10.0	20	15.0
CAJON MESA 8D-1	DESERT CREEK	6080-6089	11.3	23	3.0
	DESERT CREEK	6090-6128	11.9	27	29.0
MONUMENT 8N-2	DESERT CREEK	6042-6080	10.4	27	24.5
RUNWAY 10G-1	DESERT CREEK	6042-6104	10.4	19	19.5

NOTES

- * BLACK ROCK 8 and 5 : CUTOFFS USED : POROSITY = 4%, SW = 60%.
- PRODUCING INTERVAL IN SOME CASES EXTENDS BEYOND THE PERFORATED ZONES WHERE IT IS CONSIDERED APPROPRIATE.
- IN THE CASE OF BLACK ROCK-8 AND 5 THE INTERVAL TAKEN IS THE ENTIRE FORMATION.

Table 1 summarises the proved and probable net pay figures for the producing horizons in completed oil and gas wells using porosity and water saturation cutoffs of 6% and 50% respectively. A full set of net pay tables appears in Appendix A using a variety of porosity and saturation cutoffs for comparison.

COMMENTS

It is interesting that most of the completions have been in dolomite reservoirs. Only the lower production zone in Sahgzie-1 and Anasazi-1 are limestones. This is strikingly apparent on the lithology column of the output logs.

Special core analysis on Anasazi-1 pointed to the difference between the two lithologies as potential reservoirs. The limestones having lower porosity but higher permeability and the dolomites having significantly more porosity but less permeability. However, the very high permeabilities in the limestones in that well have not (so far) been duplicated in other wells.

Archie constants were also derived from the special core analysis on Anasazi-1 for both dolomites and limestones. The apparent values of 'm' and 'a' are 2.13 and 1.0, or 1.8 and 1.54 respectively. It states that use of either of these sets of values, or of $m=2$ and $a=1$, results in very small changes in saturation. This is true, but there are also minor differences in average porosity and net pay which compound the problem when calculating recoverable reserves. With $m=2$ $a=1$ as the base case, use of the first set of values would reduce recoverable reserves by 6.8%, and the second set of values would increase recoverable reserves by 1.5%. The difference at Anasazi is almost 100,000 BBLs or approximately 6 months production. Quite a considerable volume of oil.

The potential importance of dolomite can also be seen in the Black Rock wells and in the case of Black Rock-8, the observed FMS fractures also correspond to dolomite lithologies.

Correlation between wells appears to be reasonably good. For example, comparison of computed lithologies between Desert Creek mounds is very good with the same pattern of dolomite-limestone-dolomite forming the main carbonate sequence.

Unfortunately in Tower 1I-2 the dominant lithology was limestone with very low porosity and permeability development. However, as a marginal case, it was important to complete and test Tower. The low reservoir parameters, relative lithology percentages and relationship of the resistivity channels would at least put a question mark on a similar well in the future.

RECOMMENDATIONS

- Special core analysis should be carried out on selected future wells to help define reservoir parameters and ultimately increase the accuracy of reserve estimates and reservoir simulations.
- It may be prudent to 'acquire' FMS data in forthcoming Black Rock wells as fractures are certainly present, and may play an important role.
- A more thorough log analysis should be carried out to help evaluate 'marginal' cases prior to the decision to complete these wells.

NET PAY CALCULATION

WELL NAME: BANGER 24N-1 UPPER ISMAY FORMATION

1815.69 TO 1852.27 M.

DEPTH: 5957.00 TO 6077.00 BY .50 FEET
 POROSITY LOG: PHI*
 WATER SATURATION CHANNEL: SW

NET SAND: FEET 120.50
 POROSITY-FEET: 1.06

#	CUTOFFS				AVERAGES				TOTALS (FEET)			TOTALS (METERS)		
	PHI %	SW %	K MD	VSH %	PHI %	SW %	SW PHI-WT	VSH %	PORO SITY	NET-HC	PAY	PORO SITY	NET-HC	PAY
1	2.0	40.			3.4	23.	23.0		.480	.370	14.00	.146	.113	4.27
2	2.0	50.			3.3	26.	24.7		.525	.395	16.00	.160	.121	4.88
3	2.0	60.			3.2	28.	25.8		.547	.406	17.00	.167	.124	5.18
4	2.0	65.			3.2	28.	25.8		.547	.406	17.00	.167	.124	5.18
5	4.0	40.			4.2	21.	20.9		.148	.117	3.50	.045	.036	1.07
6	4.0	50.			4.2	21.	20.9		.148	.117	3.50	.045	.036	1.07
7	4.0	60.			4.2	21.	20.9		.148	.117	3.50	.045	.036	1.07
8	4.0	65.			4.2	21.	20.9		.148	.117	3.50	.045	.036	1.07
9	6.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
10	6.0	50.			.0	0.	.0		.000	.000	.00	.000	.000	.00
11	6.0	60.			.0	0.	.0		.000	.000	.00	.000	.000	.00
12	6.0	65.			.0	0.	.0		.000	.000	.00	.000	.000	.00
13	8.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
14	8.0	50.			.0	0.	.0		.000	.000	.00	.000	.000	.00
15	8.0	60.			.0	0.	.0		.000	.000	.00	.000	.000	.00
16	8.0	65.			.0	0.	.0		.000	.000	.00	.000	.000	.00

NET PAY CALCULATION

WELL NAME: BANGER 24N-1 LOWER ISMAY FORMATION

1852.27 TO 1864.77 M

DEPTH: 6077.00 TO 6118.00 BY .50 FEET

POROSITY LOG: PHI*

WATER SATURATION CHANNEL: SW

NET SAND: FEET 41.50
 POROSITY-FEET: .58

#	CUTOFFS				AVERAGES				TOTALS (FEET)			TOTALS (METERS)		
	PHI %	SW %	K MD	VSH %	PHI %	SW %	SW PHI-WT	VSH %	PORO SITY	NET-HC	PAY	PORO SITY	NET-HC	PAY
1	2.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
2	2.0	50.			5.4	47.	46.8		.082	.043	1.50	.025	.013	.46
3	2.0	60.			4.1	53.	52.1		.187	.089	4.50	.057	.027	1.37
4	2.0	65.			4.0	56.	54.8		.259	.117	6.50	.079	.036	1.98
5	4.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
6	4.0	50.			7.0	46.	46.3		.070	.038	1.00	.021	.011	.30
7	4.0	60.			6.4	50.	49.6		.097	.049	1.50	.029	.015	.46
8	4.0	65.			6.1	53.	51.9		.123	.059	2.00	.037	.018	.61
9	6.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
10	6.0	50.			7.0	46.	46.3		.070	.038	1.00	.021	.011	.30
11	6.0	60.			7.0	46.	46.3		.070	.038	1.00	.021	.011	.30
12	6.0	65.			7.0	46.	46.3		.070	.038	1.00	.021	.011	.30
13	8.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
14	8.0	50.			.0	0.	.0		.000	.000	.00	.000	.000	.00
15	8.0	60.			.0	0.	.0		.000	.000	.00	.000	.000	.00
16	8.0	65.			.0	0.	.0		.000	.000	.00	.000	.000	.00

NET PAY CALCULATION

WELL NAME: BANGER 24N-1 DESERT CREEK FORMATION

1872.69 TO 1915.36 M

DEPTH: 6144.00 TO 6284.00 BY .50 FEET
 POROSITY LOG: PHI*
 WATER SATURATION CHANNEL: SW

NET SAND: FEET 140.50
 POROSITY-FEET: 1.70

#	CUTOFFS				AVERAGES				TOTALS (FEET)			TOTALS (METERS)		
	PHI %	SW %	K MD	VSH %	PHI %	SW %	SW PHI-WT	VSH %	PORO CITY	NET-HC	PAY	PORO CITY	NET-HC	PAY
1	2.0	40.			6.5	37.	36.3		.392	.249	6.00	.119	.076	1.83
2	2.0	50.			5.6	41.	40.4		1.085	.646	19.50	.331	.197	5.94
3	2.0	60.			5.1	45.	43.3		1.366	.774	27.00	.416	.236	8.23
4	2.0	65.			5.1	45.	43.3		1.366	.774	27.00	.416	.236	8.23
5	4.0	40.			6.5	37.	36.3		.392	.249	6.00	.119	.076	1.83
6	4.0	50.			5.8	41.	40.2		1.017	.608	17.50	.310	.185	5.33
7	4.0	60.			5.7	42.	41.7		1.138	.664	20.00	.347	.202	6.10
8	4.0	65.			5.7	42.	41.7		1.138	.664	20.00	.347	.202	6.10
9	6.0	40.			7.8	35.	34.9		.235	.153	3.00	.072	.047	.91
10	6.0	50.			7.7	38.	38.0		.422	.261	5.50	.128	.080	1.68
11	6.0	60.			7.5	40.	39.2		.453	.275	6.00	.138	.084	1.83
12	6.0	65.			7.5	40.	39.2		.453	.275	6.00	.138	.084	1.83
13	8.0	40.			10.8	32.	32.1		.108	.073	1.00	.033	.022	.30
14	8.0	50.			9.8	37.	36.5		.197	.125	2.00	.060	.038	.61
15	8.0	60.			9.8	37.	36.5		.197	.125	2.00	.060	.038	.61
16	8.0	65.			9.8	37.	36.5		.197	.125	2.00	.060	.038	.61

NET PAY CALCULATION

WELL NAME: BANGER 24N-1 BARKER CREEK FORMATION

2026.31 TO 2096.72 M

DEPTH: 6648.00 TO 6879.00 BY .50 FEET
 POROSITY LOG: PHI*
 WATER SATURATION CHANNEL: SW

NET SAND: FEET 231.50
 POROSITY-FEET: 2.47

#	CUTOFFS				AVERAGES				TOTALS (FEET)			TOTALS (METERS)		
	PHI %	SW %	K MD	VSH %	PHI %	SW %	SW PHI-WT	VSH %	PORO SITY	NET-HC	PAY	PORO SITY	NET-HC	PAY
1	2.0	40.			3.7	36.	36.0		.576	.369	15.50	.176	.112	4.72
2	2.0	50.			3.4	40.	39.9		1.077	.648	31.50	.328	.197	9.60
3	2.0	60.			3.3	43.	42.6		1.345	.772	41.00	.410	.235	12.50
4	2.0	65.			3.3	45.	44.3		1.471	.819	44.00	.448	.250	13.41
5	4.0	40.			5.2	35.	35.4		.234	.151	4.50	.071	.046	1.37
6	4.0	50.			5.2	37.	37.5		.313	.196	6.00	.096	.060	1.83
7	4.0	60.			5.2	39.	38.6		.335	.206	6.50	.102	.063	1.98
8	4.0	65.			5.2	43.	43.3		.417	.236	8.00	.127	.072	2.44
9	6.0	40.			6.7	40.	39.8		.034	.020	.50	.010	.006	.15
10	6.0	50.			6.7	40.	39.8		.034	.020	.50	.010	.006	.15
11	6.0	60.			6.7	40.	39.8		.034	.020	.50	.010	.006	.15
12	6.0	65.			6.7	40.	39.8		.034	.020	.50	.010	.006	.15
13	8.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
14	8.0	50.			.0	0.	.0		.000	.000	.00	.000	.000	.00
15	8.0	60.			.0	0.	.0		.000	.000	.00	.000	.000	.00
16	8.0	65.			.0	0.	.0		.000	.000	.00	.000	.000	.00

NET PAY CALCULATION

WELL NAME: BANGER 24N-1 PINKERTON TRAIL FORMATION

2096.72 TO 2153.41 M

DEPTH: 6879.00 TO 7065.00 BY .50 FEET

POROSITY LOG: PHI*

WATER SATURATION CHANNEL: SW

NET SAND: FEET
186.50
POROSITY-FEET: 1.90

#	CUTOFFS				AVERAGES				TOTALS (FEET)			TOTALS (METERS)		
	PHI %	SW %	K MD	VSH %	PHI %	SW %	SW PHI-WT	VSH %	PORO CITY	NET-HC	PAY	PORO CITY	NET-HC	PAY
1	2.0	40.			4.1	30.	28.8		.393	.280	9.50	.120	.085	2.90
2	2.0	50.			3.9	37.	35.8		.679	.436	17.50	.207	.133	5.33
3	2.0	60.			3.9	38.	36.7		.718	.454	18.50	.219	.138	5.64
4	2.0	65.			3.8	43.	41.8		.884	.515	23.00	.270	.157	7.01
5	4.0	40.			5.4	27.	26.3		.216	.159	4.00	.066	.049	1.22
6	4.0	50.			5.0	34.	32.6		.326	.220	6.50	.099	.067	1.98
7	4.0	60.			5.0	35.	33.7		.348	.231	7.00	.106	.070	2.13
8	4.0	65.			5.0	41.	40.5		.450	.268	9.00	.137	.082	2.74
9	6.0	40.			6.6	23.	23.4		.099	.076	1.50	.030	.023	.46
10	6.0	50.			6.6	23.	23.4		.099	.076	1.50	.030	.023	.46
11	6.0	60.			6.6	23.	23.4		.099	.076	1.50	.030	.023	.46
12	6.0	65.			6.6	23.	23.4		.099	.076	1.50	.030	.023	.46
13	8.0	40.			.0	0.	.0		.000	.000	.00	.000	.000	.00
14	8.0	50.			.0	0.	.0		.000	.000	.00	.000	.000	.00
15	8.0	60.			.0	0.	.0		.000	.000	.00	.000	.000	.00
16	8.0	65.			.0	0.	.0		.000	.000	.00	.000	.000	.00

BANGER 24N #1
Chuska Energy Company

GMA LOG

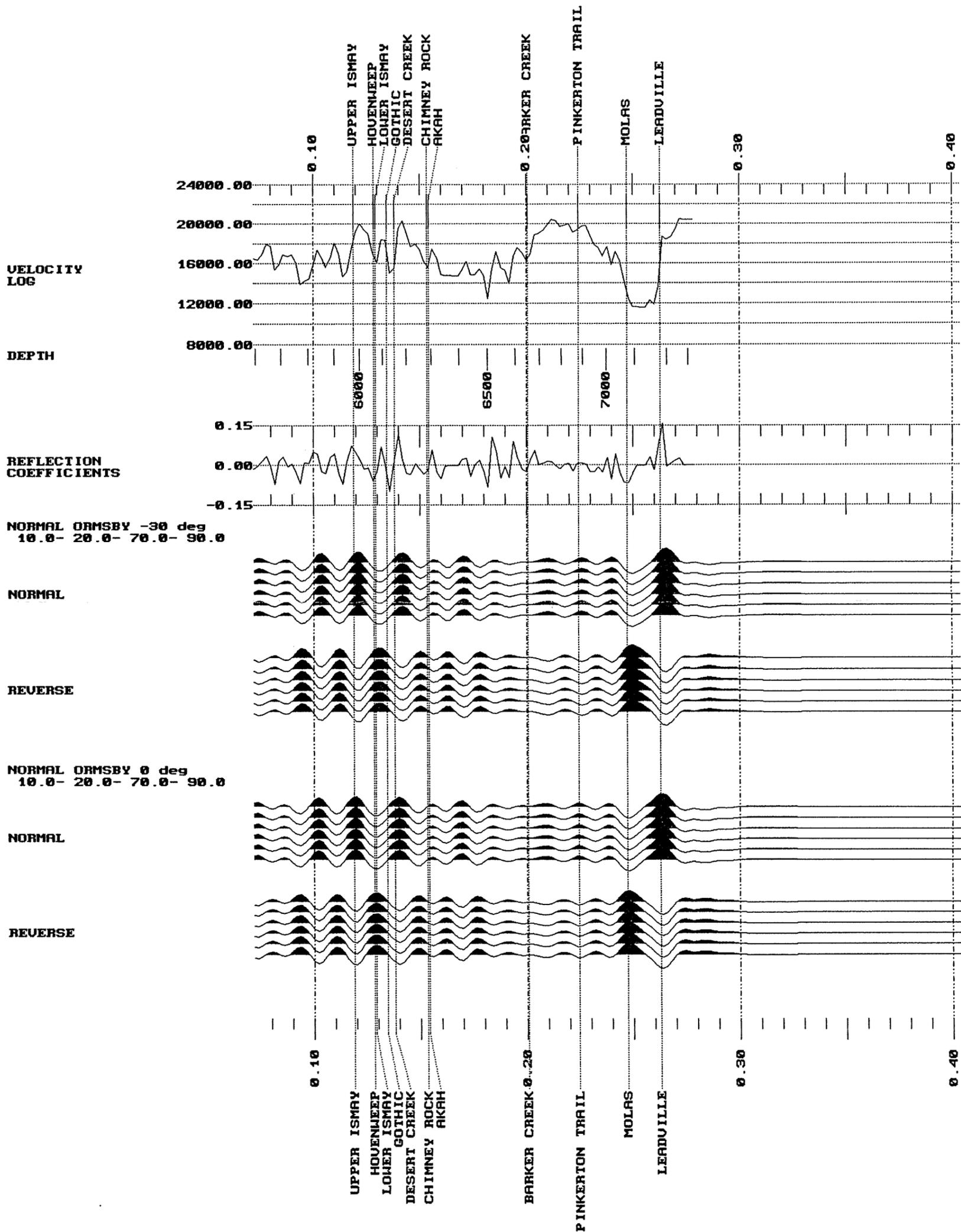
KB ELEVATION=5593.0 FT
 TIME DATUM =596.5 FT
 AGC LENGTH =200.0 MS
 # OF TRACES =6
 MULTIPLES =NONE

LOGS USED IN RC CALC. =SONIC ONLY
 AMPLITUDE =0.8
 INCHES PER SEC =20.00

SAMPLE INTERVAL =2.0 MS
 TRACES PER INCH =10.0
 CHECK SHOT APPLIED =N

WAVELET # 1 ORMSBY :
 FREQ. 1 =10.0 Hz
 FREQ. 2 =20.0 Hz
 FREQ. 3 =70.0 Hz
 FREQ. 4 =90.0 Hz
 PHASE =-30 deg

WAVELET # 2 ORMSBY :
 FREQ. 1 =10.0 Hz
 FREQ. 2 =20.0 Hz
 FREQ. 3 =70.0 Hz
 FREQ. 4 =90.0 Hz
 PHASE =0 deg



BANGER 24N #1								
FORMATION	DEPTH ft(DATUM)	DEPTH ft(ASL)	TIME Seconds	AUG VEL ft/s	RMS VEL ft/s	INT VEL ft/s	INT TIME Seconds	INT DEN g/cc
UPPER ISMAY	5973	-380	0.119	16429	16529	19247	0.009	2.701
HOVENWEEP	6064	-471	0.128	16637	16747	15452	0.001	2.659
LOWER ISMAY	6071	-478	0.129	16629	16739	17809	0.005	2.760
GOthic	6117	-524	0.134	16674	16789	14408	0.004	2.617
DESERT CREEK	6144	-551	0.138	16613	16731	18332	0.015	2.761
CHIMNEY ROCK	6284	-691	0.153	16784	16905	11682	0.001	2.544
AKAH	6289	-696	0.154	16755	16881	15512	0.046	2.476
BARKER CREEK	6648	-1055	0.201	16468	16610	19366	0.024	2.804
PINKERTON TRAIL	6880	-1287	0.225	16778	16934	17439	0.023	2.666
MOLAS	7078	-1485	0.247	16838	17003	11823	0.016	2.543
LEADVILLE	7171	-1578	0.263	16538	16743			

BANGER 24N #1
Chuska Energy Company

GMA LOG

KB ELEVATION=5593.0 FT

TIME DATUM =596.5 FT

AGC LENGTH =200.0 MS

OF TRACES =6

MULTIPLES =NONE

LOGS USED IN RC CALC. =SONIC & DENSITY

AMPLITUDE =0.8

INCHES PER SEC =20.00

SAMPLE INTERVAL

TRACES PER INCH

CHECK SHOT APPLIED

=2.0 MS

=10.0

=N

WAVELET # 1 ORMSBY :

FREQ. 1 =10.0 Hz

FREQ. 2 =20.0 Hz

FREQ. 3 =70.0 Hz

FREQ. 4 =90.0 Hz

PHASE =-30 deg

WAVELET # 2 ORMSBY :

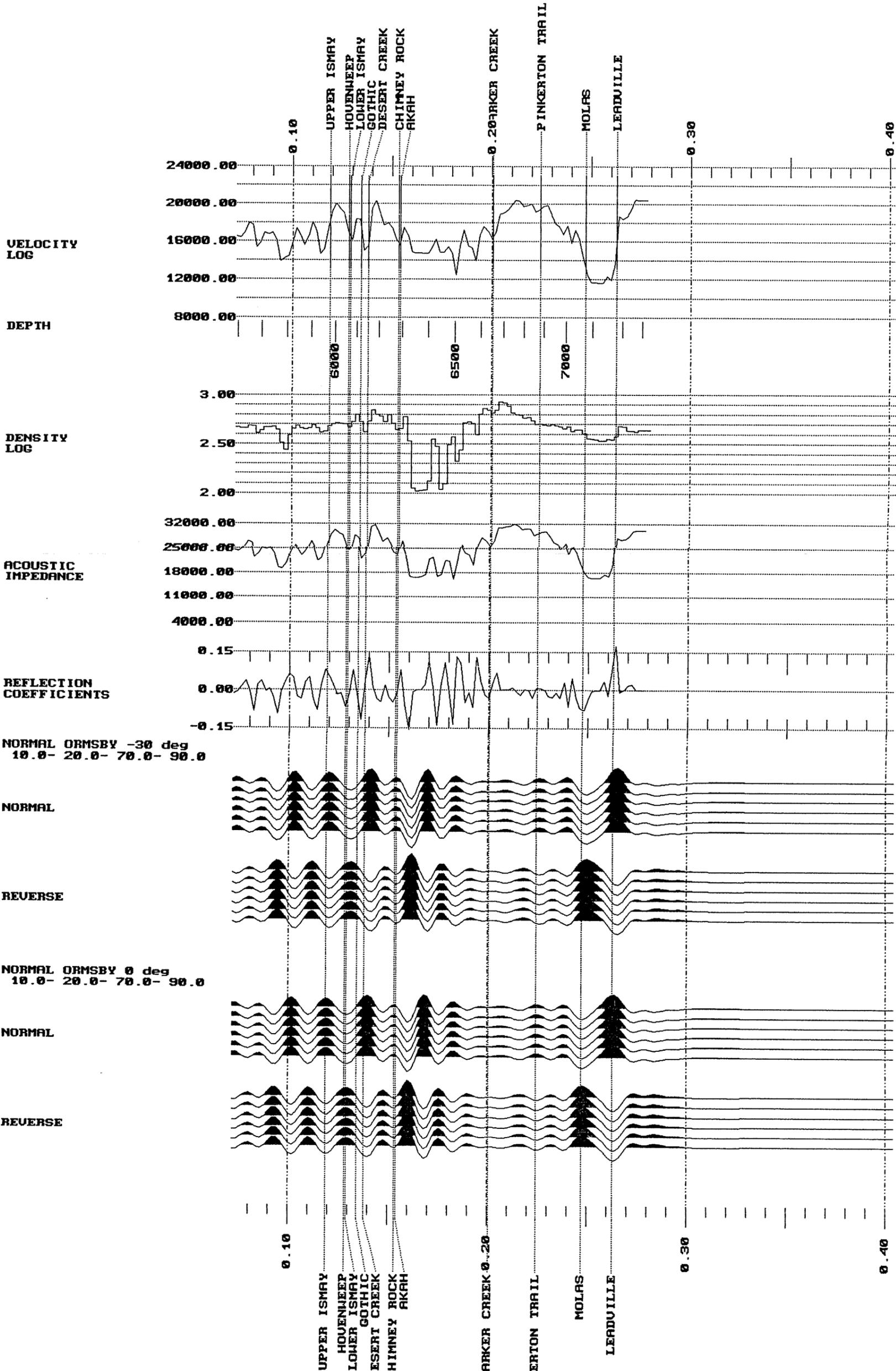
FREQ. 1 =10.0 Hz

FREQ. 2 =20.0 Hz

FREQ. 3 =70.0 Hz

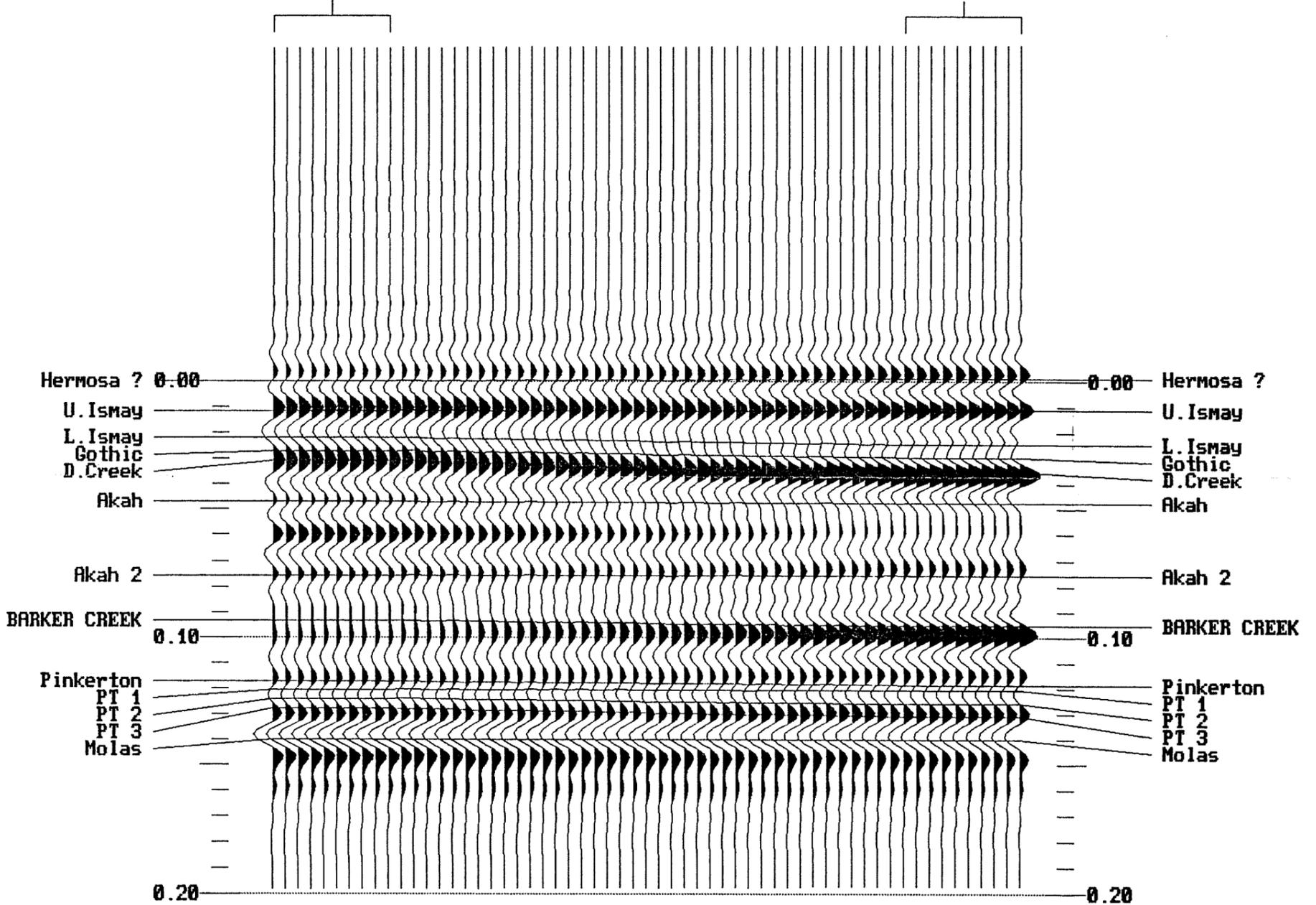
FREQ. 4 =90.0 Hz

PHASE =0 deg



BANGER 24N #1

42524e17seseda



GMA LOGM

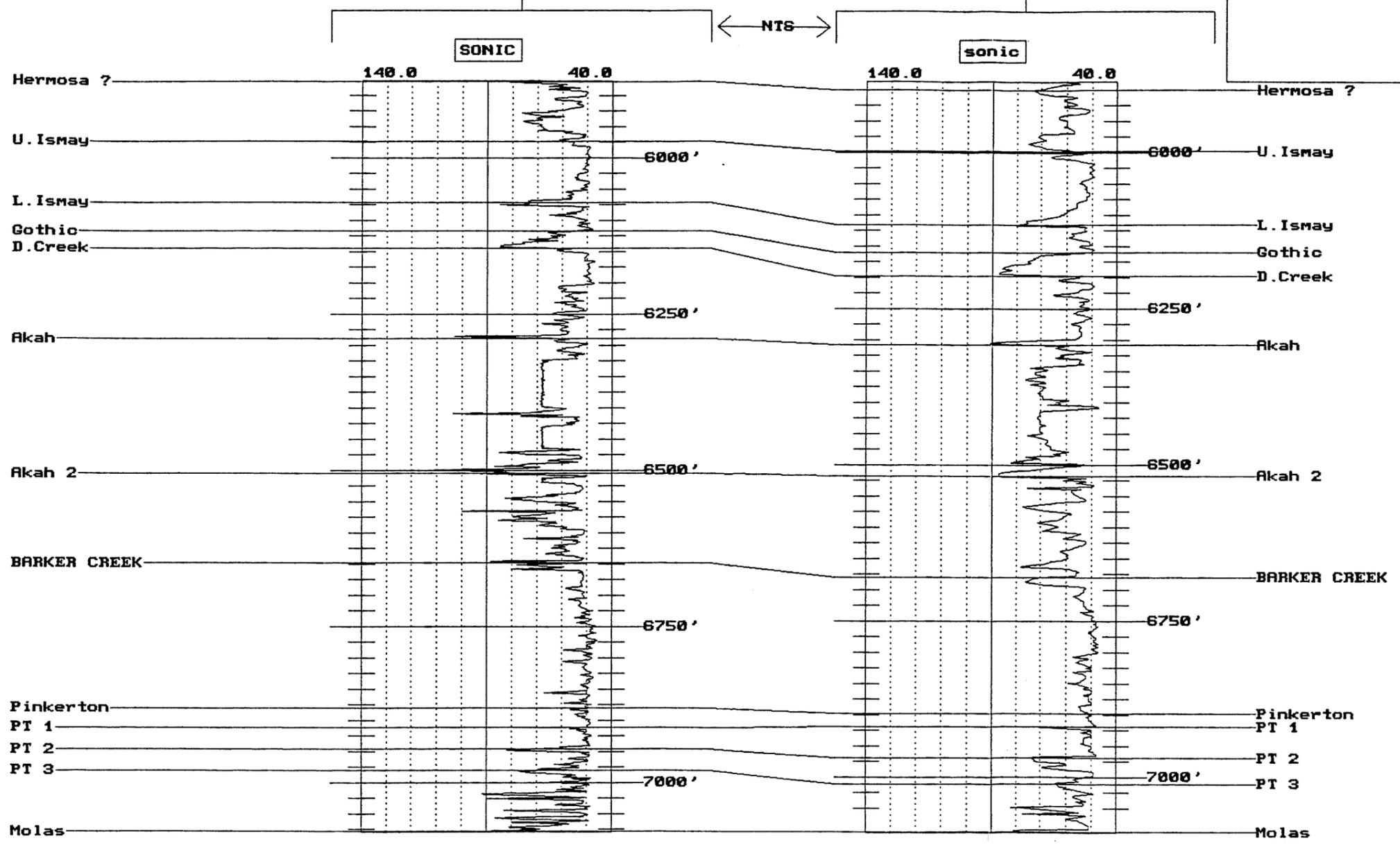
SAMPLE INTERVAL = 2.000 ms.
 FLATTENED CORRELATION = Molas
 LOG TYPE = SONIC
 AGC LENGTH = 100.0 ms.
 AMPLITUDE = 1.000
 TRACES PER INCH = 10
 INCHES PER SECOND = 20.000
 MULTIPLES = NONE
 WAVELET = ORSMBY
 FREQ. 1 = 10.000 Hz.
 FREQ. 2 = 20.000 Hz.
 FREQ. 3 = 70.000 Hz.
 FREQ. 4 = 90.000 Hz.
 PHASE = 0.000 DEG.
 STATE = UTAH
 AREA = BANGER
 PROSPECT: = BARK-CREEK
 MDL_NAME = 1
 LABEL: = BANGER24N1-DAVIS17
 PROJECT: = CHAP
 COMMENT1: = PSUEDO SECTION CHAP BANGER 24-N-1 TO DAVIS WELL IN
 COMMENT2: = S 17 SONICS ONLY USED

BANGER24N1-DAVIS17
 Chuska Energy Company

BANGER 24N #1
 X DISTANCE = 0.0'
 KB = 5593.00'
 Unmodified

42s24e17seseDa
 X DISTANCE = 2000.0'
 KB = 5625.00'
 Sonic adjusted to show
 salts in upper Akah

G.M.A. LogM System
 STATE = UTAH
 AREA = BANGER
 PROSPECT: = BARK-CREEK
 MDL_NAME = 1
 LABEL: = BANGER24N1-DAVIS17
 PROJECT: = CHAP
 COMMENT1: = PSUEDO SECTION CHAP BANGER 24-N-1 TO
 DAVIS WELL IN
 COMMENT2: = S 17 SONICS ONLY USED



100M
 1cm=24.00M (1:2400)

100'
 1"=200.0'(1:200)

U.S.A.
 FOUR CORNERS AREA - NAVAJO PROJECT
 COMPOSITE WELL LOG
BANGER 24-N-1

SCALE: 5"=100'

WELL LOCATION: SE SW S24 T42S R24E	STATE: Utah
FOOTINGS: 120 FSL 2210 FWL	COUNTY: San Juan
SEISMIC LINE / SHOT POINT: 400-17 S / 357.5	BASIN: Paradox
ELEVATIONS: G.L. 5578 ft. K.B. 5593 ft.	GEOLOGIST: D.Meade
WELL CATEGORY: Exploration	SPUD DATE: 9/6/90
COMPLETION: P & A	T.D. DATE: 25/6/90
TOTAL DEPTH: Driller: 7240 ft. Logger: 7239 ft.	RIG RELEASED: 27/8/90
HOLE Size: 12 1/4 in. 7 7/8 in.	
Depth: 515 ft. 515 ft.	
CASING Size: 8 5/8 in. 5 1/2 in.	
Depth to shoe: 510 ft. 7240 ft.	
TUBING Size: 2 7/8 in. Depth: 7240 ft.	

DRILLING RIG: **Aztec Well Service**
 MUD LOGGING: **Rocky Mountain Geo Engineering**
 WIRELINE LOGGING: **Schlumberger**
 WIRELINE LOGS RUN: **LTD/CNL-GR--DLL-MSFL-BHC S-CAL**

ROCK TYPES	LEGEND	SYMBOLS
Limestone	Casing shoe	D.S.T. interval
Dolomite	Cement plug	Hydrocarbon indications and interval
Shale	Conventional core	Perforated interval
Siltstone	Rotary sidewall core	Bridge plug
Sandstone		
Anhydrite		
Salt		

