

Ghuska Energy Co., Black Rock #7
17,40N,29E. NE SW #870

COUNTY Apache AREA Black Rock Field LEASE NO. _____

WELL NAME Chuska Energy Co., Black Rock 7

LOCATION NE SW SEC 17 TWP 40N RANGE 29E FOOTAGE 1735 FSL x 1540 FWL

ELEV 6695 GR _____ KB SPUD DATE 5/13/90 STATUS D&A 5/90 TOTAL DEPTH 151'

CONTRACTOR AZTEC DRLG, Aztec, NM (Rig #184) COMP. DATE 5/24/90

CASING IZE	DEPTH	CEMENT	LINER SIZE & DEPTH

DRILLED BY ROTARY _____
 DRILLED BY CABLE TOOL _____
 PRODUCTIVE RESERVOIR _____
 INITIAL PRODUCTION _____

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
Surface Colluvium	Surf to	151'		

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
NONE			NONE
			SAMPLE DESCRP. _____
			SAMPLE NO. _____
			CORE ANALYSIS _____
			DSTs _____

REMARKS SEVERE CAVING PROBLEMS ON SURFACE HOLE*****

APP. TO PLUG verbal
 PLUGGING REP. 6/1/90
 COMP. REPORT Sundry Rpt.

WATER WELL ACCEPTED BY _____

BOND CO. Valley National Bank, Phoenix, AZ BOND NO. Cert. of Deposit #2578904

BOND AMT. \$ 25,000 CANCELLED _____ DATE 12/10/89

FILING RECEIPT 2904 LOC. PLAT ✓ ORGANIZATION REPORT X

API NO. 02-001-20289 DATE ISSUED 1-2-90 WELL BOOK ✓ PLAT BOOK ✓

PERMIT NUMBER 870 DEDICATION SW 1/4

SUNDRY NOTICES AND REPORTS ON WELLS

AZ OIL & GAS CONSERVATION COMMISSION

JUN 8 1990

1. Name of Operator Chuska Energy Company
 2. OIL WELL GAS WELL OTHER (Specify) _____
 3. Well Name Black Rock #7
 Location _____
 Sec. 17 Twp. 40N Rgn. 29E County Apache, Arizona.
 4. Federal, State or Indian Lease Number, or lessor's name if no lease
NOG 8702-1116
 5. Field or Pool Name Black Rock Paradox

6. 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"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) _____	ABANDONMENT <input checked="" type="checkbox"/>

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

7. 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 verbal communication with Steve Mason, BLM, Farmington, on 5-24-90, plugged and abandoned Black Rock #7 due to severe difficulty in drilling surface hole. 12 1/4" surface hole was drilled to 151' with no returns. The hole caved in from 150' to 120'. Cemented from 120' to surface with 226 sacks (260 cf) of 12-3 RFC cement. Cement circulated to surface and set up inside cellar. Released Aztec Rig #184. Will rehab location or respud, depending on our evaluation of the project in the near future.

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

Signed Robert R. Griffiee Title Operations Engineer Date 6-1-90
 ROBERT R. GRIFFIEE

Permit No. 870

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Sundry Notices and Reports On Wells
 Form No. 25 File One Copy

SUNDRY NOTICES AND REPORTS ON WELLS

AZ OIL & GAS CONSERVATION COMMISSION

1. Name of Operator Chuska Energy Company JUN 8 1990
 2. OIL WELL GAS WELL OTHER (Specify) _____
 3. Well Name Black Rock #7
 Location Sec. 17, T40N, R29E
 Sec. 17 Twp. 40N Rgn. 29E County Apache, Arizona.
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease _____
NOG 8702-1116
 5. Field or Pool Name Black Rock Paradox

6. 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"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) <u>Skid rig and spud</u> <input checked="" type="checkbox"/>	ABANDONMENT <input type="checkbox"/>

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

7. 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 verbal approval of Ken Townsend, BLM, Farmington, on 5-17-90, and Randy Cornett, BIA, Shiprock, on 5-18-90, and Dan Brennan, State of Arizona, moved 20' due east of original well bore to 1735' FSL x 1560' FWL. Original well bore was at 1735' FSL x 1540' FWL. The original approved location did not require modification and no further reserve pit work was needed. Drilled 24" conductor hole with auger type rig and mouse hole and rathole from 5-20-90 through 5-22-90.

Spudded 12 1/4" surface hole with Aztec Well Service Rig 184 at 4:15 P.M. on 5-22-90.

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

Signed Robert R. Griffie Title Operations Engineer Date 6-1-90

Permit No. 870

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Sundry Notices and Reports On Wells
 Form No. 25 File One Copy

SUNDRY NOTICES AND REPORTS ON WELLS

AZ OIL & GAS
CONSERVATION COMMISSION

1. Name of Operator Chuska Energy Company
 2. OIL WELL GAS WELL OTHER (Specify) _____ MAY 21 1990
 3. Well Name Black Rock #7
 Location _____
 Sec. 17 Twp. 40 North Rge. 29 East County Apache, Arizona.
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease NOG 8702-1116

5. Field or Pool Name Black Rock Paradox

6. 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"/>	FILL OR ALIEN CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	MONTHLY PROGRESS <input type="checkbox"/>
FRACURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) <u>Spud and abandonment</u> <input checked="" type="checkbox"/>	ABANDONMENT <input type="checkbox"/>

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

7. 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.)

5-14-90 to 5-17-90

Spud 12 1/4" hole at 8:30 P.M. 5-13-90, with Aztec Well Service rig #184. Drilled to 43' with extreme lost circulation while drilling a boulder/rubble zone from 20' to 43'. Converted circulation system to air, and air mist. Drilled to a total depth of 86' (RKB). Hole enlarged to 4' diameter and the bottom of the cellar fell in. Moved drilling rig off hole. Pumped 300 sks of 12-3 RFC Cmt down enlarged hole. Hauled clay and fill dirt and filled hole. Stabilized site. All of the above information was conveyed to and verbally ok'd by Ken Townsend, BLM, Farmington, by telephone on 5-16 and 5-17-90. In addition, this information was conveyed in a discussion at Chuska's Farmington office to Daniel Brennan, Arizona Oil & Gas Commission, on 5-16-90.

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

Signed Robert R. Griffie Title Operations Engineer Date 5-18-90
 ROBERT R. GRIFFIE

Permit No. 00870

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Sundry Notices and Reports On Wells
 Form No. 25 File One Copy

Form 3160-5
(November 1983)
(Formerly 9-331)

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
AZ OIL & GAS CONSERVATION COMMISSION

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

3. 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
Black Rock

9. WELL NO.
7

10. FIELD AND POOL, OR WILDCAT
Black Rock Paradox

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 17, T40N, R29E

12. COUNTY OR PARISH
Apache

13. STATE
Arizona

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
1735' FSL x 1540' FWL

14. PERMIT NO.
API #02-001-20289

15. ELEVATIONS (Show whether OF, RT, GR, etc.)
6695' GR

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 <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Spud and abandonment <input checked="" type="checkbox"/>	

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.)

5-14-90 to 5-17-90
Spud 12 1/4" hole at 8:30 P.M. 5-13-90, with Aztec Well Service rig #184. Drilled to 43' with extreme lost circulation while drilling a boulder/rubble zone from 20' to 43'. Converted circulation system to air, and air mist. Drilled to a total depth of 86' (RKB). Hole enlarged to 4' diameter and the bottom of the cellar fell in. Moved drilling rig off hole. Pumped 300 sks of 12-3 RFC CMT down enlarged hole. Hauled clay and fill dirt and filled hole. Stabilized site. All of the above information was conveyed to and verbally ok'd by Ken Townsend, BLM, Farmington, by telephone on 5-16 and 5-17-90.

18. I hereby certify that the foregoing is true and correct
SIGNED Robert E. Griffie TITLE Operations Engineer DATE 5-18-90
ROBERT E. GRIFFIE
(This space for Federal or State office use)

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

*See Instructions on Reverse Side

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

STATE OF ARIZONA
OIL AND GAS CONSERVATION COMMISSION

PERMIT NO. 870

REPORT ON PROPOSED OPERATIONS

Chuska Energy Company
315 N. Behrend
Farmington, NM 87401

Phoenix, Arizona
January 2, 1990

Your proposal to drill well Black Rock No. 7 A.P.I. No. 02-001-20289
Section 17, T. 40N., R. 29E., G&SR. B. & M., Black Rock field, Apache County,
dated 10/18/89 received 10/23/89 has been examined in conjunction with records filed
in this office.

THE PROPOSAL IS APPROVED PROVIDED:

1. THIS WELL SHALL NOT BE USED FOR SALT WATER DISPOSAL UNLESS AUTHORIZED BY THE COMMISSION AFTER NOTICE AND HEARING PURSUANT TO RULE 12-7-176.
2. Mud pits are constructed and lined in a manner that will prevent contamination of surface or subsurface waters.
3. Drilling mud consistent with sound drilling practices shall be used at all times and sufficient amounts of lost circulation material shall be available at the drill site.
4. The well shall be cased and cemented in such a manner that will protect all zones that contain oil, gas, or fresh water.
5. Blowout prevention equipment shall be installed, tested, and maintained in a manner necessary to assure well control throughout the drilling, completion, or abandonment of the well.
6. An H₂S safety company shall be on location from 4000' to T.D.
7. Sundry reports shall be filed as required.
8. Two sets of samples of all cores and cuttings shall be taken at a maximum interval of ten feet. One set each shall be shipped prepaid to:
 - a. Oil & Gas Commission, 5150 N. 16th St., Ste. B141, Phoenix, AZ 85016.
 - b. Arizona Geological Survey, 845 N. Park Ave., Tucson, AZ 85719.
9. Samples and all logs and surveys of any description shall be filed within 30 days after the removal of the rig from the hole.
10. Application to Plug and Abandon (Form 9) shall be submitted to the Commission for approval prior to the beginning of operations to plug the well.
11. THIS COMMISSION SHALL BE NOTIFIED:
 - a. Immediately when drilling operations commence.
 - b. In time to witness the running and cementing of the surface casing.
 - c. In time to witness pressure testing of BOPE prior to drilling out of the surface casing.
 - d. In time to witness plugging and abandonment operations.

To witness operations, call 602-255-5161.

After office hours notify: Steve Rauzi, 602-864-9148 or Dan Brennan, 602-971-2909.

C.D. # 2578904, Valley National-Bank

By

D. J. Brennan, Executive Director

A COPY OF THIS REPORT AND THE PROPOSAL MUST BE POSTED AT THE DRILLER'S STATION PRIOR TO COMMENCING OPERATIONS.

RECORDS FOR WORK DONE UNDER THIS PERMIT ARE DUE WITHIN 30 DAYS AFTER THE WORK HAS BEEN COMPLETED OR THE OPERATIONS HAVE BEEN SUSPENDED.



PERMIT TO DRILL

This constitutes the permission and authority from the
**OIL AND GAS CONSERVATION COMMISSION,
STATE OF ARIZONA,**

To: CHUSKA ENERGY COMPANY
(OPERATOR)

to drill a well to be known as

Black Rock #7
(WELL NAME)

located 1735' FSL x 1540' FWL

Section 17 Township 30N. Range 29E., Apache County, Arizona.

The SW 1/4 of said

Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 2 day of January, 1990.

OIL AND GAS CONSERVATION COMMISSION

By [Signature]
EXECUTIVE DIRECTOR

PERMIT 00870

RECEIPT NO. 2904

A.P.I. NO. 02-001-20289

State of Arizona
Oil & Gas Conservation Commission
Permit to Drill

FORM NO. 27

APPLICATION FOR PERMIT TO DRILL OR RE-ENTER
AZ OIL & GAS CONSERVATION COMMISSION

APPLICATION TO DRILL RE-ENTER OLD WELL

NAME OF COMPANY OR OPERATOR OCT 23 1989
 Chuska Energy Company
 Address 315 N. Behrend City Farmington State N.M.

Drilling Contractor
(To Be Determined)
 Address

DESCRIPTION OF WELL AND LEASE		
Federal, State or Indian Lease Number, or if fee lease, name of lessor <u>NOG 8702-1116</u>	Well number <u>Black Rock 7</u>	Elevation (ground) <u>6695' GR</u>
Nearest distance from proposed location to property or lease line: <u>1,540 feet</u>	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease: <u>4,453 feet</u>	
Number of acres in lease: <u>50,000</u>	Number of wells on lease, including this well, completed in or drilling to this reservoir: <u>4</u>	

If lease, purchased with one or more wells drilled, from whom purchased:
 Name N/A Address

Well location (give footage from section lines) 1735' FSL x 1540' FWL Section—township—range or block and survey Sec. 17, T40N, R29E Dedication (Comply with Rule 105)

Field and reservoir (if wildcat, so state) Black Rock Paradox County Apache

Distance in miles, and direction from nearest town or post office
7 miles west -southwest of Teec Nos Pos, Arizona

Proposed depth: <u>6469'</u>	Rotary or cable tools <u>Rotary</u>	Approx. date work will start <u>1-1-1990</u>
Bond Status <u>Pending</u>	Organization Report	Filing Fee of \$25.00
Amount <u>\$25,000</u>	On file Or attached	Attached

Remarks:
 Primary Zone is intended to be the Paradox Formation. If the Paradox appears to be productive, the well will TD @ 6110'. If the Paradox is not productive, the well will be deepened to 6440' for use as a SWD well.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Operations Manager of the Chuska Energy (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Donnell Bame
 Signature
10-18-89
 Date

Permit Number: 870
 Approval Date: 01/03/90
 Approved By: _____
 Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA
 OIL & GAS CONSERVATION COMMISSION
 Application to Drill or Re-enter
 File Two Copies

Form No. 3

- Operator shall outline the dedicated acreage for both oil and gas wells on the plat.
- A registered professional engineer or land surveyor, registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.
- ALL DISTANCES SHOWN ON THE PLAT MUST BE FROM THE OUTER BOUNDARIES OF THE SECTION.
- Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES NO
- If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES NO . If answer is "yes," Type of Consolidation _____
- If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description
<div style="border: 1px solid black; padding: 5px;"> </div>	<p style="text-align: center;">CERTIFICATION</p> <p>I hereby certify that the information above is true and complete to the best of my knowledge and belief.</p> <p>Name: <u>Edgar L. Risenhoover</u> Position: <u>Operations Manager</u> Company: <u>Chuska Energy Co</u></p> <p>Date: <u>10-18-89</u></p> <p>I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.</p> <p>Date Surveyed: <u>8-17-89</u> Registered Professional Engineer and/or Land Surveyor <u>Edgar L. Risenhoover</u> Certificate No. _____</p>

PROPOSED CASING PROGRAM							
Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement	Type
8 5/8	24	K-55 STC	0	500	500' to Surface	360 sks.	Class 'G'
5 1/2	15.5	K-55 STC	500	6469	6469 to 500'	871 sks.	Class 'G'

CHUSKA ENERGY COMPANY

10 POINT DRILLING PLAN

BLACK ROCK 1-17-40N29E WELL NO. 7
SECTION 17, TOWNSHIP 40N, RANGE 29E
1735' FSL, 1540' FWL
APACHE COUNTY, ARIZONA

1. SURFACE FORMATION

The geological name of the surface formation is the Morrison.

2. ELEVATION

The surface elevation is 6695' GR / 6707' KB.

3. ESTIMATED FORMATION TOPS

<u>Depth</u>	<u>Formation</u>	<u>Sub Sea Elevation</u>
Surface		+ 6707'
1997'	Chinle	+ 4710'
3007'	De Chelley	+ 3700' Water
3375'	Organ Rock	+ 3332'
4017'	Cutler	+ 2690'
4737'	Hermosa	+ 1970' Gas
5322'	Ismay	+ 1385' Gas
5388'	Lower Ismay	+ 1319' Gas
5477'	Desert Creek	+ 1230' Gas
5621'	Akah	+ 1086' Gas/Water
5778'	Barker Creek	+ 929' Gas
5899'	Pinkerton Trail	+ 808' Gas
6101'	Molas	+ 606'
6165'	Mississippi	+ 542'
6320'	Mississippi Dolomite	+ 387'
6429'	Ouray	+ 278'
6469'	Total Depth	+ 238'

Note: Well will T. D. at 6141'. If Paradox appears unproductive the well will be deepened to T. D. at 6469' for use as SWD well in the Mississippi Dolomite.

4. PROPOSED CASING/CEMENTING PROGRAM

	<u>Size</u>	<u>Weight</u>	<u>Grade</u>	<u>Coupling</u>
Surface:	8 5/8"	24 lb/ft	K-55	STC
Production:	5 1/2"	15.5 lb/ft	K-55	STC

Surface Cementing:

360 sx Class G cement with 2% CaCl₂, 1/4#/sx Celloflake. 15.8 ppg, yield 7.15 ft³/sx.

Production Cementing:

DV Tool at 3200:

First Stage

T.D. to 3200'. Lead with 113 sx. 35:65 POZ cement with 6% Gel, .5% D-127 Flac, 1% CaCl₂, 1/4 #/sk. Celloflake. Tail with 486 sx. Class G, 3% KCL, .6% D-60 Flac, 1/4#/sx Celloflake.

Second Stage

3200' to surface casing shoe. 304 sx. 35:65 POZ Cement with 6% Gel, .5% D-127 Flac, 1% CaCl₂, 1/4#/sx. Celloflake.

SWD CEMENTING:

DV Tool at 3800'

First Stage

TD to 3800'. Lead with 282 sx 35:65 POZ Cement with 6% Gel, .5% D-127 Flac, 1% CaCl₂, 1/4#sx. Celloflake. Tail with 160 sx Class G, 3% KCL, .6% D-60 Flac, 1/4#/sx Celloflake.

Second Stage

3800' to Surface Casing Shoe. 429 sx 35:65 POZ Cement with 6% Gel, .5% D-127 Flac, 1% CaCl₂, 1/4#/sx Celloflake.

All cement volumes will be recalculated after examination of caliper log.

5. BLOWOUT PREVENTER (See attached schematics)

As no abnormal pressures are 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 by the contractor.

6. PROPOSED MUD PROGRAM

Surface to 3500'

Native solids, weight 8.3-8.7 ppg, with gel sweeps as necessary to clean hole.

3500' to Total Depth.

Low solids non-dispersed mud with Polymer, weight 8.3-8.7 ppg. Fluid loss 15 CC's or less. Fluid loss will be 10 CC's or less while drilling across Paradox Zone.

AUXILIARY EQUIPMENT

- A. A kelly cock will be utilized while drilling this well, 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 used to drill this well. No abnormal pressures are expected. A mud logging unit will be utilized while drilling this hole.

8. WELL EVALUATION

Open hole electric logging program will consist of a minimum of dual lateral log, SP, Gamma Ray, Caliper, FDC-CNL Lithodensity Tools from TD to 4000'.

Drill stem testing will be as per well site geologist's recommendations, based on shows. A mud logging unit will be utilized during drilling.

9. ABNORMAL PRESSURES/GAS

No abnormal pressures are anticipated. Monitoring of gas and hydrocarbon shows will be by wellsite mud logging unit. An H₂S safety company will be on location from 4000' to TD.

10. TIMING

The drilling and evaluation of this well will take 18 days. Anticipated spud date is 1-1-90

DETAILED DRILLING PROGRAM

BLACK ROCK NO. 7

DATE: October 6, 1989

WELL NAME: Black Rock 1-17-40N29E WELL NO: 7

LOCATION: 1735' FSL, 1540' FWL
Section 17, Township 40N, Range 29E
Apache County, Arizona

ELEVATION: 6695' GR / 6707' KB

TOTAL DEPTH: 6141' if Paradox is productive; 6469' if a SWD well.

PROJECTED HORIZON: Molas Shale at 6141', Ouray at 6469'

DRILLING, CASING AND CEMENTING PROGRAM

1. Move in rotary tools and notify BLM of intent and time of spud.
2. Rig up rotary tools. Drill mouse hole and rat hole. Mix mud prior to spudding well.
3. Drill 12 1/4" hole to 500 +/- . Use cellar jet to remove mud and cuttings from hole. Surveys will be taken on wire line to ensure deviation control. Use fresh water gel/chemical mud for drilling surface hole. Run 8 5/8" surface casing to T.D. Displace casing with mud prior to cementing. Reciprocate casing prior to cementing.
4. Cement with sufficient volume to circulate cement to surface, as per surface cementing program detailed in 10-point drilling plan.
5. W.O.C. a minimum of 4 1/2 hours prior to nipping up BOP stack and related equipment. See BOP schematics for details. Minimum total W.O.C. time is 12 hours.
6. Pressure testing of BOP and casing will be to 600 psig for 30 minutes. Pressure test manifold and all related equipment prior to drilling shoe joint.
7. Reduce hole to 7 7/8". Drill to T.D. at about 6141'.

8. Open hole logs will be run and evaluated. Drill stem testing will be as per wellsite geologist's recommendation. If well is commercial, 5 1/2" casing will be run to T.D.
9. If well is not commercial, drilling will continue to a T.D. at about 6469'. Open hole logs will be run to determine if use of the well for SWD is possible.
10. Cement will be in two stages. Cement as per production or SWD cementing program in 10-point drilling plan. W.O.C. and circulate between stages 4 hours.
11. Remove BOP, set slips, cut off casing, install well head and release drilling rig.
12. If well is non-productive it will be plugged and abandoned as per State, BLM and Navajo Tribal stipulations.



HARKEN SOUTHWEST CORPORATION
(formerly Chuska Energy Company)

January 28, 1994

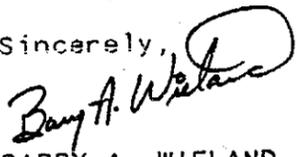
We are pleased to announce that Chuska Energy Company has changed its name to Harken Southwest Corporation. This is in line with the February, 1993 merger with Harken Exploration Company.

Harken Southwest Corporation will continue to be located at 3315 Bloomfield Highway, Farmington, New Mexico 87401. Our telephone number will remain (505) 326-5525.

Please reflect this name change on all future correspondence.

Thank you for your assistance in this matter. We look forward to working with you as Harken Southwest Corporation.

Sincerely,


BARRY A. WIELAND
Operations Manager





Fife Symington
Governor

State of Arizona
Arizona Geological Survey
845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795



Larry D. Fellows
Director and State Geologist

August 4, 1993

Mr. Barry Weiland, Operations Manager
Chuska Energy Company
3315 Bloomfield Highway
Farmington, New Mexico 87401

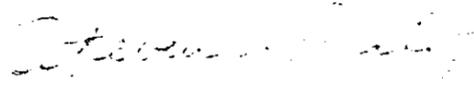
Re: Renew permits 875 (Black Rock 12), 873 (Black Rock 10), 874 (Black Rock 11), and
870 (Black Rock 7).

Dear Mr. Weiland:

I have enclosed a receipt for your application fee to renew the referenced permits. These renewals are good for 90 days. Please keep in mind that you may request extensions on any of the permits should you decide to further evaluate production before you continue with your drilling program at the Black Rock Field.

Let me know if I may be of additional assistance.

Sincerely,


Steven L. Rauzi
Oil & Gas Program Administrator

Enclosure

ARIZONA GEOLOGICAL SURVEY
846 NORTH PARK AVE., #100
TUCSON, ARIZONA 85719

RECEIPT

Date 8-4 1993 No. 3046

Received From Chuspa Energy Company

Address Farmington N.M.

For One hundred dollars and ⁰⁰/₁₀₀ Dollars \$100.⁰⁰

For Renew permits BR # 7, 10, 11 & 12

ACCOUNT		HOW PAID	
AMT. OF ACCOUNT		CASH	
AMT. PAID		CHECK	<u>100.⁰⁰</u>
BALANCE DUE		MONEY ORDER	

By Laurette Colton



Fife Symington
Governor

State of Arizona
Arizona Geological Survey

845 North Park Avenue, #100
Tucson, Arizona 85719
(602) 882-4795



Larry D. Fellows
Director and State Geologist

July 13, 1993

Mr. Barry Weiland, Operations Manager
Chuska Energy Company
3315 Bloomfield Highway
Farmington, New Mexico 87401

Re: Black Rock Field, Apache County, Arizona. Wells #12, #10, #11, and #7

Dear Mr. Weiland:

I am sorry that you were unable to reach me before commencing work on the referenced wells. The phone numbers provided with the State Permits are no longer valid because administrative and staff support for the Oil and Gas Conservation Commission is now handled by the Geological Survey here in Tucson; my office number is listed on the letterhead and my home phone number is 602-881-4850. I have enclosed a couple of my cards showing these phone numbers.

I would appreciate your sending me any updates to the drilling prognoses in our files and a sundry summarizing drilling activity. The prognosis we have for the #12 is dated 4-26-90; for the #10, 11-8-89; for the #11, 11-14-89; and for the #7, 10-6-89. Our records show that #7 was junked and abandoned in May 1990. Are you going to drill the #7 from the original location? If so, what is the new location? I also note that Black Rock #13 and #14 are spotted on the map submitted with the #12 prognosis. Do you plan on permitting these two wells soon?

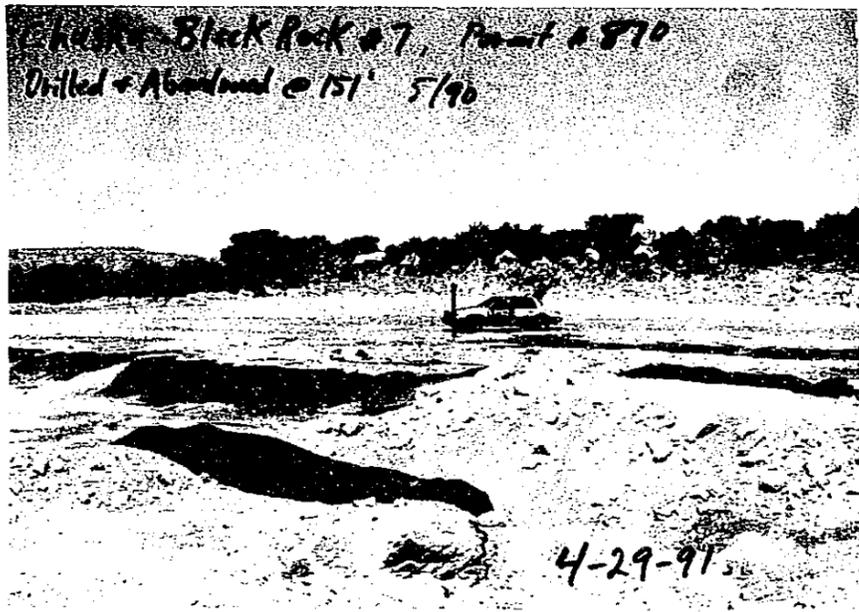
As we discussed on the phone, I will need at least 48 hours notice to allow me enough time to drive to Farmington to witness the circulation of cement on the surface casing and the pressure test of the BOPE and surface casing. Using rig pumps is satisfactory with the Commission.

Finally, I have enclosed a few completion reports for your use upon completion of the wells. Any logs run on the wells can be submitted with the completion report. I do look forward to a successful completion on each of these wells and I hope they lead to additional drilling in Arizona. Do not hesitate to contact me if I can provide any information or additional service.

Sincerely,

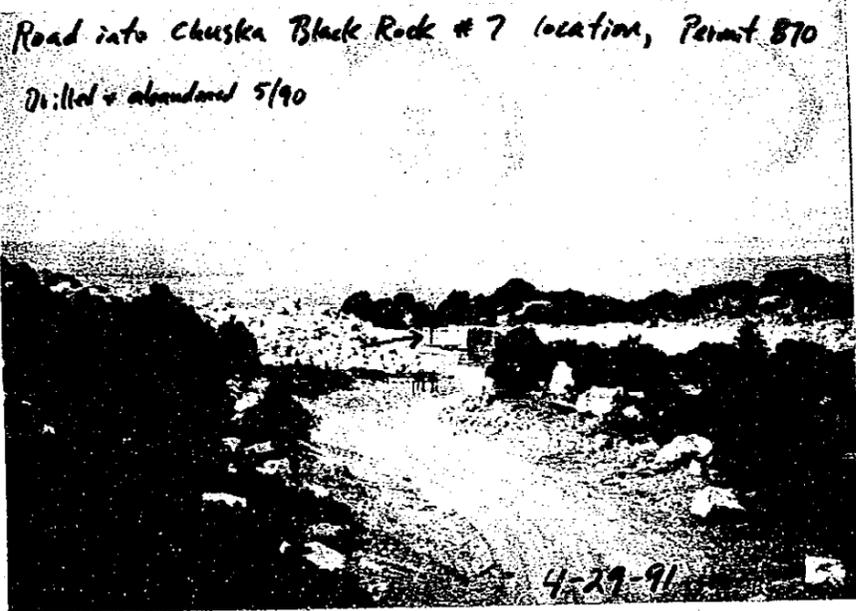
Steven L. Rauzi
Oil & Gas Program Administrator

Enclosures



Road into Chuska Black Rock # 7 location, Permit 870

Drilled & abandoned 5/90



4-29-91



CHUSKA ENERGY COMPANY

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

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

AZ OIL & GAS
CONSERVATION COMMISSION

JUN 8 1990

PN 820

June 1, 1990

State of Arizona
Oil & Gas Conservation Commission
5150 North 16th Street, Suite B141
Phoenix, Arizona 85016

ATTENTION: Mr. Daniel J. Brennan

RE: Sundry Notice - Abandonment - Black Rock #7

Dear Mr. Brennan:

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

Please advise if you require any additional information.

Sincerely,

ROBERT R. GRIFFIE
Operations Engineer

RRG:bnp
Enclosures
File:RRG\SUNABBR.7



CHUSKA ENERGY COMPANY

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

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

June 1, 1990

**AZ OIL & GAS
CONSERVATION COMMISSION**

JUN 3 1990

PU 870

State of Arizona
Oil & Gas Conservation Commission
5150 North 16th Street, Suite B141
Phoenix, Arizona 85016

ATTENTION: Mr. Daniel J. Brennan

RE: Sundry Notice - Skid Rig and Spud - Black Rock #7

Dear Mr. Brennan:

Enclosed you will find for your examination and approval, an 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\SUNSPDBR.7



Oil and Gas Conservation Commission

STATE OF ARIZONA

5150 N. 16th STREET, SUITE B-141
PHOENIX, ARIZONA 85016
PHONE: (602) 255-5161

May 14, 1990

MEMO TO THE FILE. PERMIT #870

Spoke on the telephone this morning with Bob (?) Griffey of Chuska Energy, Farmington about Black Rock No. 7 (Permit 870).

They have spudded and were drilling at 43' with a great deal of trouble from boulders falling in and rolling around in the hole and from lost circulation.

They would like to set 13-3/8" conductor casing at 100 feet, switch to air and drill down to 500 feet before setting 8-5/8" surface casing.

I verbally approved this addition of the 13-3/8" casing and the switch to air drilling. After setting the 8-5/8" casing at 500 feet, they will revert to the approved drilling plan.



Oil and Gas Conservation Commission
STATE OF ARIZONA

5150 N. 16th STREET, SUITE B-141
PHOENIX, ARIZONA 85016
PHONE: (602) 255-5161

January 2, 1990

Mr. Thomas R. McCarthy
Chuska Energy Company
315 N. Behrend
Farmington, NM 87401

RE: Black Rock No. 5, State Permit No. 868
Black Rock No. 6, State Permit No. 869
Black Rock No. 7, State Permit No. 870
Black Rock No. 8, State Permit No. 871

Dear Tom:

Enclosed are the filing fee receipt, the approved Application for Permit to Drill, Permit to Drill, and Report on Proposed Operations for each of the referenced wells. Please note that we have not approved these wells for use as salt water disposal wells.

Upon successful completion of any of these wells, please send in a completed copy of the enclosed Form 4 for our records. I am also enclosing copies of other forms you will need when you have a successful gas well completion (Forms 3, 7, 8, 11, 12, 13, 14, 18, 20).

Sincerely,

Steven L. Rauzi

Steven L. Rauzi
Oil & Gas Specialist

Enclosures



CHUSKA ENERGY COMPANY

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

AZ OIL & GAS
CONSERVATION COMMISSION

DEC 21 1989

December 18, 1989

Mr. Daniel J. Brennan
Arizona Oil and Gas Conservation Commission
5150 North 16th Street, Suite B141
Phoenix, Arizona 85016

RE: Black Rock Nos. 5, 6, 7, 8, 9, 10, and 11
Drilling Permit Applications

Dear Dan:

Pursuant to our conversation on December 15th, I am enclosing a check for \$175.00 for the Applications to Drill the subject wells.

Please advise me if there is additional information or requirements for the approval of the subject APD's.

Sincerely,

Thomas R. McCarthy
Reservoir Engineer

TRM:bnp
Enclosure
File:TRM\DRPERBR

**ASSIGNMENT TO ARIZONA STATE TREASURER
SECURITY IN LIEU OF CASH DEPOSIT FOR COMPLIANCE WITH
SECTION 35-155 ARIZONA REVISED STATUTES**

**AZ OIL & GAS
CONSERVATION COMMISSION**

DEC 11 1989

NAME Chuska Energy Company
 STREET ADDRESS 1250 N.E. Loop 410 Suite 710 San Antonio CITY
 COUNTY Bexar STATE Texas TELEPHONE NUMBER 512-821-6194

hereinafter referred to as ASSIGNOR, does hereby assign and transfer to the Treasurer of the State of Arizona, hereinafter referred to as the TREASURER, all right, title and interest of any kind whatsoever, owned or held by Assignor in the principal, but not in the interest hereinafter accruing after the date of this assignment in the insured account of ASSIGNOR so long as such funds remain on deposit in the

Valley National Bank of Arizona - Valley Center Office
FINANCIAL INSTITUTION

whose address is 241 N. Central Phoenix Mariposa
STREET ADDRESS CITY COUNTY

Arizona, as evidenced by an account in the amount of Twenty-Five Thousand dollars (\$ 25,000) identified by account number 8272-4968 which account is insured by the Federal Deposit Insurance Corporation or the Federal Savings and Loan Insurance Corporation. This assignment is given as security for compliance with ARS 27-501 to 539 and with the Rules of the Oil and Gas Conservation Commission.

Dated this 30th day of November, 1989, at San Antonio Texas
Arizona

IMPORTANT - SIGNATURE OF ASSIGNOR
This Assignment shall be signed by the Individual Himself

Chuska Energy Company
NAME OF ASSIGNOR EXACTLY AS SHOWN ABOVE
BY: Samuel P. McLean Executive Vice President
SIGNATURE OF ASSIGNOR

FIRST ENDORSEMENT - RECEIPT FOR NOTICE OF ASSIGNMENT

Receipt is hereby acknowledged to the Treasurer of the State of Arizona, hereinafter referred to as the TREASURER, of written notice of the assignment to said Treasurer of the above-identified account. We have noted our records to show the interest of the Treasurer in said account as shown in and by the assignment above. We have retained a copy of this document. We hereby certify that we have not received any notice of lien, encumbrance, hold, claim or other obligation against the above-identified account prior to its assignment to the Treasurer. We further hereby waive any current and future right of set-off against such account. We agree to make payment as required by the Rules and Regulations of the Treasurer adopted in accordance with applicable laws and the law applicable to this institution.

Dated this 14 day of December, 1989, at Phoenix, Arizona

BY [Signature] Valley National Bank of Arizona
SIGNATURE OF OFFICER OF FINANCIAL INSTITUTION NAME OF FINANCIAL INSTITUTION
[Signature] John P. McLaughlin, Vice
TITLE

Subscribed and sworn before me this 14 day of December, 1989

[Signature]
NOTARY PUBLIC SIGNATURE
COMMISSION EXPIRES Sept. 30, 1993

SECOND ENDORSEMENT - RECEIPT FOR SECURITY AND DIRECTION TO PAY EARNINGS

Receipt is acknowledged of the assignment above and the account identified in the assignment above. The financial institution named in the assignment above is hereby authorized and directed to pay any earnings credited after the date of this assignment on the above-identified account of the above-named assignor.

Dated this 14th day of DECEMBER, 1989, at PHOENIX

ARIZONA STATE TREASURER
Treasurer or Authorized Representative
By: Brian R. Okerson
(Prepare in duplicate. Please Type all Information)

Attach Original Assignment to Certificates of Deposit and File with State.

RECEIVED
STATE TREASURER
DEC 14 1989

SECURITIES SAFEKEEPING
 1700 WEST WASHINGTON ST. - PHOENIX, ARIZONA 85007

DATE: 12/14/89

STATE AGENCY NO. _____

STATE AGENCY AZ OIL & GAS CONSERVATION COMM.

State Treasurer's Use Only

COMPANY CHUSKA ENERGY CO.
1850 Mt Diablo Blvd, Ste 640
Walnut, CA 94500

DOMESTIC FOREIGN **DEPOSIT**

C.D. NO.: 2578904 ✓
 ACCT NO.: 8272-4968 ✓
 BANK: Valley National Bank of Arizona ✓

RECEIVED
STATE TREASURER
DEC 14 1989

MATURITY DATE: 05/30/90 ✓ INTEREST RATE: 7.30 %

AMOUNT \$25,000.00 ✓

C.D. ASSIGNMENT MUST BE ATTACHED UNLESS C.D. IS PAYABLE TO STATE TREASURER

RELEASE

C.D. NO.:

BANK:

MATURITY DATE: INTEREST RATE: %

AMOUNT \$

STATE TREASURER VALIDATION NO. _____

RECEIVED THE ABOVE RELEASE BY _____ Authorized Signature Date Bank or Firm	STATE AGENCY AUTHORIZATION BY <u>Kate Barnes</u> Authorized Signature
	STATE TREASURER AUTHORIZATION BY <u>Brian R. Oleson</u> Authorized Signature
FOR BANK USE ONLY Checked by _____ Verified by _____	BANK AUTHORIZATION BY _____ Authorized Signature STATE'S DEPOSITORY BANK



Valley National Bank of Arizona

BRANCH Valley Center

Certificate of Deposit
NON TRANSFERABLE

2578904

12-1-89

BRANCH NO. 7 DATE

THIS CERTIFIES THAT THERE HAS BEEN DEPOSITED IN THIS BANK

VALLEY NATIONAL BANK OF ARIZONA
25,000 dollars 00/100ths

PAY TO

Arizona State Treasurer

ACCOUNT NO.

8272-4968

\$ 25,000.00

(UPON
SURRENDER
OF THIS
CERTIFICATE
PROPERLY
ENDORSED)

For Chuska Energy Co
1850 Mt Diablo Blvd Ste 640
Walnut CA 94500

THIS CERTIFICATE MATURES IN 180 Days FROM ISSUE DATE ON
May 30, 19 90 INTEREST IS TO BE PAID Monthly
AT THE RATE OF 7.3 % PER ANNUM ON A 365 DAY YEAR BASIS.
FIRST INTEREST PAYMENT DUE 12-30-89

SINGLE MATURITY - INTEREST CEASES AT MATURITY.

AUTOMATICALLY RENEWABLE - THIS CERTIFICATE WILL AUTOMATICALLY RENEW EVERY

UNLESS REDEEMED WITHIN 10 CALENDAR DAYS (ONE BUSINESS DAY FOR MATURITIES OF 31 DAYS OR LESS) AFTER ANY MATURITY. THE BANK RETAINS THE RIGHT TO REDEEM THIS CERTIFICATE OR CHANGE THE INTEREST RATE AS OF ANY MATURITY.

0-100-0075 REV. 6/85

Janet ...
AUTHORIZED SIGNATURE