

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

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2. NAME OF OPERATOR **Axem Resources Incorporated (303) 740-9000**

3. ADDRESS OF OPERATOR **7800 E. Union Ave., Ste. 1100, Denver, Co-80237**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface **800' FSL & 850' FWL (SWSW)**

At proposed prod. zone **Same**

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
**19 air miles SE of Blanding, Utah**

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) **800'**

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. **N/A**

21. ELEVATIONS (Show whether DF, RT, GR, etc.) **4,776' ungraded ground**

5. LEASE DESIGNATION AND SERIAL NO.  
**U-51685**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
**N/A**

7. UNIT AGREEMENT NAME  
**N/A**

8. FARM OR LEASE NAME  
**Black Steer**

9. WELL NO.  
**13-30**

10. FIELD AND POOL, OR WILDCAT  
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
**30-38s-25e SLBM**

12. COUNTY OR PARISH  
**San Juan**

13. STATE  
**Ut.**

17. NO. OF ACRES ASSIGNED TO THIS WELL  
**40**

20. ROTARY OR CABLE TOOLS  
**Rotary**

22. APPROX. DATE WORK WILL START\*  
**Aug. 15, 1989**

**RECEIVED**  
JUL 21 1989  
DIVISION OF OIL, GAS & MINING

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48* (H-40, ST&C)	50'	*95 SX or to surface
11"	8-5/8"	24* (K-55, ST&C)	1,625'	*750 SX or to surface
7-7/8"	5-1/2"	15.5 (K-55, LT&C)	5,900'	*235 SX or to 4,700'

1. Tight hole, please keep confidential.
2. Axem has reached verbal agreement with surface owner for damages and is pursuing written agreement.
3. APD is doubling as a road right-of-way application.
4. *Italicized portions of APD refer to right-of-way.*

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.

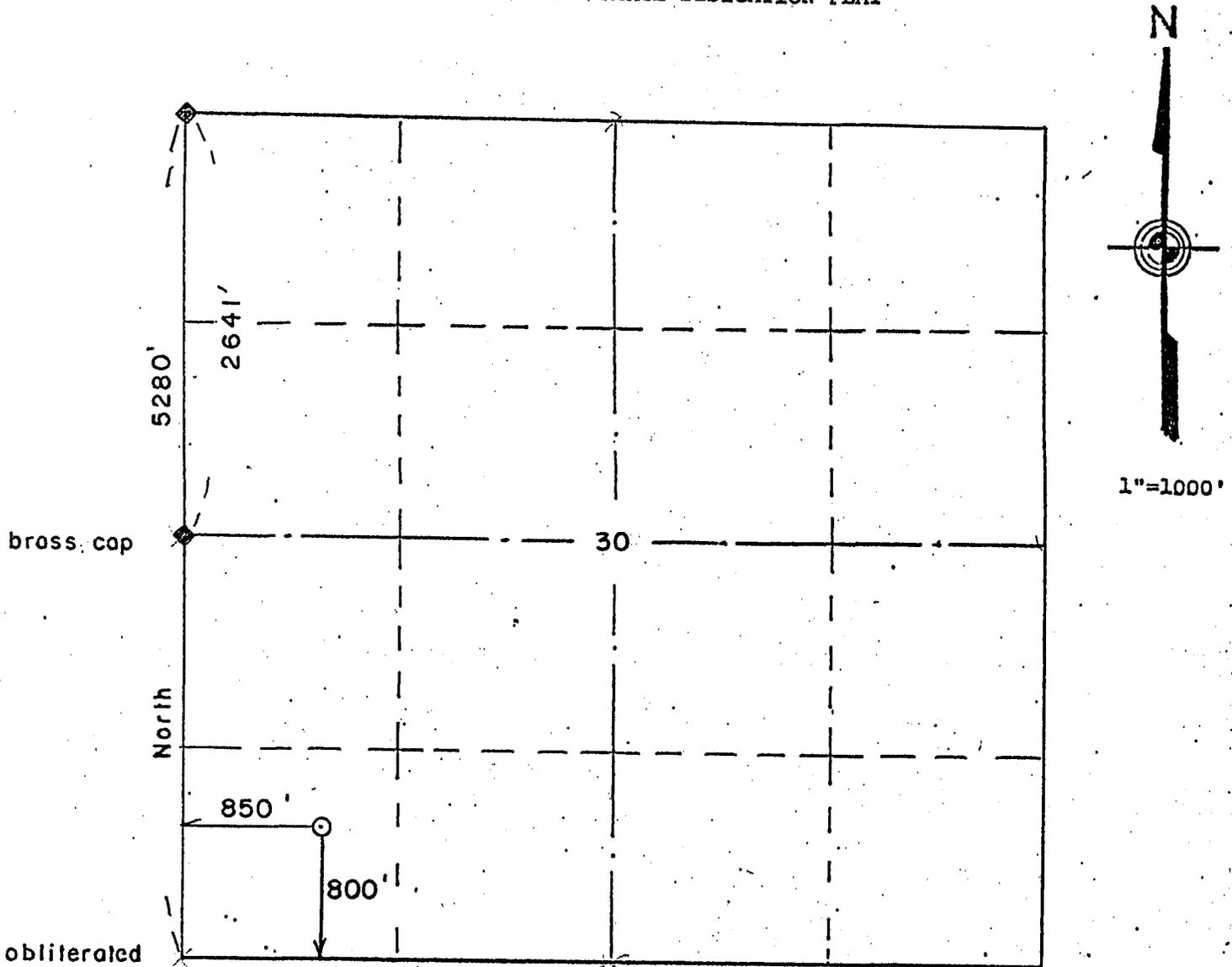
24. SIGNED Brook J. Phifer TITLE Vice-President, Production DATE \_\_\_\_\_

(This space for Federal or State office use) cc: Janata (3), MDO(3), SJRA(2), UDOGMI(2)  
PERMIT NO. 43-03731471 APPROVAL DATE \_\_\_\_\_  
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY: \_\_\_\_\_

APPROVED BY THE STATE  
OF UTAH DIVISION OF  
OIL, GAS, AND MINING  
DATE: 8-14-89  
BY: John R. Bay  
WELL SPACING: RA/15-3-2

\*See Instructions On Reverse Side

WELL LOCATION AND ACREAGE DEDICATION PLAT



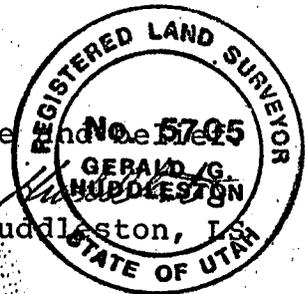
WELL LOCATION DESCRIPTION:

Axem Resources, Inc., Black Steer # 13-30  
800'FSL & 850'FWL  
Section 30, T.38 S., R.25 E., SLM  
San Juan County, UT  
4776' ground elevation  
Reference: S 54 E, 545', 4770' grd.

The above plat is true and correct my knowledge and belief

5 July 1989

Gerald G. Huddleston, Jr.  
Gerald G. Huddleston, Jr.



**Axem Resources Incorporated**  
**Black Steer 13-30**  
**800' FSL 850' FWL**  
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All lease operations will be conducted in full compliance with applicable laws, regulations (43 CFR 3100), Onshore Oil & Gas Order #1, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. Axem Resources Incorporated will furnish a copy of these conditions to its field representative to assure compliance.

**8 Point Drilling Program**

**I. ESTIMATED FORMATION TOPS\***

<u>Formation Name</u>	<u>Depth from GL</u>	<u>Depth from KB</u>	<u>Subsea Depth</u>
Morrison	000'	12'	+4,776'
Entrada Ss	300'	312'	+4,476'
Glen Canyon Group Ss	500'	512'	+4,276'
Chinle Shale	1,576'	1,588'	+3,200'
Shinarump	2,366'	2,378'	+2,410'
Moenkopi	2,401'	2,413'	+2,375'
Cutler	2,586'	2,598'	+2,190'
Honaker Trail	4,411'	4,423'	+ 365'
Upper Ismay	5,376'	5,388'	- 600'
Hovenweep	5,521'	5,533'	- 745'
Lower Ismay	5,551'	5,563'	- 775'
Gothic	5,606'	5,618'	- 830'
Upper Desert Creek	5,636'	5,648'	- 860'
Lower Desert Creek	5,676'	5,688'	- 900'
Chimney Rock	5,706'	5,718'	- 930'
Akah Shale	5,731'	5,743'	- 955'
Salt	5,761'	5,773'	- 985'
Total Depth (TD)	5,900'	5,912'	-1,124'

\* All depths based on ungraded ground level of 4,776'.

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## 2. NOTABLE ZONES

The estimated formation top depths from ungraded GL at which water, oil, gas, or other mineral bearing zones may be found are:

### Possible Fresh Water Zones

Morrison: 000'

Entrada: 300'

Glen Canyon Group: 500'

### Possible Uranium Zones

Morrison: 000'

Chinle: 1,576'

### Possible Oil & Gas Zones

Honaker Trail: 4,411'

Upper Ismay: 5,376'

Lower Desert Creek: 5,676'

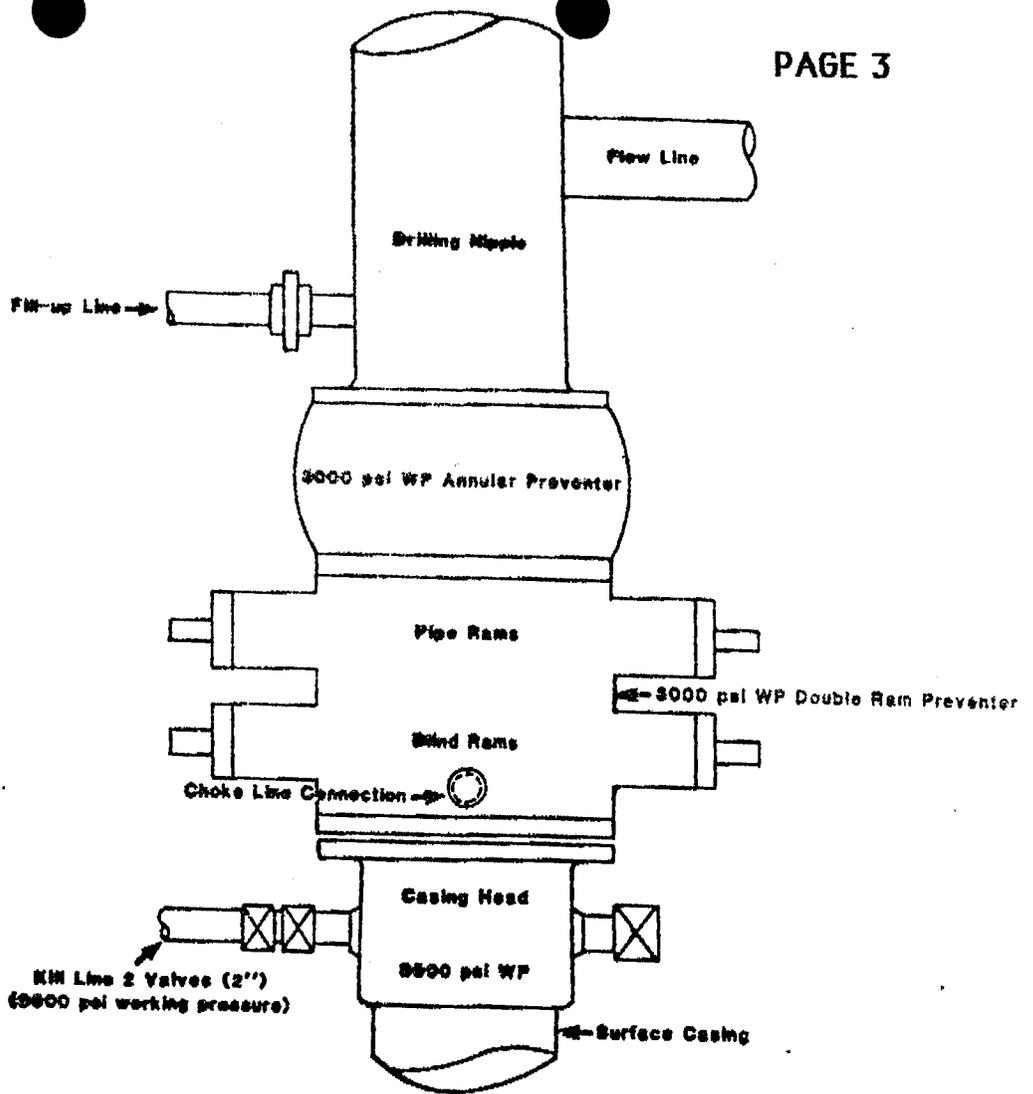
Primary goal is the Upper Ismay. Secondary goals are the Honaker Trail and Lower Desert Creek. Water bearing zones will be protected with weighted mud. Fresh water found during drilling will be recorded by depth, cased, and cemented. Surface casing will be set into the Chinle shale. Promising oil and gas shows will be tested to determine commercial potential.

## 3. PRESSURE CONTROL (Also see "5." on PAGE 4)

BOP systems will be consistent with API RP 53 and Onshore Order #2. An 11" x 3,000 psi double ram and annular preventer with a 3,000 psi choke manifold will be used. A typical example of a 3,000 psi BOP is on Page 3. The actual model will not be known until the bid is let.

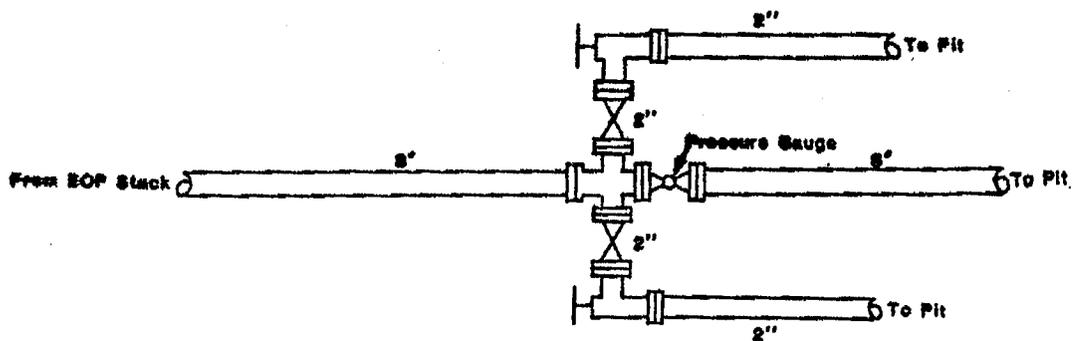
Ram type preventers will be tested to the rated working pressure of the stack or to 70% of the internal yield of the casing, whichever is less. The annular type preventer will be tested to 50% of its rated working pressure.

Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. BOP controls will be installed before drilling the surface casing plug, and will stay in use until the well is completed or abandoned. Preventers will be pressure tested before drilling casing cement plugs.



11" 3000 PSI WP Blowout Preventer Stack

Prod / Misc. 23-3



All valves, chokes, upstream lines, and fittings are Series 900 (3,000 PSI WP).

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BOPs will be inspected and operated at least daily to assure good mechanical working order. All BOP mechanical tests, pressure tests, and inspections will be recorded on the drillers log or daily drilling report.

**4. CASING & CEMENTING**

<u>Hole Size</u>	<u>O.D.</u>	<u>lbs/ft</u>	<u>Grade</u>	<u>Type</u>	<u>Age</u>	<u>Setting Depth (GL)</u>
17-1/2"	13-3/8"	48	H-40	ST&C	New	0' - 50'
11"	8-5/8"	24	K-55	ST&C	New	0' - 1,625'
7-7/8"	5-1/2"	15.5	K-55	LT&C	New	0' - 5,900'

Conductor pipe (0' to 50'): Cement to surface with ≈95 sx.

Surface Casing (0' to ≈1,625'): Cement to surface with ≈750 sx Class B.  
 NOTE: Due to potential artesian flows, call Mike Wade at the Resource Area one day before running and cementing surface casing.

Production Casing (0' to 5,900'): Cement from 5,900' (TD) to ≈4,700' in one stage with ≈235 sx Class B and Poz.

**5. MUD PROGRAM**

<u>Depth</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0' - 150'	Gel - lime slurry	8.5-9.0	35-50	NC
150' - 1,625'	Fr. water, flocc. & lime	8.4-8.6	26-32	NC
1,625' - 5,570'	Fr. water, flocc. & lime	8.4-8.7	26-32	NC
5,570' - 5,900'	Gel-chemical, caustic soda	9.0-10.5	40-45	≤10 cc

**6. CORING, TESTING, & LOGGING**

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Twelve sidewall cores may be cut and a DST run in the Upper Ismay if good shows are found. Cuttings will be collected every 30' from base of surface casing to 5,000'. A one man mud logging unit will be present from 5,000' to TD. Cuttings will then be collected every 10'. These logs may be run:

TD (5,900') to Base of Surface Casing (1,625'): Dual Laterolog-MSFL  
TD (5,900') to Base of Surface Casing (1,625'): Acoustic  
TD (5,900') to 4,720': Density Neutron

Whether the well is completed as a dry hole or producer, "Well Completion or Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations performed *per* 43 CFR 3162.4-1. Two copies of all logs, core descriptions & analyses, well test data, geologic summaries, sample descriptions, and all other data obtained during drilling, workover, and/or completion operations, will be filed with Form 3160-4. (If requested, sample cuttings, fluids, and/or gases will be submitted to the District Manager.)

#### 7. DOWNHOLE CONDITIONS

The maximum anticipated bottom hole pressure is 2,500 psi. No abnormal pressures, temperatures, or hydrogen sulfide are expected.

#### 8. MISCELLANEOUS

The anticipated spud date is August 15, 1989. It is expected it will take ≈20 days to drill the well and 10 days to complete the well.

The spud date will be phoned to the Resource Area, at least 1 day before spudding. A Sundry Notice (Form 3160-5), reporting the spud date and time, will be sent to the District Manager within 24 hours after spudding. If the

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spud is on a weekend or holiday, the Sundry will be sent on the following regular work day.

No location will be built or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the District Manager. If operations are to be suspended, prior approval of the District Manager will be obtained and notification given before resuming operations.

Starting with the month in which operations begin, and continuing each month until the well is physically plugged and abandoned, a "Monthly Report of Operations" (Form 3160-6) will be sent to the District Manager.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual events will be promptly reported to the Resource Area *per* NTL-3A.

If the well is successfully completed for production, then the District Manager will be notified. Written notification will be sent not later than 5 business days following the date on which the well is placed on production. The Resource Area will schedule a first production conference within 15 days after receipt of the first production notice.

Approval to vent/flare gas during initial well evaluation will be obtained from the District Manager. This preliminary approval will not exceed 30 days or 50 MMcf of gas. Approval to vent/flare beyond this initial period will require the District Manager's approval *per* NTL-4A.

No well abandonment operations will begin without prior approval of the District Manager. With a newly drilled dry hole, failure, or emergency, oral approval will be obtained from the District Manager. A Sundry Notice will be sent to the District Manager within 30 days following completion of the well for abandonment. The Sundry will note where plugs were placed and the current status of surface restoration. Final abandonment will not be

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approved until reclamation required by the approved APD or abandonment notice has been completed to the satisfaction of BLM and the landowner.

Once plugged, a 4' high regulation dry hole marker will be installed. The following legend will be beaded on with a welding torch: Axem Resources Incorporated, Black Steer 13-30, SWSW 30-38s-25e, U-51685.

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### **13 Point Surface Use Plan**

#### **1. EXISTING ROADS & DIRECTIONS** (See PAGES 17 & 18)

From the Montezuma Creek Post Office, go north 14.1 mi. on U-262.

Then turn right and go east 6.8 mi. on paved county road N-5099 to just past Hatch Trading Post.

Then turn left and go north 4.7 mi. on a county road. (The first 1/4 mi. is paved. The rest is gravel.)

Then turn right and go east  $\approx 1/3$  mi. on a flagged route to the well site.

Existing roads are state and county. An Encroachment Permit has been approved by the San Juan County Road Department. *All off-lease travel on BLM surface will be authorized by a BLM right-of-way. This APD doubles as a right-of-way application.* Roads will be maintained to a standard at least equal to their present condition. No upgrading is needed.

#### **2. ROAD TO BE BUILT** (See PAGE 18)

Dirt contractor will call Charlie Williams, Koch representative, 48 hours before starting construction. His phone numbers are (303) 677-2436 and (303) 565-5016.

The  $\approx 1/3$  mi. of new road will have a 16' wide running surface and maximum disturbed width of 30'. It will be rocked for  $\approx 1,300'$  from the well to the top of the west bank of Montezuma Creek,  $\approx 50'$  across a Koch Hydrocarbon gas line, and  $\approx 100'$  east from the county road. Surfacing will be 12" deep (before compaction) pit run, except for the pipeline where it will be 18" deep (before compaction).

Maximum cut or fill will be 8'. Maximum grade will be 8%. No cattleguards or gates are needed. An 18" x 60' long culvert will be installed on the east

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shoulder of the county road. A seismic trail south of the new flagged road and west of the gas line will be ripped and blocked at both ends.

*Approximately 200' of the new access (SESE 25-38s-24e) is off-lease BLM surface. Axem hereby requests that it be authorized by a BLM right-of-way.*

Surface disturbance and vehicle travel will be limited to the approved location and roads. Any additional area needed will be approved in advance by the Area Manager or land owner.

BLM part of the access will be water barred or brought to Class 3 Road Standards within 60 days of dismantling the drill rig. If the deadline cannot be met, the Resource Area will be notified so temporary drainage control can be installed. Class 3 Road Standards control drainage by using topography, ditch turnouts, dips, outsloping, crowning, low water crossings, and culverts. Specific measures will be determined at a joint field inspection.

### 3. EXISTING WELLS (See PAGE 18)

There are no injection, producing, or disposal wells within 1 mile. There is a 650' deep 4-1/2" O.D. 12 year old water well 2,510' northeast at 2600' FSL & 2600' FWL 30-38s-25e. It is owned by Richard C. Perkins.

### 4. PROPOSED PRODUCTION FACILITIES

The exact type and layout of the production facilities are not known now. Likely facilities will include a tank battery, separator, and meter run. Production facilities will be installed off-lease in SESE 25-38s-24e. This site will allow continued production if high water isolates the well.

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A flowline will run from the well to the production facility. A fuel gas line will run from the production facility to the well. A sales gas line will run to the Koch pipeline. All will be buried at least 30" deep. Application for a site right-of-way and off-lease measurement and storage will be made if production results. An archaeologist will monitor production facility site construction.

All permanent (on site for 6 or more months) surface facilities on public land will be painted a flat, neutral, earthtone color. Specific color will be determined by BLM after the on-site. Painting will be completed within 6 months of installation. Parts required to comply with OSHA colors will be excluded.

The tank battery will be surrounded by a dike of sufficient capacity to contain 150% of the storage capacity of the largest tank in the battery. All loading lines will be placed inside the dike.

Site security regulations in 43 CFR 3162.7-4 will be obeyed. All product lines entering or leaving hydrocarbon storage tanks will be effectively sealed.

All commingling on or off-lease must have prior written approval from the District Manager.

Gas meter will be within 500' of the separator. The gas line will be buried from the separator to the meter and 500' downstream of the meter and any production facilities. Meter will be housed and/or fenced.

Oil and gas measurement facilities will be installed on the production facility. Meters will be calibrated in place before delivery begins. Meter accuracy tests will be conducted monthly for the first 3 months on new meters, and at least quarterly thereafter. The Resource Area will be provided with a date and time for the initial meter calibration and all

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future meter proving schedules. A copy of the meter calibration reports will be sent to the Resource Area. All meters will conform with the API standards for liquid hydrocarbons and AGA standards for natural gas measurement.

**5. WATER SUPPLY (See PAGE 18)**

Water source will be an artesian well on Richard Perkins' private land in NESW Sec. 30, T. 38 S., R. 25 E. An Application to Appropriate Water has been filed with the State of Utah Div. of Water Rights. Water will either be trucked  $\approx$ 1.5 miles on existing roads or pumped via a temporary surface pipeline laid on an existing seismic trail.

*The former option will cross  $\approx$ 1/3 mi. of existing road on BLM land in SENW Section 30. This is casual use and can be authorized as a temporary work area under the right-of-way. No construction or upgrading is needed. The rest of the water haul route is on Richard Perkins' land or a county road. Travel on the seismic trail will be limited to laying and removing the pipe. All of the latter option is on private land.*

**6. CONSTRUCTION METHODS & MATERIALS**

An archaeologist will monitor construction. An archaeological site east of the pad will be fenced off on at least two sides with a single strand of barbed wire.

Pad construction materials will be on lease native soil in place on the well pad. Pit run rock will be bought from a commercial source. Use of material under BLM jurisdiction will comply with 43 CFR 3610.1-3.

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**7. WASTE DISPOSAL**

All of the reserve pit capacity will be in cut. The reserve pit will be unlined. The pit will be fenced on 3 sides with 4 strands of barbed wire or woven wire topped with barbed wire. The 4th side will be fenced once the rig moves off. The fence will be kept in good repair while the pit dries.

All trash will be placed in a trash cage. When full, it will be hauled to the Blanding dump or Cortez landfill. A permit is required for burning trash between May 1 and October 31. Call the San Juan County Sheriff at (801) 587-2237 for a burning permit. The road and pad will be kept litter free.

Human waste will be disposed of in 10' deep ratholes or chemical toilets. The ratholes will be immediately filled when the trailers are removed.

Produced water will be confined to the reserve pit for a period not to exceed 90 days after initial production. During the 90 day period an NTL-2B application will be submitted for the District Manager's approval of a permanent disposal method and site.

**8. ANCILLARY FACILITIES**

There will be no airstrip or formal camp. Three camper trailers may be on site for the company man, mud logger, and tool pusher.

**9. WELL SITE LAYOUT**

See PAGES 19-21 for depictions of the well pad, cross sections, cut and fill diagrams, reserve pit, burn pit, access road onto the pad, parking, living facilities, and rig orientation. Brush and the top 6" of soil will be saved and stockpiled east of the reserve pit.

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10. RECLAMATION

Immediately upon completion of drilling, all trash and debris will be collected from the pad and surrounding area and placed in the trash cage.

The reserve pit will be completely dry before it is backfilled. All disturbed areas will be recontoured to blend as nearly as possible with the natural topography. This includes removing all berms and refilling all cuts. All disturbed areas will be ripped 6" deep with the contour. Seed will be broadcast between October 1 and February 28 with the following mix. A harrow or similar implement will be dragged over the area to assure seed cover.

<u>Species</u>	<u>Rate (pounds/acre)</u>
Indian ricegrass	2
Galleta grass	1
Crested wheatgrass	1
Fourwing saltbush	2
Shadscale	2
Yellow sweetclover	1
Wild sunflower	1

After seeding is complete, stockpiled brush will be scattered evenly over the disturbed area. The new road will be reclaimed and water barred.

The reserve pit and that part of the pad not needed for production will be reclaimed as previously described. Enough topsoil will be kept to reclaim the remainder of the pad at a future date.

11. SURFACE OWNER

The owner of the water well, most of the water haul route, pad, and east

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1,400' of access road, and east 850' of pipeline is Richard C. Perkins. His address is 184 North 1st West, Blanding, Utah 84511. His phone number is (801) 678-2595. The production facility and remainder of road and pipelines will be on federal land administered by BLM.

**12. OTHER INFORMATION**

The dirt contractor will be provided with an approved copy of the surface use plan.

There will be no change from the proposed drilling and/or workover plan without prior approval from the District Manager. A Sundry Notice will be filed for approval for all changes of plans and other operations *per* 43 CFR 3162.3-2.

Safe drilling and operating practices must be used. All wells, whether drilling, producing, suspended, or abandoned will be identified *per* 43 CFR 3162.3-2.

If subsurface cultural materials are exposed during construction, work in that spot will stop immediately and the Resource Area will be called. Anyone disturbing archaeological sites or collecting artifacts, including arrowheads, is subject to prosecution.

This permit will be valid for one year from the date of approval. After it expires, a new application will be filed for approval of future operations.

The District Office's mailing address is P.O. Box 970, Moab, Utah 84532. The phone number is (801) 259-6111.

The Resource Area's mailing address is P.O. Box 7, Monticello, Utah 84535. The phone number is (801) 587-2141.

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The nearest hospital is a ≈70 minute drive to Monticello, Utah. It is 3 blocks northwest of the intersection of US 666 and US 191. Hospital phone number is (801) 587-2116. Or dial 1-800-332-1911 from anywhere in San Juan County. The closest medically equipped helicopter is in Grand Junction, Colorado, at St. Mary's Hospital. Call (303) 244-2550.

**13. REPRESENTATION AND CERTIFICATION**

Anyone having questions concerning the APD should contact:

Brian Wood (505) 984-8120  
Permits West, Inc.  
37 Verano Loop  
Santa Fe, NM 87505

The representative during drilling will be:

Ralph Sloane, Jr. (505) 327-9171 or (303) 562-3126  
Sloane Oil Field Services  
P.O. Box 2606  
Farmington, NM 87499

The representative during production will be:

Shari Janata (303) 740-9000  
Axem Resources Incorporated  
7800 East Union Ave., Suite 1100  
Denver, Co. 80237

**CERTIFICATIONS**

I hereby certify that Axem Resources Incorporated has the necessary consents from the proper lease and unit interest owners to conduct lease and unit operations in conjunction with this APD. Bond coverage *per* 43 CFR 3104 for lease activities is being provided by Axem Resources

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Incorporated.

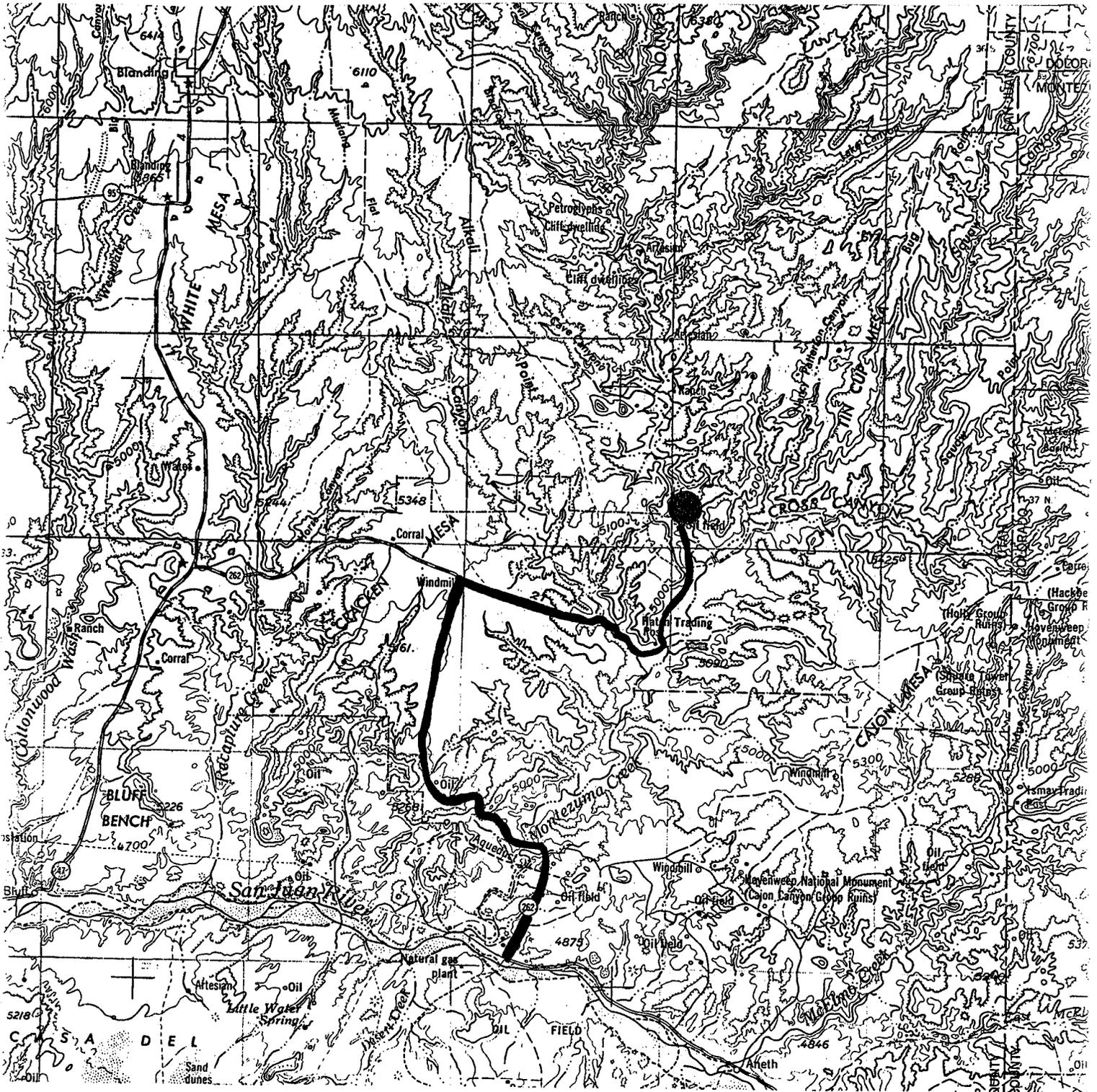
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with operations proposed herein will be performed by Axem Resources Incorporated and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

  
\_\_\_\_\_  
Brook J Phifer  
Vice-President, Production

7/19/89  
Date

**Axem Resources Incorporated**  
**Black Steer 13-30**  
**800' FSL & 850' FWL**  
**Sec. 30, T. 38 S., R. 25 E.**  
**San Juan County, Utah**

**CONFIDENTIAL**

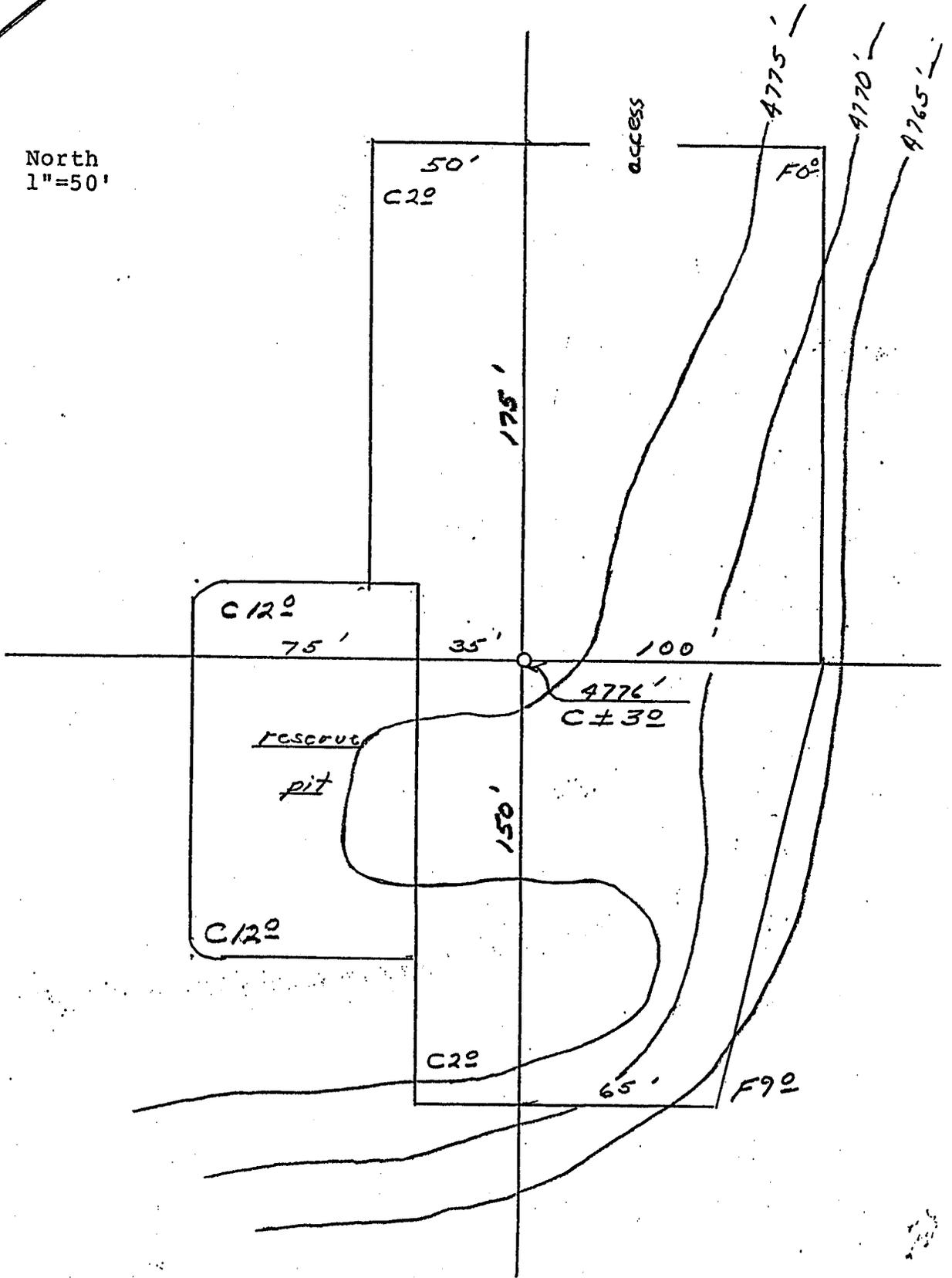


Proposed Well: ●

Access Route: ———

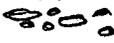


North  
1"=50'

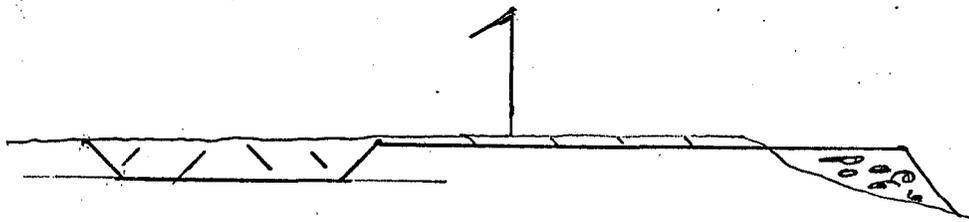


Cross Section

Black Steer # 13-30

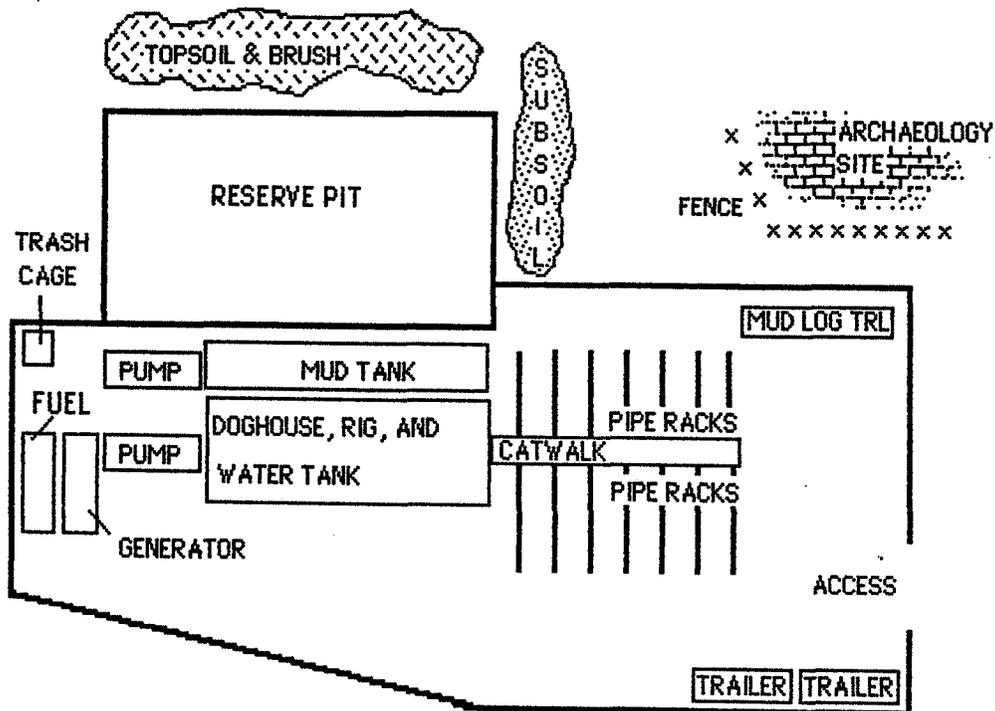
Cut   
Fill 

1"=50' Horz. & Vert.



Axem Resources Incorporated  
Black Steer 13-30  
800' FSL & 850' FWL  
Sec. 30, T. 38 S., R. 25 E.  
San Juan County, Utah

CONFIDENTIAL



1. Archaeologist monitors construction.
2. Fence archaeological site with 1 strand barbed wire. AVOID SITE!!!!!!!!!!!!!!!!!!!!

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:  
August 15, 1989
- 
4. AREAWIDE CLEARING HOUSE(S) RECEIVING STATE ACTIONS:  
(to be sent out by agency in block 1)  
Southeastern Utah Association of Local 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:  
Axem Resources Incorporated proposes to drill a wildcat well, the Black Steer #13-30, on federal lease number U-51685 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 is the primary administrative agency in this case and must issue approval to drill jointly with DOGM before operations can commence.
- 
8. LAND AFFECTED (site location map required) (indicate county)  
SW/4, SW/4, Section 30, Township 38 South, Range 25 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:  
Glen Goodwin, Monticello, 587-2710
- 
12. FOR FURTHER INFORMATION, CONTACT: 13. SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL  
John Baza  
PHONE: 538-5340
- John R. Baza*  
DATE: 7/27/89  
Petroleum Engineer
-

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  DRILL  DEEPEN  PLUG BACK

b. TYPE OF WELL  OIL WELL  GAS WELL  OTHER  SINGLE ZONE  MULTIPLE ZONE

**CONFIDENTIAL**

2. NAME OF OPERATOR **Axem Resources Incorporated (303) 740-9000**

3. ADDRESS OF OPERATOR **7800 E. Union Ave., Ste. 1100, Denver, Co. 80237**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*  
At surface **800' FSL & 850' FEL (SWSW)**  
At proposed prod. zone **Same**

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
**19 air miles SE of Blanding, Utah**

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)  
**800'**

16. NO. OF ACRES IN LEASE  
**153.19**

17. NO. OF ACRES ASSIGNED TO THIS WELL  
**40**

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
**N/A**

19. PROPOSED DEPTH  
**5,900'** Salt Wash

20. ROTARY OR CABLE TOOLS  
**Rotary**

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**4,776' ungraded ground**

22. APPROX. DATE WORK WILL START\*  
**Aug. 15, 1989**

5. LEASE DESIGNATION AND SERIAL NO.  
**U-51685**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
**N/A**

7. UNIT AGREEMENT NAME  
**N/A**

8. FARM OR LEASE NAME  
**Black Steer**

9. WELL NO.  
**13-30**

10. FIELD AND POOL, OR WILDCAT AND SURVEY OR AREA  
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
**30-38s-25e SLBM**

12. COUNTY OR PARISH  
**San Juan**

13. STATE  
**Ut.**

RECEIVED  
DIVISION OF OIL, GAS & MINING  
JUL 21 1989

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48* (H-40, ST&C)	50'	≈95 sx or to surface
11"	8-5/8"	24* (K-55, ST&C)	1,625'	≈750 sx or to surface
7-7/8"	5-1/2"	15.5 (K-55, LT&C)	5,900'	≈235 sx or to 4,700'

1. Tight hole, please keep confidential.
2. Axem has reached verbal agreement with surface owner for damages and is pursuing written agreement.
3. APD is doubling as a road right-of-way application.
4. *Italicized portions of APD refer to right-of-way.*

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. SIGNED *Brad J. Phifer* TITLE Vice-President, Production DATE \_\_\_\_\_  
(This space for Federal or State office use) cc: Janata (3), MDO(3), SJRA(2), UDOGM(2)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions On Reverse Side





# CONFIDENTIAL

OPERATOR Axem Resources Inc. (No145) DATE 7-25-89

WELL NAME Black Steer 13-30

SEC SWSW 30 T 38S R 25E COUNTY San Juan

43-037-31471  
API NUMBER

Federal  
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other well within 920'

Need Water Permit

R0CC 7-25-89 / Process August 11, 1989

B7m Approved 8-8-89

\* Location change approved 9-26-89. (Now 540' FSL, 1080' FWL) Exp. Loc.

APPROVAL LETTER:

SPACING:  R615-2-3

N/A  
UNIT

R615-3-2

N/A  
CAUSE NO. & DATE

R615-3-3 <sup>As of 9-26-89</sup>

STIPULATIONS:

1. Water Permit

**CONFIDENTIAL**  
**PERIOD**  
**EXPIRED**  
ON 2-17-91

RECEIVED

JUL 20 1989

# FILING FOR WATER IN THE STATE OF UTAH

RECEIVED

Rec. by VP  
Fee Rec. 3000  
Receipt # 20408  
Microfilmed \_\_\_\_\_  
Roll # \_\_\_\_\_

WATER RIGHTS DIVISION  
TEMPORARY

RECEIVED  
JUL 26 1989

## APPLICATION TO APPROPRIATE WATER RIGHTS

# CONFIDENTIAL

For the purpose of requiring the right to use a portion of the unappropriated water of the State of Utah, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of Title 73, Chapter 3 of the Utah Code Annotated (1953, as amended).

\* WATER RIGHT NO. 09 - 1647 \* APPLICATION NO. A T64093

1. \*PRIORITY OF RIGHT: July 17, 1989 \* FILING DATE: July 17, 1989

### 2. OWNER INFORMATION

Name(s): Axem Resources Incorporated c/o Permits West, Inc. \* Interest: 100 %  
Address: 37 Verano Loop (505) 984-8120  
City: Santa Fe State: NM Zip Code: 87505  
Is the land owned by the applicant? Yes \_\_\_\_\_ No XXX  
(If "No", please explain in EXPLANATORY section.)

3. QUANTITY OF WATER: \_\_\_\_\_ cfs and/or Two ac-ft

4. SOURCE: Artesian Well \* DRAINAGE: \_\_\_\_\_

which is tributary to Montezuma Creek  
which is tributary to San Juan River

POINT(S) OF DIVERSION: \_\_\_\_\_ COUNTY: San Juan  
North 2600 feet and East 2600 feet from the SW corner of Sec. 30, T. 38 S., R. 25 E., SLBM

Description of Diverting Works: Water will be pumped into 85 bbl tank trucks or piped to oil well.  
\* COMMON DESCRIPTION: 3 1/2 miles North of Hatch Trading Post Cajun Mesa Quad

### 5. POINT(S) OF REDIVERSION

The water will be rediverted from N/A at a point:

Description of Rediverting Works: \_\_\_\_\_

### 6. POINT(S) OF RETURN

The amount of water consumed will be \_\_\_\_\_ cfs or 2.0 ac-ft  
The amount of water returned will be \_\_\_\_\_ cfs or \_\_\_\_\_ ac-ft  
The water will be returned to the natural stream/source at a point(s): \_\_\_\_\_

### 7. STORAGE

Reservoir Name: \_\_\_\_\_ N/A Storage Period: from \_\_\_\_\_ to \_\_\_\_\_  
Capacity: \_\_\_\_\_ ac-ft. Inundated Area: \_\_\_\_\_ acres  
Height of dam: \_\_\_\_\_ feet  
Legal description of inundated area by 40 acre tract(s): \_\_\_\_\_

\* These items are to be completed by the Division of Water Rights

## TEMPORARY

Appropriate

8. List any other water rights which will supplement this application \_\_\_\_\_  
Application supplements Richard Perkins' water rights for stockwatering, etc

9. NATURE AND PERIOD OF USE

Irrigation: From \_\_\_\_\_ to \_\_\_\_\_  
Stockwatering: From \_\_\_\_\_ to \_\_\_\_\_  
Domestic: From \_\_\_\_\_ to \_\_\_\_\_  
Municipal: From \_\_\_\_\_ to \_\_\_\_\_  
Mining: From \_\_\_\_\_ to \_\_\_\_\_  
Power: From \_\_\_\_\_ to \_\_\_\_\_  
Other: From August 15, 1989 to August 14, 1990

10. PURPOSE AND EXTENT OF USE

Irrigation: \_\_\_\_\_ acres. Sole supply of \_\_\_\_\_ acres.  
Stockwatering (number and kind): \_\_\_\_\_  
Domestic: \_\_\_\_\_ Families and/or \_\_\_\_\_ Persons  
Municipal (name): \_\_\_\_\_  
Mining: \_\_\_\_\_ Mining District in the \_\_\_\_\_ Mine  
Ores mined: \_\_\_\_\_  
Power: Plant name: \_\_\_\_\_ Type: \_\_\_\_\_ Capacity: \_\_\_\_\_  
Other (describe): Water will be used for oil well drilling mud, dust control, compaction, etc.

11. PLACE OF USE

Legal description of place of use by 40 acre tract(s): \_\_\_\_\_  
North 800' and East 850' from the SW corner of Sec. 30, T. 38 S., R. 25 E., SLBM at the Black Steer  
13-30 oil well (SWSW 30-38s-25e) on private land(surface)/federal minerals. 43-037-31471

12. EXPLANATORY

The following is set forth to define more clearly the full purpose of this application. (Use additional pages of same size if necessary): From #2: Land is private and owned by Richard C. Perkins, Blanding, Ut. Richard C. Perkins has approved this use.

\*\*\*\*\*

The applicant(s) hereby acknowledges that he/she/they are a citizen(s) of the United States of America or intends to become such a citizen(s). The quantity of water sought to be appropriated is limited to that which can be beneficially used for the purposes herein described. The undersigned hereby acknowledges that even though he/she/they may have been assisted in the preparation of the above-numbered application through the courtesy of the employees of the Division of Water Rights, all responsibility for the accuracy of the information contained herein, at the time of filing, rests with the applicant(s).

Brian Perkins  
Signature of Applicant(s)

**TEMPORARY**

STATE ENGINEER'S ENDORSEMENT

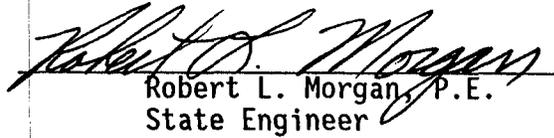
WATER RIGHT NUMBER: 09 - 1647

APPLICATION NO. T64093

1. July 17, 1988      Application received by MP.
  2. July 18, 1989      Application designated for APPROVAL by MP and KLJ.
  3. Comments:
- 
- 

Conditions:

This application is hereby APPROVED, dated July 25, 1989, subject to prior rights and this application will expire on July 25, 1990.

  
Robert L. Morgan, P.E.  
State Engineer

# BAKER

## SERVICE TOOLS

Axem Resources, Inc.  
Operator

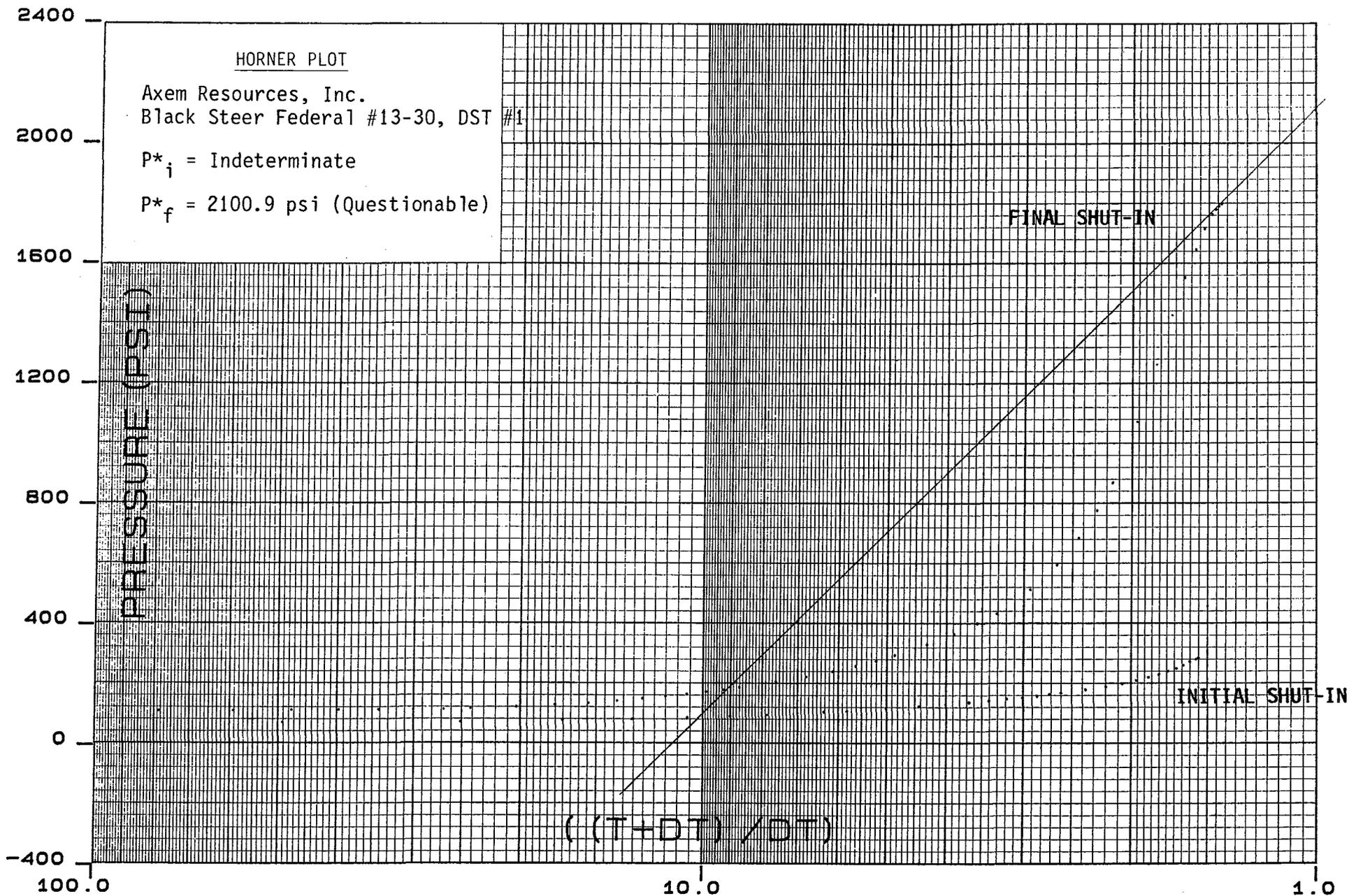
Black Steer Federal #13-30  
Well Name and No.

1  
DST No.

### FINAL SHUT-IN CONTINUED

<u>DT(MIN)</u>	<u>LOG((T+DT)/DT)</u>	<u>PRESSURE(PSIG)</u>	<u>DP(PSIG)</u>
280	0.261	1268.0	1159.6
320	0.236	1432.2	1323.8
360	0.215	1555.9	1447.5
401	0.198	1649.1	1540.8
440	0.183	1717.4	1609.0
480	0.171	1765.0	1656.7
500	0.165	1781.6	1673.3
520	0.160	1791.9	1683.6
537	0.155	1800.1	1691.8

EXTRAPOLATED PRESSURE: 2100.9 PSI  
SLOPE: 1935.5 PSI/LOG CYCLE  
POINTS USED: 3



LOG/LOG PLOT

1000.0

100.0

10.0

1.0

DELTA (T) (MIN)

INITIAL SHUT-IN

FINAL SHUT-IN

DELTA (P) (PSI)

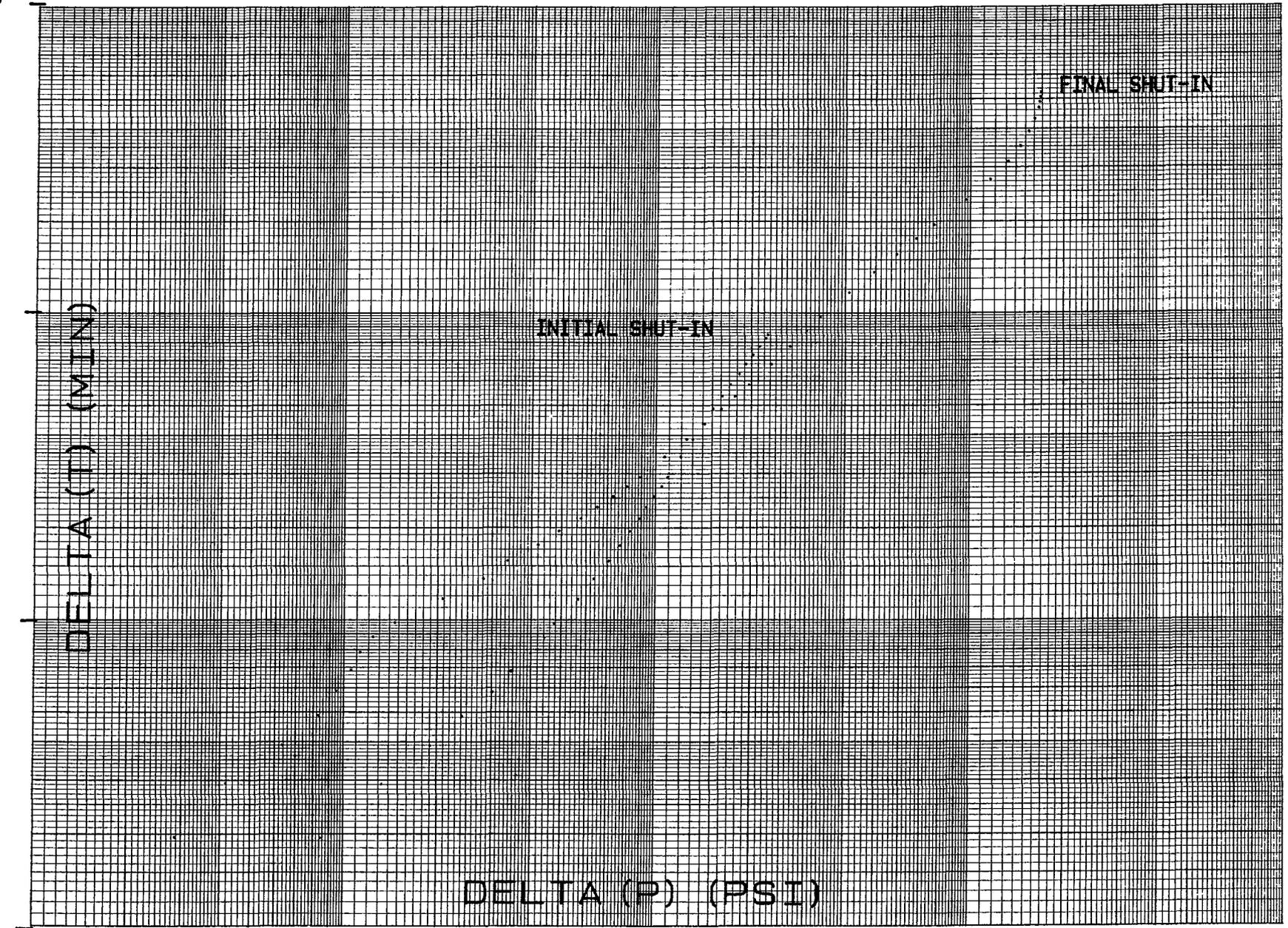
1.0

10.0

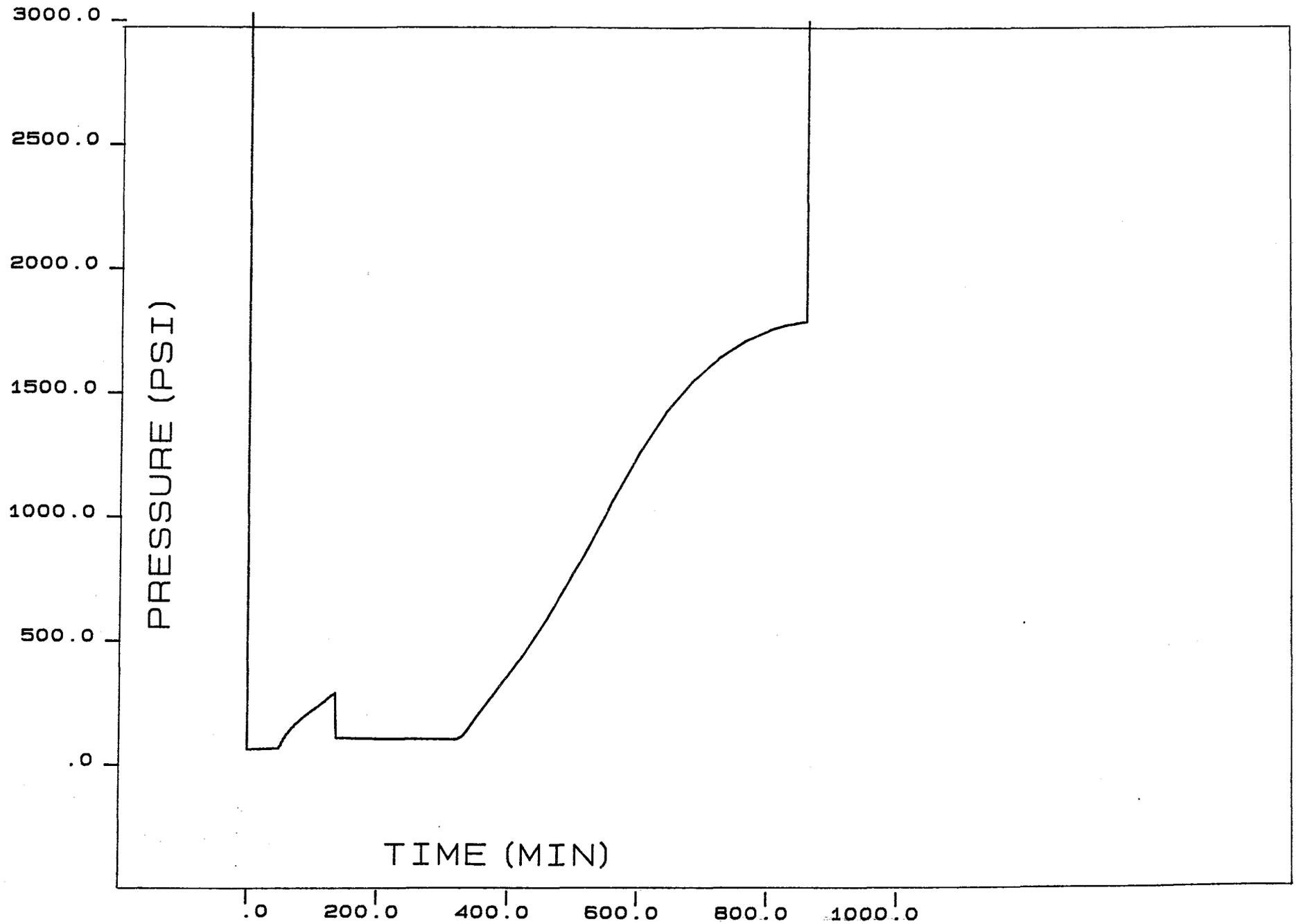
100.0

1000.0

10000.0



GAUGE NO. 7661 @ 5515 FT.



# BAKER SERVICE TOOLS

## DISTRIBUTION OF FINAL REPORTS

Axem Resources, Inc.

Operator

Black Steer Federal #13-30

Well Name and No.

AXEM RESOURCES INC. 2  
7800 E. UNION AVE. SUITE 1100  
DENVER CO 80237

AXEM RESOURCES INC. 1  
P.O. BOX 245  
BELFIELD MD 58622

COASTAL OIL & GAS CORP. 1  
P.O. BOX 749  
DENVER CO 80201

COASTAL OIL & GAS CORP. 1  
ATTN MR. GEORGE KOENIG  
9 GREENWAY PLAZA  
HOUSTON TX 77046

COASTAL OIL & GAS CORP. 1  
ATTN MR. BILL DONMELLY  
9 GREENWAY PLAZA  
HOUSTON TX 77046

COASTAL OIL & GAS CORP. 1  
ATTN EVELYN HIGGINS  
9 GREENWAY PLAZA  
HOUSTON TX 77046

COASTAL OIL & GAS CORP. 1  
ATTN MURRY PAGE  
9 GREENWAY PLAZA  
HOUSTON TX 77046

COASTAL OIL & GAS CORP. 1  
ATTN MR. JOHN KENNEDY  
P.O. BOX 749  
DENVER CO 80201-0749

COASTAL OIL & GAS CORP. 1  
ATTN MR. DON TEASON  
P.O. BOX 749  
DENVER CO 80201-0749

MR. CHARLES M. CULLAHAN 1  
1820 12TH ST.  
GREELEY CO 80631

STATE OF UTAH 2  
DIVISION OF OIL & GAS  
355 W. NORTH TEMPLE  
SALT LAKE CITY UT 84180

BLM 2  
OIL & GAS DIVISION  
P.O. BOX 970  
MOAB UT 84532

LCR

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK  
 DRILL  DEEPEN  PLUG BACK   
 b. TYPE OF WELL  
 OIL WELL  GAS WELL  OTHER   
 SINGLE ZONE  MULTIPLE ZONE

2. NAME OF OPERATOR  
**Axem Resources Incorporated (303) 740-9000**

3. ADDRESS OF OPERATOR  
**7800 E. Union Ave., Ste. 1100**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)  
 At surface **800' FSL & 850' FWL (SWSW)**  
 At proposed prod. zone **Same**

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*  
**19 air miles SE of Blanding, Utah**

15. DISTANCE FROM PROPOSED\* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)  
**800'**

18. DISTANCE FROM PROPOSED LOCATION\* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.  
**N/A**

21. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**43-037-31471 4,776' ungraded ground**

5. LEASE DESIGNATION AND SERIAL NO.  
**U-51685**  
 6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
**N/A**  
 7. UNIT AGREEMENT NAME  
**N/A**  
 8. FARM OR LEASE NAME  
**Black Steer**  
 9. WELL NO.  
**13-30**  
 10. FIELD AND POOL, OR WILDCAT  
**Wildcat**  
 11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
**30-38s-25e SLBM**  
 12. COUNTY OR PARISH  
**San Juan**  
 13. STATE  
**Ut.**  
 16. NO. OF ACRES IN LEASE  
**153.19**  
 17. NO. OF ACRES ASSIGNED TO THIS WELL  
**40**  
 20. ROTARY OR CABLE TOOLS  
**Rotary**  
 22. APPROX. DATE WORK WILL START\*  
**Aug. 15, 1989**

RECEIVED  
AUG 11 1989

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/2"	13-3/8"	48* (H-40, ST&C)	50'	*95 sx or to surface
11"	8-5/8"	24* (K-55, ST&C)	1,625'	*750 sx or to surface
7-7/8"	5-1/2"	15.5 (K-55, LT&C)	5,900'	*235 sx or to 4,700'

1. Tight hole, please keep confidential.
2. Axem has reached verbal agreement with surface owner for damages and is pursuing written agreement.
3. APD is doubling as a road right-of-way application.
4. *Italicized portions of APD refer to right-of-way.*

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. SIGNED *Brook J. Phifer* TITLE Vice-President, Production DATE \_\_\_\_\_

(This space for Federal or State office use) cc: Janata (3), MDO(3), SJRA(2), UDOGM(2)

PERMIT NO. \_\_\_\_\_ APPROVAL DATE \_\_\_\_\_  
 ACTING DISTRICT MANAGER  
 APPROVED BY /s/ Kenneth V. Rhea TITLE \_\_\_\_\_ DATE AUG 8 1989  
 CONDITIONS OF APPROVAL, IF ANY:

CONDITIONS OF APPROVAL ATTACHED

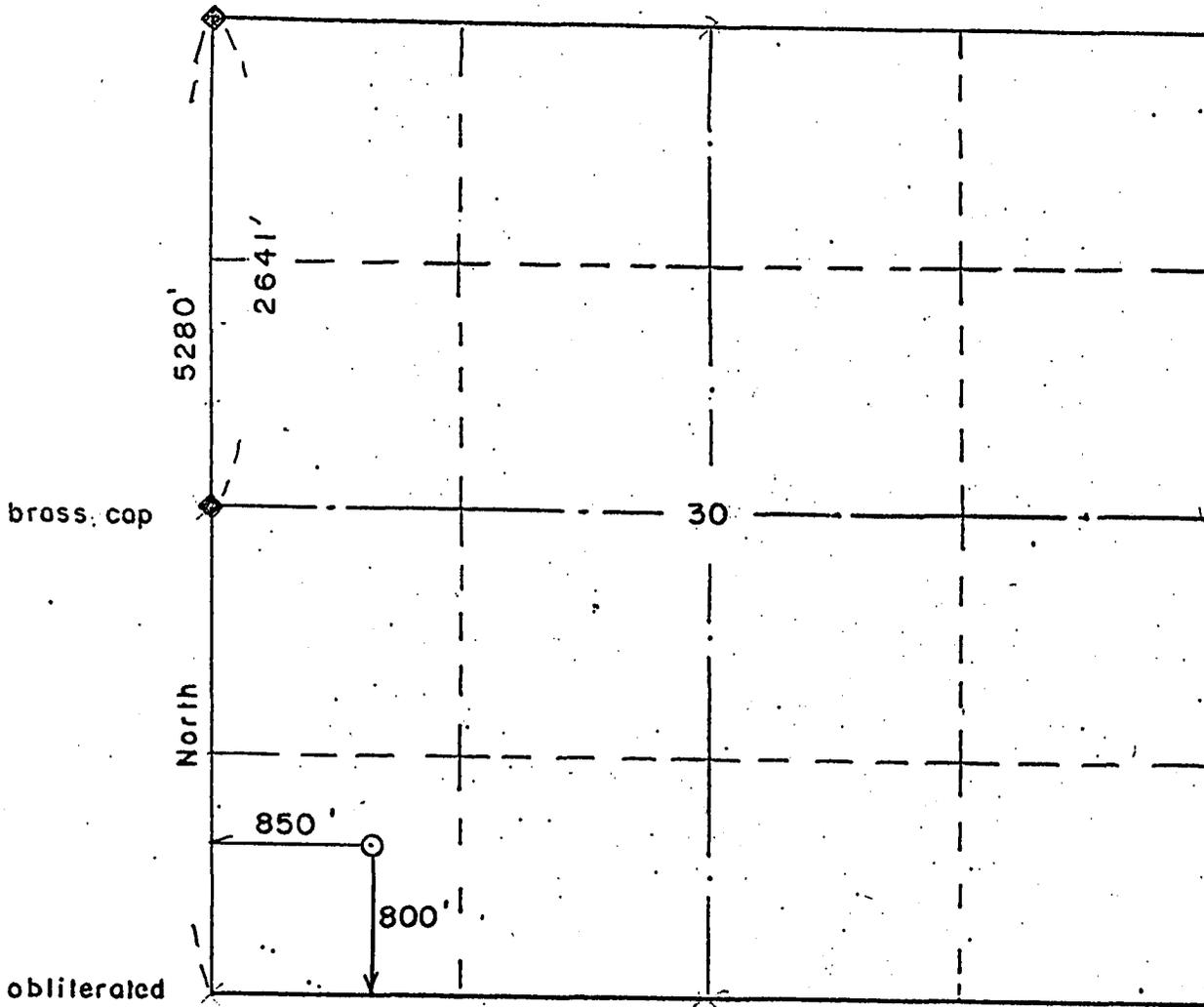
FLARING OR VENTING OF GAS IS SUBJECT TO MRL 4-A  
 Dated 1/1/80

\*See Instructions On Reverse Side

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.

POGMA

WELL LOCATION AND ACREAGE DEDICATION PLAT



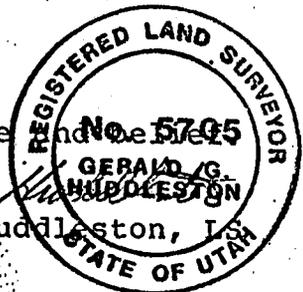
WELL LOCATION DESCRIPTION:

Axem Resources, Inc., Black Steer # 13-30  
800'FSL & 850'FWL  
Section 30, T.38 S., R.25 E., SLM  
San Juan County, UT  
4776' ground elevation  
Reference: S 54 E, 545', 4770' grd.

The above plat is true and correct my knowledge and belief

5 July 1989

*Gerald G. Huddleston*  
Gerald G. Huddleston, L.S.



Axem Resources Inc.  
Well No. Black Steer 13-30  
Sec. 30, T. 38 S., R. 25 E.  
San Juan County, Utah  
Lease No. U-51685

CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that Axem Resources Inc. is considered to be the operator of the above well, and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by Bond No. BLM C00780, (Axem Resources Inc.-Principal) via surety consent as provided for in 43 CFR 3104.3.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

A. DRILLING PROGRAM

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Order No. 1, Onshore Oil and Gas Order No. 2 and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions and the approved plan will be made available to the field representative to insure compliance.

1. If unconsolidated rock is encountered, conductor shall be set ten (10) feet into underlying bedrock with cement circulated to surface.
2. Surface casing will be set 50 feet into the Chinle Formation regardless of the depth the Chinle is encountered.

CONDITIONS OF APPROVAL  
FOR SURFACE USE

1. If burning is required, a permit will be obtained from the San Juan County Sheriff's Office. This APD approval serves as a variance to the State of Utah fire closure #04-00-17 (enclosed) but subjects you to the following:
  - A. The operator will be responsible for all fire suppression costs that result directly or indirectly as a result of their operation. Immediate suppression action will commence on the discovery of a fire and the authorized officer notified as soon as possible. Suppression costs will include not only the cost incurred by the operator, but also costs to the Bureau of Land Management for their efforts.
  - B. All vehicles and equipment operating in the field shall be equipped with a minimum of one fire extinguisher and adequate fire fighting equipment (i.e. shovels, swatters, pulaski, etc.) to equip each crew member with at least one tool.

SPECIAL ORDER  
STATE II FIRE RESTRICTIONS

STATE OF UTAH

1989 JUL 13 PM 2:45

Pursuant to 36 CFR 261.50(a) and/or (b); 43CFR 9212.2 and 65A8-11 S& 12, as amended 1988; the following acts are prohibited on the area, roads, and trails described below until rescinded by the Regional Forester of the U. S. Forest Service, the State Director of the Bureau of Land Management, and the Utah State Forester,

1. Building, maintaining, attending, or using a fire or campfires (36 CFR 2612.52(a)). Please see exhibit A attached.

Pursuant to the governing rules of each agency the following persons are exempt from this part of the order:

- a. Persons within developed and/or designated recreation sites.
  - b. Persons with a campfire permit authorizing the otherwise prohibited act.
  - c. Cooking fires utilizing bottled or containerized fuels, (stove fire) are allowed outside of developed or designated recreation sites.
  - d. Areas designated as safe and identified as such in writing by the appropriate unit manager.
2. Smoking, except within an enclosed vehicle or building, a developed recreation site, or while stopped in an area at least three feet in diameter that is barren or cleared of all flammable material. Please see Exhibit A attached.

The following acts are prohibited from 1:00 p.m. to 1:00 a.m.:

3. Operating a chain saw for any purpose.
4. Operating motorized equipment off roads and trails.
5. Blasting, welding, or other activities which generate flame or flammable material.

The following persons are exempt from parts 1, 3, 4, and 5 of the order:

- a. Those persons with a permit authorizing the otherwise prohibited act, or in those areas authorized by written posted notice in the area of operation. Permits may be obtained from the responsible agency office.

SPECIAL ORDER  
STATE II FIRE RESTRICTION -- STATE OF UTAH  
PAGE 2

- b. Any Federal, State, or local officer or member of an organized rescue or firefighting force in the performance of an official duty.

AREA DESCRIBED:

All National Forest lands, all Bureau of Land Management lands and all State or privately owned wildlands within the State of Utah.

Dated this 10th day of July, 1989.

Signed by Clair C. Beasley  
for REGIONAL FORESTER  
U.S. FOREST SERVICE

Signed by James M. Parker  
STATE DIRECTOR  
BUREAU OF LAND MANAGEMENT

Signed by Richard P. Kleason  
STATE FORESTER  
STATE OF UTAH

Violation of the above prohibited acts is punishable by a fine of not more than \$500 and/or imprisonment for not more than six months (16 USC 551) and/or appropriate State laws.

EXHIBIT A

Definitions

- CAMPFIRE: Means a fire, not within any building, mobile home or living accommodation mounted on a vehicle, which is used for cooking, personal warmth, lighting, ceremonial, or esthetic purposes. Campfires are open fires, usually built on the ground, from native forest fuels or charcoal.
- STOVE FIRE: Means a fire built inside an enclosed stove or a pressurized liquid or gas stove, including a space heating device.
- DEVELOPED/  
DESIGNATED  
RECREATION  
SITE: Means an area which has been improved or developed for recreation by the governing agencies.
- CHAINSAWS: A saw powered by an internal combustion engine, with cutting teeth linked in an endless chain.
- DESIGNATED  
AREA: A geographic area defined by the responsible land management agency in which a specific land use activity is occurring.
- PERMIT: The only acceptable permit is a written one, authorizing the otherwise prohibited act, and issued by an authorized agency representative.

UT060 for UT069 14:31 MDT 13-Jul-89 Message 592-2409 [1]

B. Additional Requirements According To Onshore Oil and Gas Order No. 2

- 3000 psi BOP & BOPE:

A second pipe ram preventer or variable bore pipe ram preventer shall be used with a tapered drill string,

Drilling spool, or blowout preventer with 2 side outlets (choke side shall be a 3-inch minimum diameter, kill side shall be at least 2-inch diameter)

A minimum of 2 choke line valves (3-inch minimum),

Kill line (2-inch minimum)

3 inch diameter choke line,

Upper kelly cock valve with handle available,

Safety valve and subs to fit all drill strings in use,

All BOPE connections subjected to well pressure shall be flanged, welded, or clamped,

- If repair or replacement of the BOPE is required after testing, this work shall be performed prior to drilling out the casing shoe, and
- When the BOPE cannot function to secure the hole, the hole shall be secured using cement, retrievable packer or bridge plug packer, bridge plug or other acceptable approved methods to assure safe well conditions.

- Choke Manifold Equipment:

All choke lines shall be straight lines unless turns use tee blocks or are targeted with running tees, and shall be anchored to prevent whip and reduce vibration.

All valves (except chokes) in the kill line, choke manifold and choke line shall be a type that does not restrict the flow (full opening) and that allows a straight through flow.

Pressure gauges in the well control system shall be a type designed for drilling fluid service.

- 3000 psi system - Accumulator Equipment:

Accumulator shall have sufficient capacity to open the hydraulically controlled choke line valve (if so equipped), close all rams plus the annual preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps. This is a minimum requirement. The fluid reservoir capacity shall be double the accumulator capacity and fluid level maintained at manufacturer's recommendations. The 3M system shall have 2 independent power sources to close the preventers. Nitrogen bottles (3 minimum) may be 1 of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

Accumulator precharge pressure test: This test shall be conducted prior to connecting the closing unit to the BOP stack and at least once every 6 months. The accumulator pressure shall be corrected if the measure precharge pressure is found to be above or below the maximum limit specified within Onshore Order Number 2.

Power for the closing unit pumps shall be available to the unit at all times so that the pumps shall automatically start when the closing unit manifold pressure has decreased to a pre-set level.

Each BOP closing unit shall be equipped with sufficient number and sizes of pumps so that, with the accumulator system isolated from service, the pumps shall be capable of opening the hydraulically-operated gate valve (if so equipped), plus closing the annular preventer on the smallest size drill pipe to be used within 2 minutes, and obtain a minimum of 200 psi. above specified accumulator precharge pressure.

A manual locking device (i.e., hand wheels) or automatic locking devices shall be installed on all systems of 2M or greater. A valve shall be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls for all 3M or greater systems shall be capable of closing all preventers.

- BOP Testing:

Pressure tests on ram type preventers shall be maintained for at least 10 minutes or until requirements of test are met, whichever is longer. If a test plug is utilized, no bleed off of pressure is acceptable. For a test not utilizing a test plug, if a decline in pressure of more than 10 percent in 30 minutes occurs, the test shall be considered to have failed. Valve on casing head below test of BOP stack.

Annular BOP pressure tests shall be maintained at least 10 minutes or until provisions of test are met, whichever is longer.

As a minimum, the above tests shall be performed:

- \*\*When initially installed;
- \*\*Whenever any seal subject to test pressure is broken;
- \*\*Following related repairs; and
- \*\*At 30 day intervals.

Valves shall be tested from working pressure side during BOPE tests with all down stream valves open.

When testing the kill line valve(s), the check valve shall be held open or the ball removed.

Annular preventers shall be functionally operated at least weekly. Pipe and blind rams shall be activated each trip, however, this function need not be performed more than once a day.

A BOPE pit level drill shall be conducted weekly for each drilling crew.

Pressure tests shall apply to all related well control equipment.

All of the above described tests and/or drills shall be recorded in the drilling log.

- Casing and Cementing:

All waiting on cement times shall be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

All casing, except the conductor casing, shall be new or reconditioned and tested used casing that meets or exceeds API standards for new casing.

The surface casing shall be cemented back to surface either during the primary cement job or by remedial cementing.

All of the above described tests shall be recorded in the drilling log.

All indications of usable water shall be reported to the authorized officer prior to running the next string of casing or before plugging orders are requested, whichever occurs first.

Surface casing shall have centralizers on at least the bottom three joints depending on severity of hole inclination.

Top plugs shall be used to reduce contamination of cement by displacement fluid. A bottom plug or other acceptable technique, such as a suitable preflush fluid, inner string cement method, etc. shall be utilized to help isolate the cement from contamination by the mud fluid being displaced ahead of the cement slurry.

All casing strings below the conductor shall be pressure tested to 0.22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70 percent of the minimum internal yield. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.

- Mud Program Requirements:

The characteristics, use and testing of drilling mud and the implementation of related drilling procedures shall be designed to prevent the loss of well control. Sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring well control.

-Record slow pump speed on daily drilling report after mudding up.

-Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

-A mud test shall be performed every 24 hours after mudding up to determine, as applicable: density, viscosity, gel strength, filtration, and pH.

-All flare systems shall be designed to gather and burn all gas. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where non-combustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare.

- Drill Stem Testing Requirements:

Initial opening of drill stem test tools shall be restricted to daylight hours unless specific approval to start during other hours is obtained from the authorized officer. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vapor-proof for safe operations). Packers can be released, but tripping shall not begin before daylight, unless prior approval is obtained from the authorized officer. Closed chamber DSTs may be accomplished day or night.

-A DST that flows to the surface with evidence of hydrocarbons shall be either reversed out of the testing string under controlled surface conditions, or displaced into the formation prior to pulling the test tool. This would involve providing some means for reverse circulation.

-Separation equipment required for the anticipated recovery shall be properly installed before a test starts.

-All engines within 100 feet of the wellbore that are required to "run" during the test shall have spark arresters or water cooled exhausts.

- Special Drilling Operations:

In addition to the equipment already specified elsewhere in Onshore Order No. 2 , the following equipment shall be in place and operational during air/gas drilling:

-Properly lubricated and maintained rotating head;

-Spark arresters on engines or water cooled exhaust;

-Blooie line discharge 100 feet from well bore and securely anchored;

-Straight run on blooie line unless otherwise approved;

-Deduster equipment;

-All cuttings and circulating medium shall be directed into a reserve or blooie pit;

-Float valve above bit;

-Automatic igniter or continuous pilot light on the blooie line;

-Compressors located in the opposite direction from the blooie line a minimum of 100 feet from the well bore;

-Mud circulating equipment, water, and mud materials (does not have to be premixed) sufficient to maintain the capacity of the hole and circulating tanks or pits.

NOTIFICATIONS

Notify Mike Wade of the San Juan Resource Area,  
at (801) 582-2141 or at home at (801) 587-2026 for the following:

2 days prior to commencement of dirt work, construction, or reclamation;

1 day prior to spudding;

1 day prior to running and cementing surface casing;

1 day prior to pressure testing of surface casing.

Notify the Moab District Office, Branch of Fluid Minerals, at (801) 259-6111 for the following:

No well abandonment operations will be commenced without the prior approval of the District Manager. In the case of newly drilled dry holes, and in emergency situations, verbal approval can be obtained by calling the following individuals, in the order listed:

Dale Manchester, Petroleum Engineer      Office Phone: (801) 259-6111

Home Phone: (801) 259-6239

Eric Jones, Petroleum Engineer      Office Phone: (801) 259-6111

Home Phone: (801) 259-2214

If unable to reach the above individuals including weekends, holidays, or after hours, please call the following:

Lynn Jackson, Chief, Branch of Fluid Minerals

Office Phone: (801) 259-6111

Home Phone: (801) 259-7990

24 HOURS ADVANCE NOTICE IS REQUIRED FOR ALL ABANDONMENTS.



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Norman H. Bangerter

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

August 11, 1989

Axem Resources Incorporated  
7800 E. Union Avenue, Suite 1100  
Denver, Colorado 80237

Gentlemen:

Re: Black Steer 13-30 - SW SW Sec. 30, T. 38S, R. 25E - San Juan County, Utah  
800' FSL, 850' FWL

Approval to drill the referenced well is hereby granted in accordance with Rule R615-3-2, Oil and Gas Conservation General Rules.

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water as required by Chapter 3, Title 73, Utah Code Annotated.

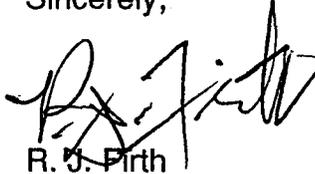
In addition, the following actions are necessary to fully comply with this approval:

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.
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 43-037-31471.

Sincerely,



R. J. Pirth  
Associate Director, Oil & Gas

lcr  
Enclosures  
cc: Bureau of Land Management  
D. R. Nielson  
J. L. Thompson  
WE14/1-2

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE  
(Other instructions on reverse side)

1. Form approved  
Budget Bureau No. 1004-4  
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 different reservoir.  
Use "APPLICATION FOR PERMIT" for such proposals.)

RECEIVED  
SEP 20 1989

1. OIL WELL  GAS WELL  OTHER

2. NAME OF OPERATOR

**Axem Resources Incorporated (303) 740-9000**

3. ADDRESS OF OPERATOR

**7800 E. Union Ave., Suite 1100, Denver, Co. 80237** DIVISION OF OIL, GAS & MINING

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

CONFIDENTIAL

**Surface: 540' FSL @ 1080' FWL (SWSW) Bottom: Same**

14. PERMIT NO.

**43-037-31471**

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

**4,774' ungraded ground**

5. LEASE DESIGNATION AND SERIAL NO.  
6. IF INDIAN, ALLOTTEE OR TRIBE NAME

N/A  
UNIT AGREEMENT NAME

N/A  
FARM OR LEASE NAME

9. WELL NO. **Black Steer**

10. FIELD AND POOL, OR WILDCAT **13-30**

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

**30-38s-25e SLBM**

12. COUNTY OR PARISH 13. STATE

**San Juan**

**Ut.**

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANS

**Move**

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

(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 move well from original location which was orthodox to above unorthodox footages due to archaeological site discovered during construction. Federal lease is all of SW4 30-38s-25e. Axem is operator for 100% of lease. Request exception to Rule 302 because of archaeology, geology, and topography. Exception is to internal quarter-quarter line, not to a lease line nor to a another well. Request permission to drill @ 540 FS & 1080 FW 30-38s-25e. No existing wells offset proposed location. Three of eight potential wells which can offset well would be on same Axem lease. Axem is operator or lessee of all lands and drilling units within minimum 540' radius.

Reclamation began today of original location.

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

SIGNED

*Brian J. [Signature]*

TITLE

**Consultant**

DATE

**9-16-89**

(This space for Federal or State office use)

APPROVED BY

TITLE

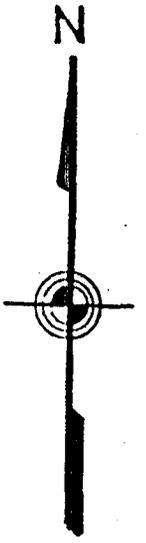
CONDITIONS OF APPROVAL, IF ANY:

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

\*See Instructions on Reverse Side

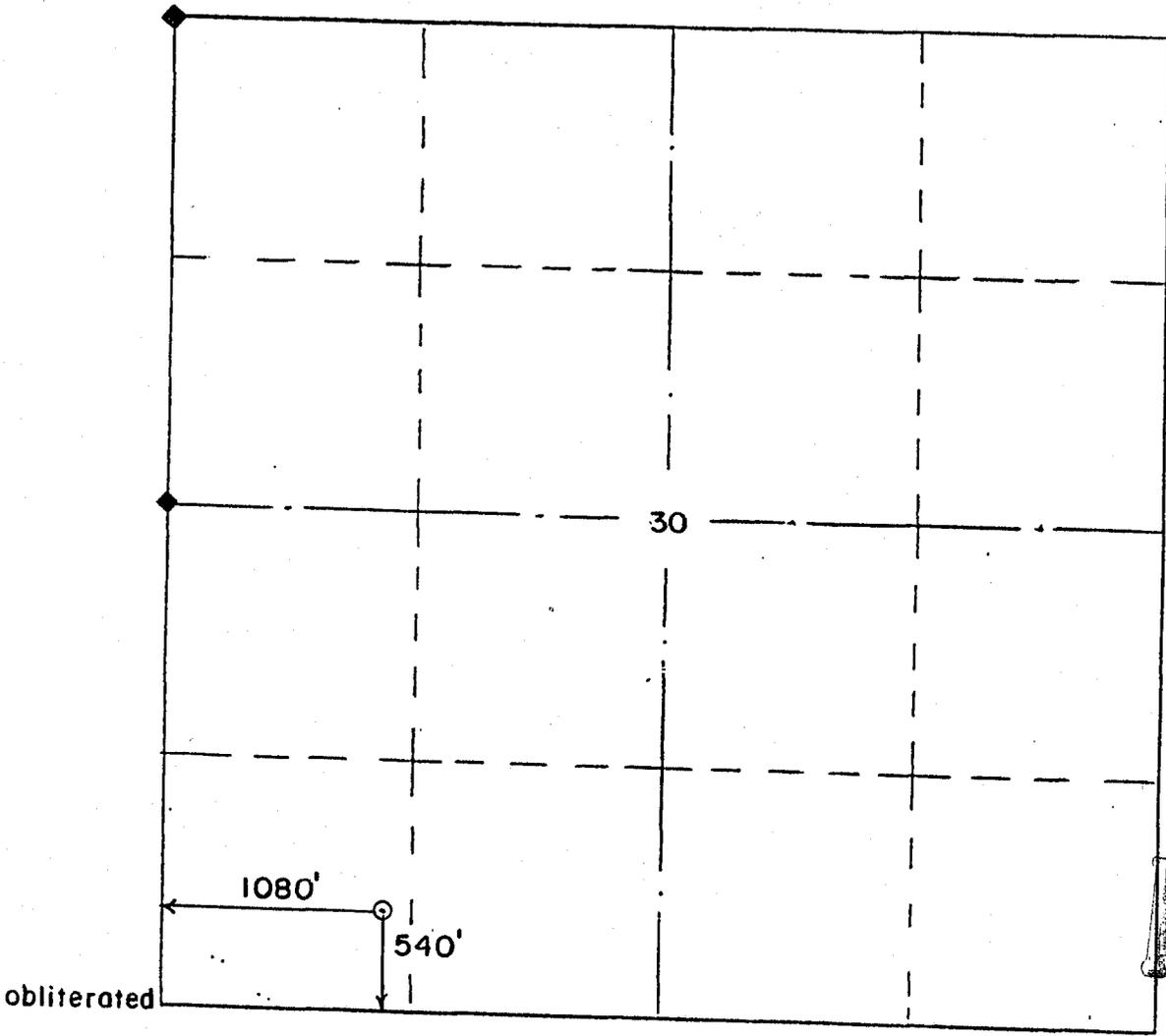
DATE: **9-26-89**

WELL LOCATION AND ACREAGE DEDICATION PLAT



1"=1000'

◆ brass cap



RECEIVED  
SEP 20 1989

DIVISION OF  
OIL, GAS & MINING

WELL LOCATION DESCRIPTION:

Axem Resources, Inc., Black Steer #13-30  
540' FSL & 1080' FWL  
Section 30, T.38 S., R.25 E. SLM  
San Juan County, UT  
4774' ground elevation



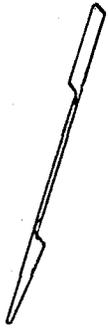
The above plat is true and correct my knowledge and belief

16 September 1989

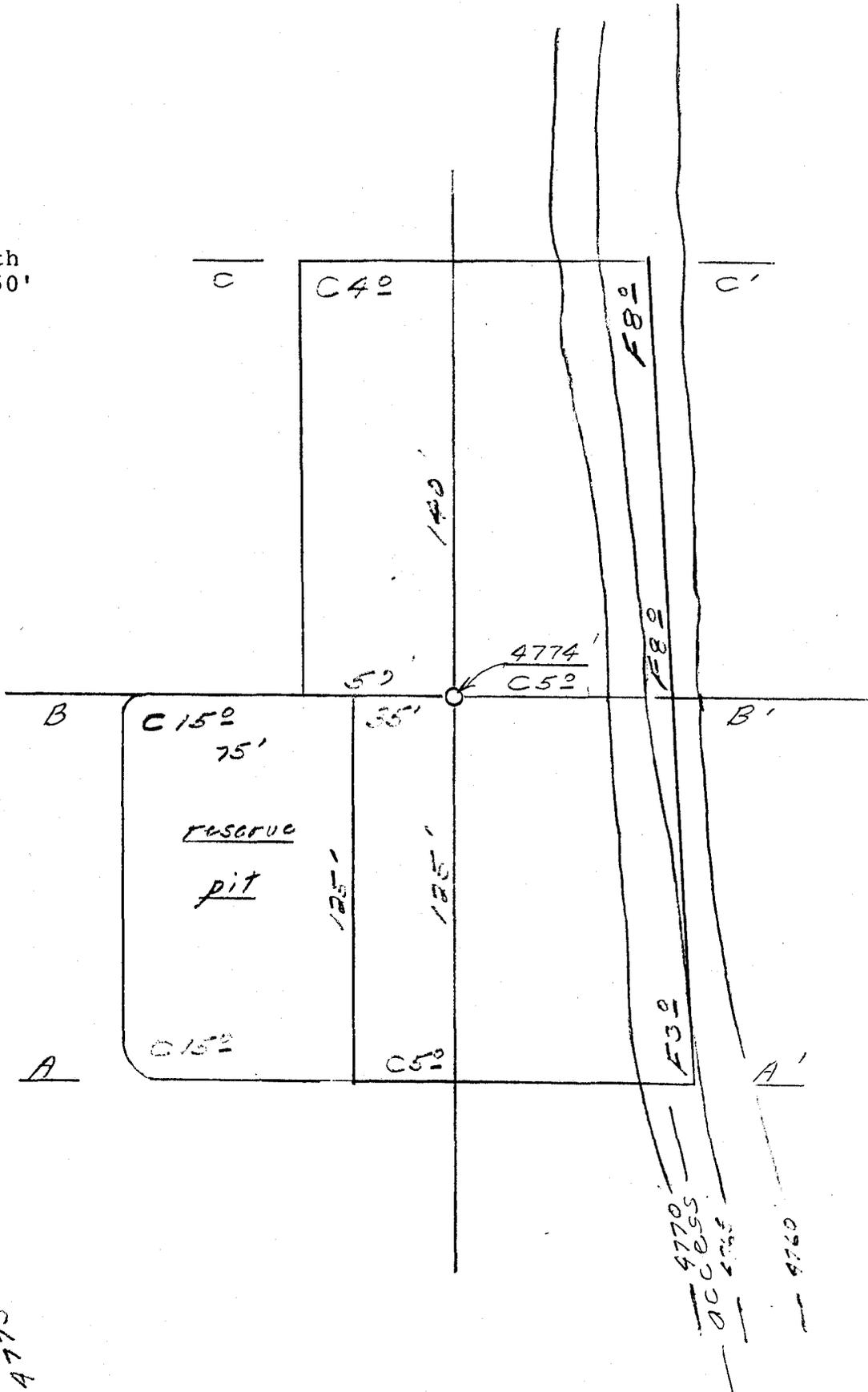
*Gerald G. Huddleston*  
Gerald G. Huddleston, LS

Plan View Sketch

Black Steer # 13-30



North  
1"=50'



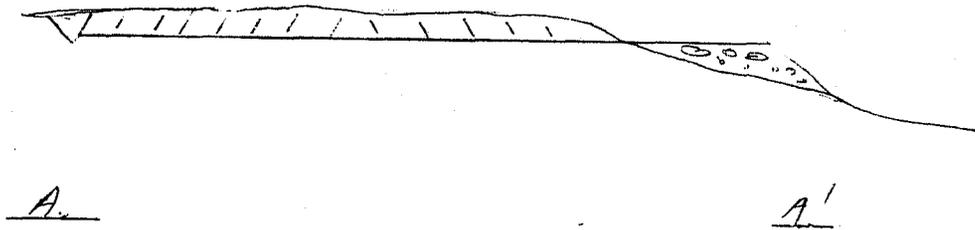
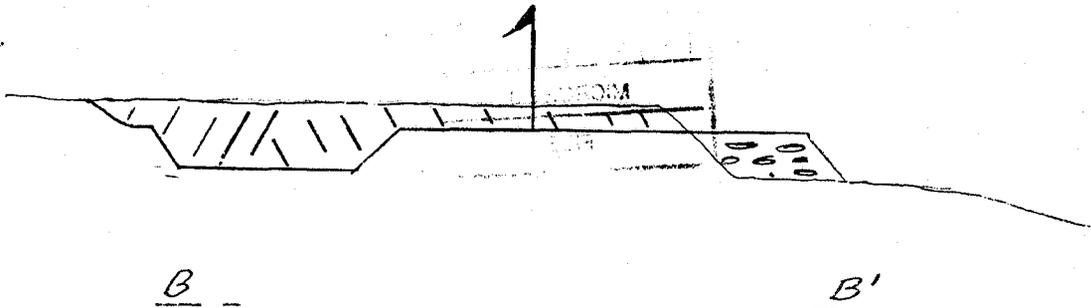
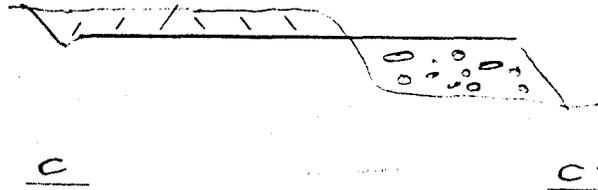
Montezuma Creek

Cross Section

Black Steer # 13-30

Cut *////*  
Fill

1"=50' Horz. & Vert.



		30	
			

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPPLICATE\*  
(Other instructions reverse 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 <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. U-51685	
2. NAME OF OPERATOR Axem Resources Incorporated		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A	
3. ADDRESS OF OPERATOR 7800 E. Union Ave., Suite 1100, Denver, Co. 80237		7. UNIT AGREEMENT NAME N/A	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Surface: 540' FSL, 1080' FWL (SWSW) Bottom: 660' FSL-860' FSL, 660' FWL-860' FWL		8. FARM OR LEASE NAME Black Steer	
14. PERMIT NO. 43-037-31471		9. WELL NO. 13-30	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4,774' ungraded ground		10. FIELD AND POOL, OR WILDCAT Wildcat	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA 30-38S-25E	
		12. COUNTY OR PARISH San Juan	13. STATE Utah

RECEIVED  
OCT 02 1989  
DIVISION OF  
OIL GAS & MINING

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 checked="" type="checkbox"/>	(Other) _____	

(Other) Drill a deviated hole

\*(NOTE: Report results of multiple completion on Well Completion or Re-completion 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.)\*

Since surface location was moved to 540' FSL, 1080' FWL because of the Archaeological finds on original location, Axem proposes drilling a deviated hole. The subsurface location will be located between 660' FSL-850' FSL, 660' FWL-860' FWL. Attached is a plat showing the direction of drilling and location. Casing and cement program will be as follows:

17-1/2"	13-3/8"	48# H-40 ST&C	50'	≈ 95 sxs or to surface
11"	8-5/8"	24# K-55 ST&C	1625'	≈ 750 sxs or to surface
7-7/8"	5-1/2"	15.5# K-55 LT&C	6060'	≈ 235 sxs or to 4700'

OIL AND GAS	
DRN	RJF
JRB ✓	GLH
DTS	SLS
ALCA ✓	
MICROFILM	
FILE	

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

SIGNED Shari L. Tanaka TITLE Materials Coordinator DATE 9-28-89

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
OF UTAH DIVISION OF OIL, GAS, AND MINING

CONDITIONS OF APPROVAL, IF ANY:  
See attachment.

DATE: 10-4-89

\*See Instructions on Reverse Side

BY: John R. Bay

UTAH DIVISION OF OIL, GAS AND MINING  
CONDITIONS OF APPROVAL FOR DIRECTIONAL DRILLING

Axem Resources Incorporated  
Black Steer #13-30 Well  
Section 30, T. 38S, R. 25E  
San Juan County, Utah  
October 4, 1989

Reference document: Sundry notice dated September 28, 1989, received by  
DOGM on October 2, 1989.

1. Upon completion of drilling operations, the operator shall submit directional drilling data which describes the deviation and direction of the wellbore and which identifies the location of the wellbore in the productive interval.

OI58/107

BLACK STEAK PROJECT  
SAN JUAN CO., UTAH

LOCATION OF SURFACE  
PAD and BOTTOM HOLE

SCALE: 1" = 200'

RECEIVED  
OCT 02 1989

DIVISION OF  
OIL, GAS & MINING

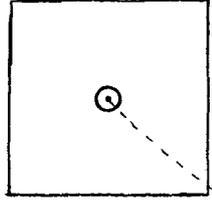
WEST LINE OF SECTION

860 FSL

660 FSL

660 FWL

860 FWL



← SURFACE LOCATION  
(540 FSL, 1080 FWL)

SECTION 30 T 38S R25E

SOUTH LINE OF SECTION

SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

HAROLD JACOBSON  
Chairman  
WILLIAM D. HOWE  
Executive Director

RECEIVED  
OCT 05 1989

Utah 84501 Telephone 637-5444

DIVISION OF  
OIL, GAS & MINING  
AREAWIDE CLEARINGHOUSE A-95 REVIEW

NOI \_\_\_ Preapp \_\_\_ App \_\_\_ State Plan \_\_\_ State Action X Subdivision \_\_\_ (ASP # 9-89-2)

Other (indicate) \_\_\_\_\_ SAI Number UT890727-050

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

CONFIDENTIAL

Title:

APPLICATION FOR PERMIT TO DRILL

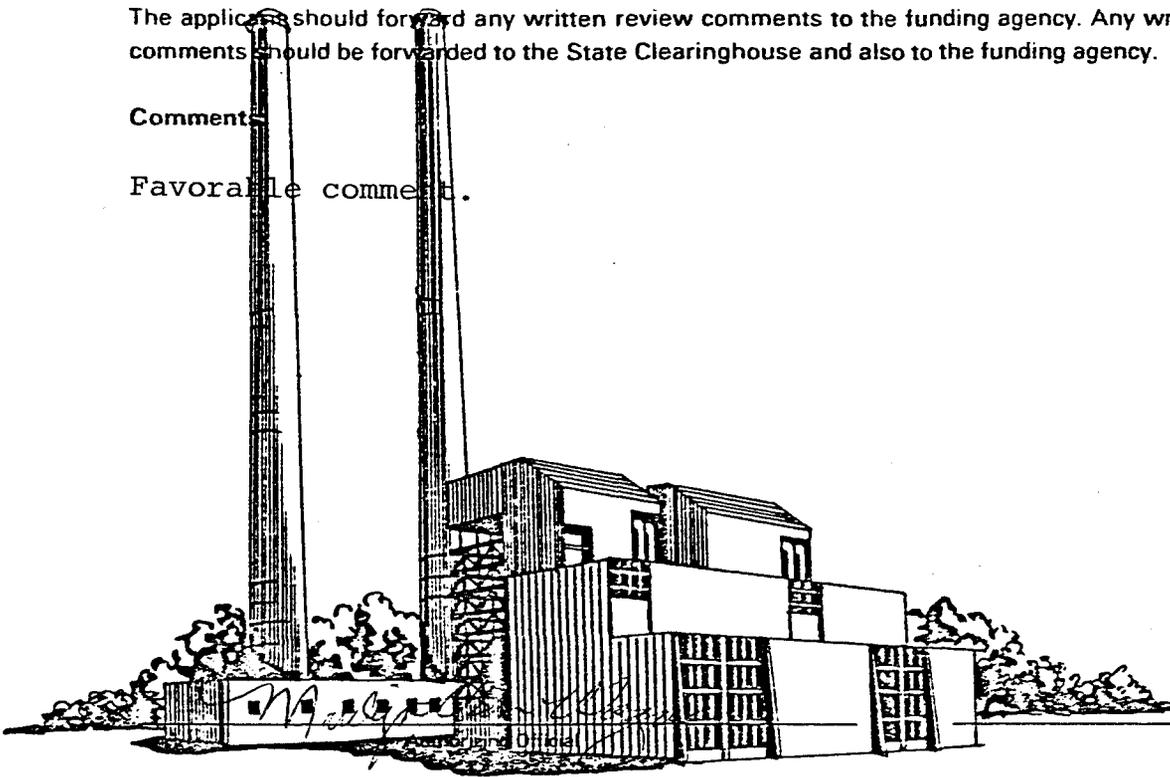
*Axem Res. 43-037-31471  
Black Steer 13-30*

- 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:

Favorable comment.



10-2-89

Date

# CONFIDENTIAL

DIVISION OF OIL, GAS AND MINING

API NO. 43-037-31471

## SPODDING INFORMATION

NAME OF COMPANY: AXEM RESOURCES, INC.

WELL NAME: BLACK STEER 13-30

SECTION SWSW 30 TOWNSHIP 38S RANGE 25E COUNTY SAN JUAN

DRILLING CONTRACTOR AZTEC WELL SERVICES

RIG # 222

SPODDED: DATE 10/21/89

TIME 4:00p.m.

HOW ROTARY

DRILLING WILL COMMENCE 10/21/89

REPORTED BY RALPH SLOANE

TELEPHONE # 505-327-9171

DATE 10/20/89 SIGNED TAS

OPERATOR Axem Resources Incorporated

OPERATOR ACCT. NO. NO145

ENTITY ACTION FORM

ADDRESS 7800 E. Union Ave., Suite 1100

Denver, Co 80237

# CONFIDENTIAL

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	11031	43-037-31471	Black Steer Fed. #13-30	SWSW	30	38S	25E	San Juan	10-21-89	10-23-89
WELL 1 COMMENTS: <i>Federal-Lease Field-Wildcat Unit-N/A</i> <i>Proposed zone - Salt Wash (New entity 11031 added 10-27-89.) JCR</i>											
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.

(3/89)

**RECEIVED**  
OCT 25 1989

DIVISION OF  
OIL, GAS & MINING

*Shari L. Janata*

Signature Shari L. Janata

Materials Coordinator 10-23-89

Title \_\_\_\_\_ Date \_\_\_\_\_

Phone No. (303) 740-9000

**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 wells on different reservoirs.  
Use "APPLICATION FOR PERMIT—" for such purposes.)

<p>1. <b>OIL WELL</b> <input checked="" type="checkbox"/> <b>GAS WELL</b> <input type="checkbox"/> <b>OTHER</b> <input type="checkbox"/></p> <p>2. <b>NAME OF OPERATOR</b> Axem Resources Incorporated</p> <p>3. <b>ADDRESS OF OPERATOR</b> 7800 E. Union Ave., Suite 1100, Denver, Co</p> <p>4. <b>LOCATION OF WELL</b> (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface Surface: 540' FSL, 1080' FWL (SWSW)  Bottom: 660' FSL-860' FSL, 660' FWL-860' FWL</p> <p>14. <b>PERMIT NO.</b> 43-037-31471</p>		<p>5. <b>LEASE DESIGNATION AND SERIAL NO.</b> U-51685</p> <p>6. <b>IF INDIAN, ALLOTTEE OR TRIBE NAME</b> N/A</p> <p>7. <b>UNIT AGREEMENT NAME</b> N/A</p> <p>8. <b>FARM OR LEASE NAME</b> Black Steer</p> <p>9. <b>WELL NO.</b> 13-30</p> <p>10. <b>FIELD AND POOL, OR WILDCAT</b> Wildcat</p> <p>11. <b>SBC., T., R., M., OR BLK. AND SURVEY OR AREA</b> 30-38S-25E</p> <p>12. <b>COUNTY OR PARISH</b> San Juan</p> <p>13. <b>STATE</b> Utah</p>	
<p>15. <b>ELEVATIONS</b> (Show whether DF, RT, GR, etc.) 4774' Ungraded Ground</p>			

RECEIVED  
OCT 25 1989

DIVISION OF  
OIL, GAS & MINING

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) <u>Spud report</u>	
(Other) <input type="checkbox"/>		(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.)

10-21-89 11:15 PM Spudded well with Aztec Rig #222.

10-22-89 Drilled and set 13-3/8" 54.5# J-55 conductor casing. Cemented with 125 Sxs Class G cement with 3% Calcium Chloride and 1/4# sx cellophane.

10-23-89 Currently drilling at 1046'.

Spudding notice was called into the State and BLM.

OIL AND GAS	
DRN	RJF
JRB	GLH
DTS	SLS
1-TAS	
MICROFILM	
FILE	

CONFIDENTIAL

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

SIGNED Shari L. Janata TITLE Materials Coordinator DATE 10-23-89

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

# BAKER SERVICE TOOLS

Phone (303) 573-8027

1616 Glenarm — Suite 1350  
Denver, CO 80202

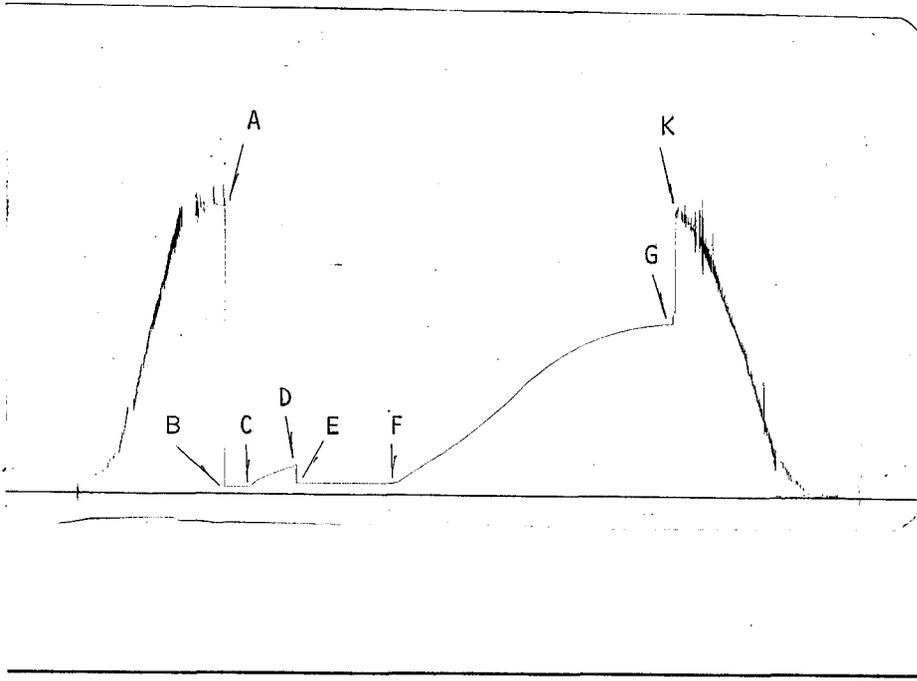
Contractor <b>Aztec Drilling</b>	Surface Choke <b>1/8"</b>	Mud Type <b>--</b>
Rig No. <b>222</b>	Bottom Choke <b>3/4"</b>	Weight <b>10.5</b>
Spot <b>--</b>	Hole Size <b>7 7/8"</b>	Viscosity <b>57</b>
Sec. <b>30</b>	Core Hole Size <b>--</b>	Water Loss <b>--</b>
Twp. <b>38 S</b>	DP Size & Wt. <b>4 1/2" 16.60</b>	Filter Cake <b>--</b>
Rng. <b>25 E</b>	Wt. Pipe <b>None</b>	Resistivity <b>.2 @ 65 °F</b>
Field <b>Wildcat</b>	I.D. of DC <b>2 1/4"</b>	<b>35,818</b> Ppm. NaCl
County <b>San Juan</b>	Length of DC <b>Not Reported</b>	B.H.T. <b>125 °F</b>
State <b>Utah</b>	Total Depth <b>5808'</b>	Co. Rep. <b>Ralph Sloan</b>
Elevation <b>4789' KB</b>	Type Test <b>Inflate Straddle</b>	Tester <b>David Dolyniuk</b>
Formation <b>Upper Ismay</b>	Interval <b>5510' - 5582'</b>	Baker Dist. <b>Farmington NM</b>

Operator: **AXEM RESOURCES, INC.**  
 Ticket No. **82034**  
 Date **11/15/89**  
 Well Name & No. **BLACK STEER FEDERAL #13-30**  
 Location **S-30 T-38S R-25E**  
 County, State **SAN JUAN COUNTY, UT**  
 DST No. **1**  
 Interval **5510' - 5582'**  
 Formation **UPPER ISMAY**

	REPORTED	CORRECTED	
Opened Tool @	<b>01:50</b>		hrs.
Flow No. 1	<b>45</b>	<b>48</b>	min.
Shut-In No. 1	<b>90</b>	<b>87</b>	min.
Flow No. 2	<b>180</b>	<b>183</b>	min.
Shut-In No. 2	<b>540</b>	<b>537</b>	min.
Flow No. 3	<b>None Taken</b>		min.
Shut-In No. 3	<b>"</b>	<b>"</b>	min.

Recorder Type <b>Kuster K-3</b>	No. <b>7661</b>	Cap. <b>4900</b> psi
Depth <b>5515</b> feet	Inside	Clock
Outside <b>X</b>	Range <b>24</b> hrs.	

Initial Hydrostatic	A	<b>3028.7</b>
Final Hydrostatic	K	<b>3007.1</b>
Initial Flow	B	<b>66.4</b>
Final Initial Flow	C	<b>70.5</b>
Initial Shut-In	D	<b>295.7</b>
Second Initial Flow	E	<b>111.7</b>
Second Final Flow	F	<b>108.4</b>
Second Shut-In	G	<b>1800.1</b>
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-In	J	



Pipe Recovery: **126' Total fluid = 0.62 bbl., consisting of:**  
**86' Mud = 0.42 bbl.**  
**40' Slightly gas cut mud = 0.20 bbl.**

Resistivity:

Top:	.18 @ 65°F -	.10 @ Res Temp =	40,350 ppm NaCl.,	24,529 ppm Cl.
Middle:	.10 @ 65°F -	.05 @ Res Temp =	80,342 ppm NaCl.,	48,840 ppm Cl.
Bottom:	.20 @ 65°F -	.11 @ Res Temp =	35,818 ppm NaCl.,	21,774 ppm Cl.

# BAKER SERVICE TOOLS

Axem Resources, Inc.

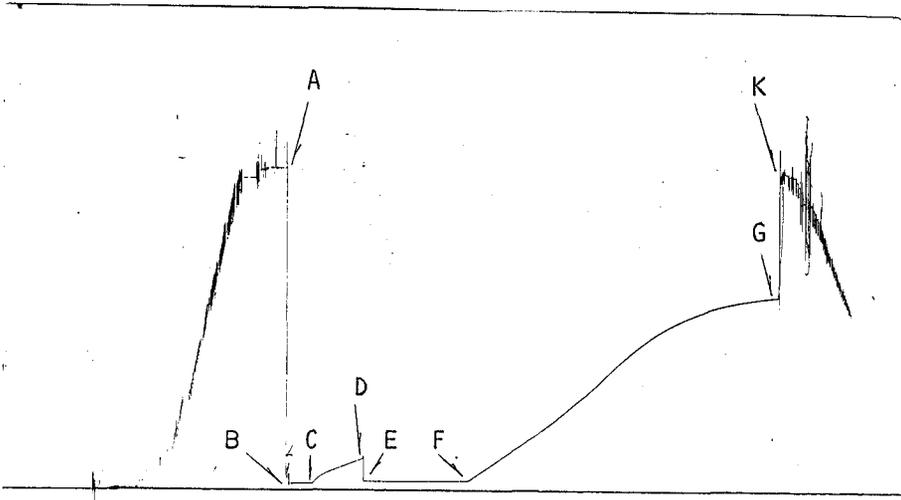
Operator

Black Steer Federal #13-30

Well Name and No.

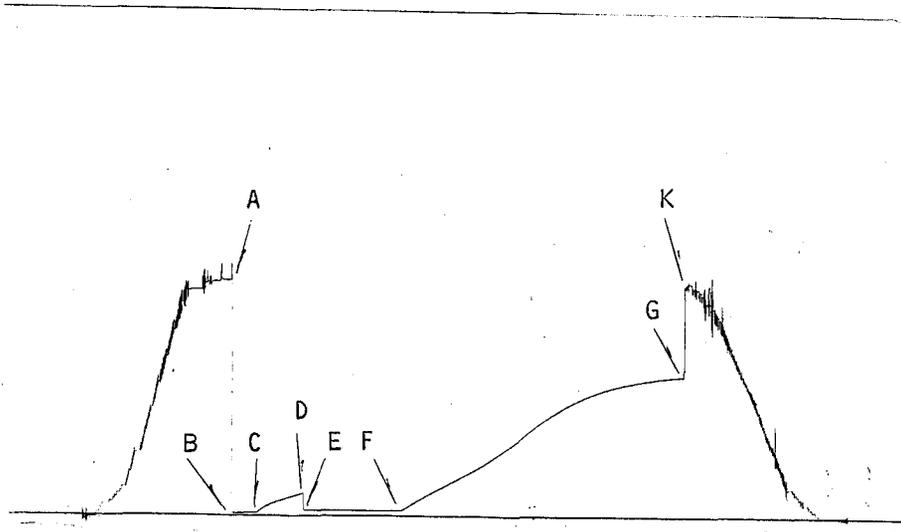
1

DST No.



Recorder Type **Kuster K-3**  
 No. **24645** Cap. **4450** psi  
 Depth **5490** feet  
 Inside **X** Clock  
 Outside Range **24** hrs.

Initial Hydrostatic	A	<b>3125.1</b>
Final Hydrostatic	K	<b>3069.9</b>
Initial Flow	B	<b>59.8</b>
Final Initial Flow	C	<b>74.7</b>
Initial Shut-In	D	<b>333.0</b>
Second Initial Flow	E	<b>86.9</b>
Second Final Flow	F	<b>96.5</b>
Second Shut-In	G	<b>1911.1</b>
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-In	J	



Recorder Type **Kuster K-3**  
 No. **16815** Cap. **6100** psi  
 Depth **5515** feet  
 Inside Clock  
 Outside **X** Range **24** hrs.

Initial Hydrostatic	A	<b>3153.1</b>
Final Hydrostatic	K	<b>3111.2</b>
Initial Flow	B	<b>51.5</b>
Final Initial Flow	C	<b>59.8</b>
Initial Shut-In	D	<b>305.9</b>
Second Initial Flow	E	<b>89.9</b>
Second Final Flow	F	<b>88.1</b>
Second Shut-In	G	<b>1900.2</b>
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-In	J	





# BAKER

## SERVICE TOOLS

Axem Resources, Inc.

Operator

Black Steer Federal #13-30

Well Name and No.

1

DST No.

RECORDER NO. 7661 DEPTH 5515 FT.

### INITIAL FLOW

DT(MIN) PRESSURE(PSIG)

0	66.4
5	65.5
10	66.0
15	66.3
20	66.7
25	67.8
30	68.2
35	68.8
40	69.8
45	70.2
48	70.5

RECORDER NO. 7661 DEPTH 5515 FT.

### FINAL FLOW

DT(MIN) PRESSURE(PSIG)

0	111.7
10	111.4
20	110.2
30	109.9
40	109.3
50	109.5
60	108.6
70	108.4
80	108.8
90	109.4
100	108.5
110	109.3
120	110.1
130	109.5
140	109.9
150	109.2
160	110.0
170	110.0
180	108.3
183	108.4

# BAKER

## SERVICE TOOLS

Axem Resources, Inc.

Black Steer Federal #13-30

1

Operator

Well Name and No.

DST No.

RECORDER NO. 7661 DEPTH 5515 FT.

### INITIAL SHUT-IN

INITIAL FLOW TIME: T = 48 MIN.

<u>DT(MIN)</u>	<u>LOG((T+DT)/DT)</u>	<u>PRESSURE(P SIG)</u>	<u>DP(P SIG)</u>
0		70.5	0.0
1	1.690	74.1	3.6
2	1.398	78.9	8.4
3	1.230	83.7	13.3
4	1.114	89.4	18.9
5	1.025	94.4	24.0
6	0.954	100.5	30.1
7	0.895	104.7	34.3
8	0.845	110.2	39.7
9	0.802	114.4	44.0
10	0.763	117.8	47.3
12	0.699	126.6	56.2
14	0.646	133.6	63.1
16	0.602	140.8	70.3
18	0.564	147.1	76.7
20	0.531	152.6	82.2
22	0.503	158.8	88.3
24	0.477	163.5	93.0
26	0.454	168.6	98.1
28	0.434	174.5	104.1
30	0.415	179.2	108.8
35	0.375	189.7	119.3
40	0.342	200.4	129.9
45	0.315	210.5	140.0
50	0.292	220.8	150.3
55	0.272	231.5	161.0
60	0.255	241.5	171.1
65	0.240	253.0	182.6
70	0.227	261.7	191.2
75	0.215	271.9	201.5
80	0.204	283.0	212.5
85	0.194	292.2	221.8
87	0.191	295.7	225.2

EXTRAPOLATED PRESSURE: INDETERMINATE

# BAKER

## SERVICE TOOLS

Axem Resources, Inc.  
Operator

Black Steer Federal #13-30  
Well Name and No.

1  
DST No.

RECORDER NO. 7661 DEPTH 5515 FT.

### FINAL SHUT-IN

TOTAL FLOW TIME: T = 231 MIN.

<u>DT(MIN)</u>	<u>LOG((T+DT)/DT)</u>	<u>PRESSURE(P SIG)</u>	<u>DP(P SIG)</u>
0		108.4	0.0
1	2.365	110.1	1.7
2	2.066	111.2	2.9
3	1.892	112.5	4.2
4	1.769	114.7	6.3
5	1.674	116.6	8.3
6	1.597	117.7	9.4
7	1.531	118.8	10.5
8	1.475	119.6	11.2
9	1.426	120.7	12.3
10	1.382	122.8	14.4
12	1.306	129.0	20.6
14	1.243	136.1	27.8
16	1.189	141.7	33.3
18	1.141	150.1	41.7
20	1.099	157.0	48.7
22	1.061	165.7	57.3
24	1.026	172.8	64.5
26	0.995	180.8	72.5
28	0.966	188.2	79.8
30	0.940	196.4	88.0
35	0.881	214.5	106.1
40	0.831	232.6	124.2
45	0.788	250.1	141.7
50	0.750	268.3	160.0
55	0.716	285.2	176.8
60	0.686	304.3	195.9
70	0.633	340.1	231.8
80	0.590	374.3	266.0
90	0.552	410.4	302.0
100	0.520	441.8	333.5
120	0.466	521.0	412.7
140	0.423	602.6	494.2
160	0.388	692.1	583.8
180	0.359	783.6	675.2
200	0.333	874.7	766.3
240	0.293	1077.8	969.4

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPPLICATE\*  
(Other instructions  
verse side)

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

**FOR YOUR FILES**

**SUNDRY NOTICES AND REPORTS ON WELLS**

(Do not use this form for proposals to drill or to deepen or plug wells in different reservoirs.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <u>Plugged Well</u>		5. LEASE DESIGNATION AND SERIAL NO. U-51685
2. NAME OF OPERATOR Axem Resources Incorporated		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 7800 E. Union Ave., Suite 1100, Denver, Co		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Surface: 540' FSL, 1080' FWL (SWSW)  Bottom: 660' FSL-860' FSL, 660' FWL-860' FWL		8. FARM OR LEASE NAME Black Steer Fed.
14. PERMIT NO. 43-037-31471		9. WELL NO. 13-30
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 4774' Ungraded Ground		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA Sec. 30-T38S-R25E
		12. COUNTY OR PARISH San Juan
		13. STATE Utah

**RECEIVED**  
NOV 27 1989

DIVISION OF  
OIL GAS & MINING  
80237

**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 PLANE <input type="checkbox"/>	(Other) <input type="checkbox"/>	

(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.)\***

11/15/89 Called Erik Jones with BLM @ 19:30 hr to get approval to plug. TD 5808'.

11/16/89 Plug #1 5,676' - 5,455' 70 Sxs G Cement  
 Plug #2 2,487' - 2,327' 80 sxs G Cement  
 Tagged cement at 2,431', plug had fallen 100'.  
 Plug #2a 2,427' - 2,327' 70 sxs G Cement  
 Plug #3 1,672' - 1,572' 40 Sxs G Cement

11/17/89 Plug #4 1,555' - 1,400' 60 scs G Cement  
 set cast iron bridge plug @ 1,340', tested casing to 1700 psi, it held OK.  
 Plug #5 1,337' - 1,270' 20 Sxs G Cement  
 Plug #6 60' - Surface 20 Sxs G Cement  
 Welded 1/2" plate over casing stub. Will place dry hole marker.

\* Directional Survey is attached.

OIL AND GAS	
DRN	RF
JRB	GLH
DTS	SLS
I-TAS	
MICROFILM	
FILE	

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

SIGNED Shari L. Janata TITLE Materials Coordinator DATE 11/22/89  
 (This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
 CONDITIONS OF APPROVAL, IF ANY:

**\*See Instructions on Reverse Side**

SCIENTIFIC DRILLING INTERNATIONAL

Client : AXEM RESOURCES  
 Well : BLACK STEER #13-30  
 Location : SAN JUAN COUNTY, UTAH

Page 1 of 1  
 Date 11/04/89  
 Filename : BS-13-30

No Interpolation

M. DEPTH	INC	DIRECT'N	C/L	T V D	V/S	N/S-	E/W-	DLS
ft	deg	deg	ft	ft	ft	ft	ft	*/100
0.00	0.00	N 3.00°E	0	0.00	0.00	0.00	0.00	0.00
1754.00	1.00	N 3.00°E	1754	1753.91	8.04	15.28	0.80	0.06
2129.00	0.75	N40.00°E	375	2128.87	9.33	20.52	2.86	0.16
2690.00	0.50	N 4.00°E	561	2689.83	10.65	26.10	5.12	0.08
2721.00	0.00	N 0.00°E	31	2720.83	10.72	26.23	5.13	1.61
2782.00	2.25	N82.00°W	61	2781.82	11.33	27.43	5.21	3.69
2813.00	3.50	N83.00°W	31	2812.78	12.72	27.63	3.67	4.04
2845.00	4.50	N80.00°W	32	2844.70	14.72	27.96	1.46	3.19
2876.00	5.75	N77.00°W	31	2875.57	17.26	28.51	-1.25	4.12
2908.00	6.00	N64.00°W	32	2907.41	20.42	29.60	-4.33	4.22
2978.00	8.50	N62.00°W	70	2976.84	29.17	33.61	-12.20	3.59
3071.00	9.25	N63.00°W	93	3068.73	43.41	40.24	-24.93	0.82
3165.00	9.75	N64.00°W	94	3161.44	58.76	47.16	-38.81	0.56
3256.00	10.25	N62.00°W	91	3251.05	74.42	54.33	-52.89	0.67
3318.00	10.50	N61.00°W	62	3312.04	85.52	59.66	-62.71	0.50
3415.00	10.00	N61.00°W	97	3407.49	102.69	68.03	-77.80	0.52
3539.00	9.50	N55.00°W	124	3529.70	123.66	79.15	-95.60	0.91
3691.00	9.00	N54.00°W	152	3679.72	148.09	93.34	-115.49	0.35
3847.00	8.75	N43.00°W	156	3833.86	171.95	109.26	-133.49	1.10
4002.00	8.50	N43.00°W	155	3987.10	194.66	126.26	-149.34	0.16
4159.00	8.25	N33.00°W	157	4142.43	216.47	144.26	-163.40	0.94
4221.00	8.50	N33.00°W	62	4203.77	224.83	151.83	-168.32	0.40
4239.00	8.50	N33.00°W	18	4221.57	227.29	154.06	-169.77	0.00
4270.00	7.75	N39.00°W	31	4252.26	231.42	157.61	-172.34	3.65
4302.00	6.75	N48.00°W	32	4284.00	235.37	160.53	-175.12	4.72
4333.00	6.25	N61.00°W	31	4314.80	238.87	162.57	-177.97	5.00
4363.00	6.50	N66.00°W	30	4344.62	242.17	164.05	-180.95	2.03
4437.00	7.75	N64.00°W	74	4418.04	251.21	167.93	-189.27	1.72
4595.00	7.50	N62.00°W	158	4574.65	271.99	177.45	-207.95	0.23
4751.00	7.25	N62.00°W	156	4729.36	291.87	186.85	-225.63	0.16
4909.00	6.50	N55.00°W	158	4886.22	310.75	196.73	-241.75	0.71
5092.00	6.00	N51.00°W	183	5068.13	330.65	208.71	-257.65	0.36
5304.00	6.00	N42.00°W	212	5278.97	352.53	223.95	-273.71	0.44
5550.00	5.75	N39.00°W	246	5523.68	376.87	243.10	-290.06	0.16
5775.00	4.75	N35.00°W	225	5747.73	396.41	259.54	-302.45	0.47

Origin of Bottom Hole Closure PLATFORM CENTRE  
 Bottom Hole Closure 399 ft N49.37°W

**RECEIVED**  
 NOV 29 1989

DIVISION OF  
 OIL, GAS & MINING

SCIENTIFIC DRILLING INTERNATIONAL

Client : AXEM RESOURCES  
 Well : BLACK STEER #13-30  
 Location : SAN JUAN COUNTY, UTAH

Page 1 of 1  
 Date 11/04/89  
 Filename : BS-13-30

No Interpolation

M. DEPTH	INC	DIRECT'N	C/L	T V D	V/S	N/S-	E/W-	DLS
ft	deg	deg	ft	ft	ft	ft	ft	°/100
0.00	0.00	N 3.00°E	0	0.00	0.00	0.00	0.00	0.00
1754.00	1.00	N 3.00°E	1754	1753.91	8.04	15.28	0.80	0.06
2129.00	0.75	N40.00°E	375	2128.87	9.33	20.52	2.86	0.16
2690.00	0.50	N 4.00°E	561	2689.83	10.65	26.10	5.12	0.08
2721.00	0.00	N 0.00°E	31	2720.83	10.72	26.23	5.13	1.61
2782.00	2.25	N82.00°W	61	2781.82	11.33	27.43	5.21	3.69
2813.00	3.50	N83.00°W	31	2812.78	12.72	27.63	3.67	4.04
2845.00	4.50	N80.00°W	32	2844.70	14.72	27.96	1.46	3.19
2876.00	5.75	N77.00°W	31	2875.57	17.26	28.51	-1.25	4.12
2908.00	6.00	N64.00°W	32	2907.41	20.42	29.60	-4.33	4.22
2978.00	8.50	N62.00°W	70	2976.84	29.17	33.61	-12.20	3.59
3071.00	9.25	N63.00°W	93	3068.73	43.41	40.24	-24.93	0.82
3165.00	9.75	N64.00°W	94	3161.44	58.76	47.16	-38.81	0.56
3256.00	10.25	N62.00°W	91	3251.05	74.42	54.33	-52.89	0.67
3318.00	10.50	N61.00°W	62	3312.04	85.52	59.66	-62.71	0.50
3415.00	10.00	N61.00°W	97	3407.49	102.69	68.03	-77.80	0.52
3539.00	9.50	N55.00°W	124	3529.70	123.66	79.15	-95.60	0.91
3691.00	9.00	N54.00°W	152	3679.72	148.09	93.34	-115.49	0.35
3847.00	8.75	N43.00°W	156	3833.86	171.95	109.26	-133.49	1.10
4002.00	8.50	N43.00°W	155	3987.10	194.66	126.26	-149.34	0.16
4159.00	8.25	N33.00°W	157	4142.43	216.47	144.26	-163.40	0.94
4221.00	8.50	N33.00°W	62	4203.77	224.83	151.83	-168.32	0.40
4239.00	8.50	N33.00°W	18	4221.57	227.29	154.06	-169.77	0.00
4270.00	7.75	N39.00°W	31	4252.26	231.42	157.61	-172.34	3.65
4302.00	6.75	N48.00°W	32	4284.00	235.37	160.53	-175.12	4.72
4333.00	6.25	N61.00°W	31	4314.80	238.87	162.57	-177.97	5.00
4369.00	6.50	N66.00°W	30	4344.62	242.17	164.05	-180.95	2.03
4437.00	7.75	N64.00°W	74	4418.04	251.21	167.93	-189.27	1.72
4595.00	7.50	N62.00°W	158	4574.65	271.99	177.45	-207.95	0.23
4751.00	7.25	N62.00°W	156	4729.36	291.87	186.85	-225.63	0.16
4909.00	6.50	N55.00°W	158	4886.22	310.75	196.73	-241.75	0.71
5092.00	6.00	N51.00°W	183	5068.13	330.65	208.71	-257.65	0.36
5304.00	6.00	N42.00°W	212	5278.97	352.53	223.95	-273.71	0.44
5550.00	5.75	N39.00°W	246	5523.68	376.87	243.10	-290.06	0.16
5775.00	4.75	N35.00°W	225	5747.73	396.41	259.54	-302.45	0.47

Origin of Bottom Hole Closure PLATFORM CENTRE  
 Bottom Hole Closure 399 ft N49.37°W

**RECEIVED**  
DEC 14 1989

REPORT OF WATER ENCOUNTERED DURING DRILLING - FORM 7

DIVISION OF  
OIL, GAS & MINING

1. Well name and number: BLACK STEER FED 13-30  
API number: \_\_\_\_\_
2. Well location: QQ \_\_\_\_\_ section 30 township 38S range 25E county SAN JUAN
3. Well operator: AXEM RESOURCES INC.  
Address: 7300 E. UNION AVE SUITE 1100 phone: 303-740-9000  
DTC DENVER, COLO. 80237
4. Drilling contractor: ARTEC WELL SERVICE  
Address: P.O. BOX 100 phone: 505-334-6191  
ARTEC NAT 87410

5. Water encountered (continue on reverse side if necessary)

Depth		Volume (flow rate or head)	Quality (fresh or salty)	OIL AND GAS	
from	to				
<u>680</u>		<u>4" HEAD NAVAJO</u>	<u>FRESH</u>		
<u>2445</u>	<u>2468</u>	<u>2" HEAD DECHELY</u>	<u>SALT</u>	<u>DRN</u>	<u>RJF</u>
				<u>JRB</u>	<u>GLH</u>
				<u>DTS</u>	<u>SLS</u>
<b>CONFIDENTIAL</b>					
				<u>2-TAS</u>	
				<u>3- MICROFILM</u>	
				<u>4- FILE</u>	

6. Formation tops:

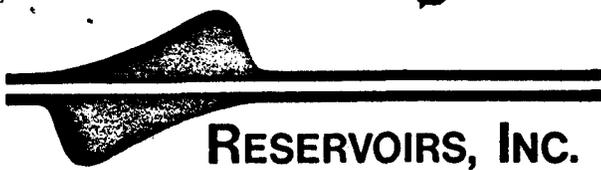
<u>Shinarump 2359' TVD</u>	<u>U. Ismay 5409</u>	<u>L. Ismay 5564</u>
<u>Moenkopi 2395</u>	<u>Mas. Anhydrite 5438</u>	<u>Gothic Shale 5619</u>
<u>Cutler 2574</u>	<u>Algal Facies 5498</u>	<u>U. Desert Ck 5646</u>
<u>Honaker Tr4422</u>	<u>Hovenweep 5545</u>	<u>L. Desert Ck 5690</u>

If an analysis has been made of the water encountered, please attach a copy of the report to this form.

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

Name RALPH G. SLOANE JR Signature R.G. Sloane  
Title CO. REP. Date 12/2/89

Comments:



**RESERVOIRS, INC.**

1827 GRANT STREET

DENVER, COLORADO 80203

(303) 830-1986

GEOLOGICAL ANALYSIS • CLASTICS/CARBONATES  
SINGLE WELL/FIELD/REGIONAL STUDIES  
WELL COMPLETION/STIMULATION STUDIES  
ROUTINE AND SPECIAL CORE ANALYSIS

December 14, 1989

Mr. Jim Peterson  
Axem Resources, Inc.  
7800 E. Union Avenue, Suite 1100  
Denver, CO 80237

Dear Mr. Peterson:

Enclosed please find the preliminary core analysis from 12 rotary sidewall core samples from the Black Steer #13-30 well. As indicated, one of the samples was too short for permeability determination. I will contact you shortly to determine which of the samples to analyze further by thin section petrology.

Sincerely,



Patrick Coughlan  
Senior Geologist

PC/rmm

Enclosure

Table 1

ROTARY SIDEWALL CORE ANALYSIS  
=====

COMPANY : Axem Resources Inc.  
WELL NAME : Black Steer #13-30 Well  
CORE : Rotary Sidewall

FILE NAME : SRS 1241/RMD 1457  
DATE : 12-08-89  
INTERVAL : 5527-5563 ft.  
PAGE : 1 OF 1

<u>SAMPLE</u>	<u>DEPTH (ft)</u>	<u>PERMEABILITY TO GAS (md)</u>	<u>POROSITY (%BV)</u>	<u>GRAIN DENSITY (g/cc)</u>	<u>LITHOLOGY/COMMENTS</u>
I 788	5527	0.026	2.9	2.72	LS GRY MICROXLN SH FOSS
I 789	5530	0.021	3.1	2.72	LS GRY MICROXLN SH FOSS
I 790	5532	0.024	3.5	2.72	LS GRY MICROXLN SH FOSS
I 791	5544	0.021	5.4	2.76	LS-DOL GRY MICROXLN SH SLI FOSS
I 792	5545	0.577	12.9	2.75	LS-DOL GRY MICROXLN SH FOSS
I 793	5546	0.079	7.8	2.73	LS GRY MICROXLN SH FOSS
I 794	5546.5	0.176	12.3	2.83	DOL GRY MICROXLN SH
I 795	5547.5	0.148	8.6	2.73	LS GRY MICROXLN SH
I 796	5548.5	2.46	18.8	2.83	DOL GRY MICROXLN SH SLI FOSS
I 797	5561	0.032	6.5	2.74	LS GRY MICROXLN SH
I 798	5562	*	5.7	2.71	LS GRY MICROXLN SH
I 799	5563	0.007	3.4	2.72	LS GRY MICROXLN SH SLI FOSS

\* Permeability to gas indeterminable, irregular shaped sample.

Figure 1  
PERMEABILITY - POROSITY RELATIONSHIP

Axem Resources Inc.  
Black Steer #13-30 Well  
SRS 1241/RMD 1457

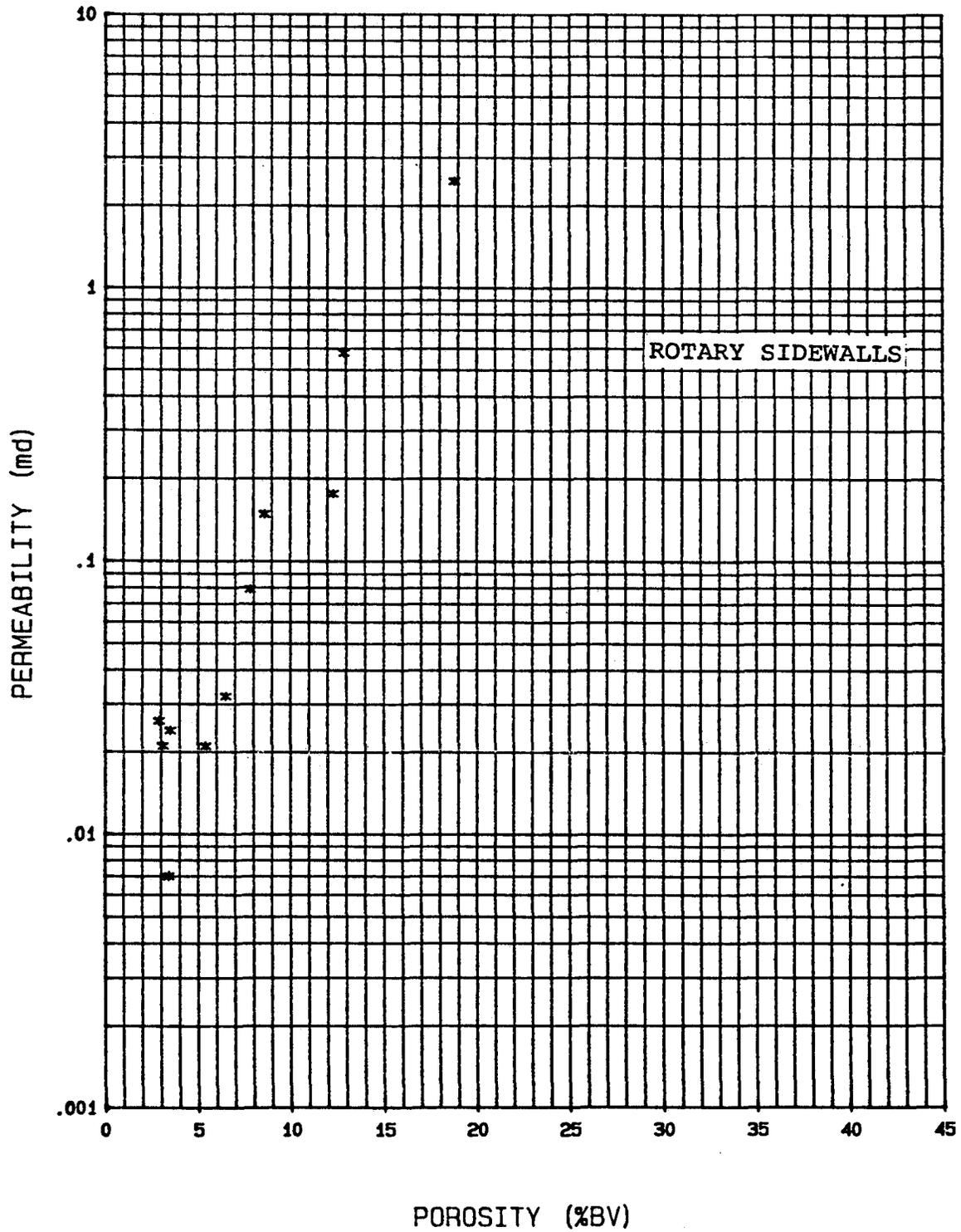
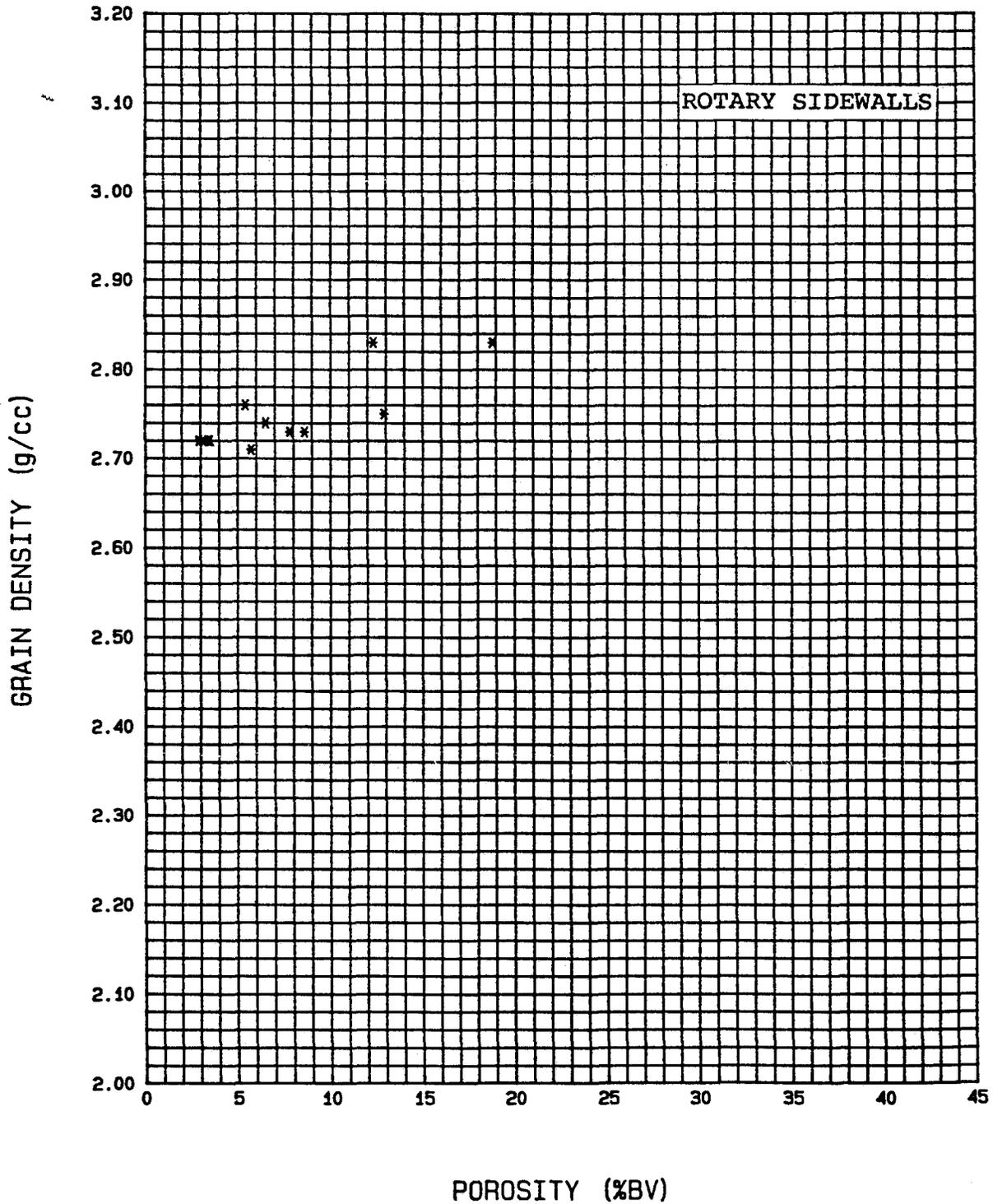


Figure 2  
GRAIN DENSITY - POROSITY RELATIONSHIP

Axem Resources Inc.  
Black Steer #13-30 Well  
SRS 1241/RMD 1457





# SLOANE

## OIL FIELD SERVICES



AXEM RESOURCES, INC.

Date: October 19, 1990  
Invoice: 90-11  
RE: Black Steer Fed. 13-30

9/29/90	Drove to Black Steer locations, took pictures and checked reserve pit.	
	1/2 day supervision @ \$300.00 per day	\$150.00
	114 miles @ 75¢ per mile	85.50
	Expenses:	2.50
	Telephone: 2 calls Axem - Bellfield	7.00
	3 calls to BLM Monticello	10.00
10/18/90	Took bids on rehab work. Notified BLM and land owner. Drove to locations and took pictures of final rehab work.	
	1 day supervision @ \$300.00 per day	\$300.00
	249 miles @ 75¢ per mile	186.75
	Expenses:	13.25
	Telephone: 1 call to H. Hughes - Cortez	2.50
	1 call to Axem Resources	4.10
	Total Supervision: 1-1/2 days @ \$300.00/day	\$ 450.00
	Total Mileage: 363 miles @ 75¢ per mile	272.25
	Total Expenses:	15.75
	Total Telephone:	23.60
		<u>\$ 761.60</u>
	Pay this amount in 30 days	<u>\$ 761.60</u>

Thank you very much for the work.

*R.G. Sloane Jr*

2-30-56  
#49049

*MAH*  
11-1-90

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

**CONFIDENTIAL**

FORM APPROVED

Budget Bureau No. 1004-0135  
Expires: September 30, 1990

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reenter to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.

**SUBMIT IN TRIPLICATE**

RECEIVED  
DEC 10 1990

5. Lease Designation and Serial No.

U - 51685

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

BLACK STEER FEDERAL 13-30

9. API Well No.

43-037-31471

10. Field and Pool, or Exploratory Area

WILDCAT

11. County or Parish, State

SAN JUAN, UTAH

1. Type of Well

Oil Well  Gas Well  Other **PLUGGED WELL**

2. Name of Operator

AXEM RESOURCES INCORPORATED

DIVISION OF  
OIL, GAS & MINING

3. Address and Telephone No.

7800 EAST UNION AVENUE, SUITE 1100 DENVER, CO 80237 303-740-9000

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

540' FSL, 1,080' FWL SW/SW SECTION 30, T38S-R25E @ SURFACE

800' FSL, 780' FWL @ BOTTOM

**12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

**TYPE OF SUBMISSION**

- Notice of Intent
- Subsequent Report
- Final Abandonment Notice

**TYPE OF ACTION**

- Abandonment
- Recompletion
- Plugging Back
- Casing Repair
- Altering Casing
- Other
- Change of Plans
- New Construction
- Non-Routine Fracturing
- Water Shut-Off
- Conversion to Injection

**RECLAMATION**

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

13. 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.)\*

The above captioned location was reclaimed by Howard W. Hughes Construction.

Planted grass seed as per BLM & Ranchers specifications on 10/10/90. Please see attached copy of invoice.

Reclamation operations were supervised by Sloane Oilfield Services, Farmington, New Mexico.

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

Signed AS. POORNJ. KUMAR

Title PRODUCTION TECHNICIAN

Date 12/07/90

(This space for Federal or State office use)

Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
Conditions of approval, if any:



## Upper Ismay Lithology and Shows

### 5436 UPPER ISMAY

5436-5440

Limestone- light brown to medium brown, crypto to microcrystalline, moderately firm to very firm, sparmicritic, wackstone trace high energy indicators (trace pellets, no significant pisolites), scattered tree branch algae, locally dolomitic-likely near contact with zone below (tidal flats, a combination low energy spongiostrome laminate/laminate lime mudstone)

### 5440 1st Cyclic Local Anhydrite

5440-5449

Anhydrite-white, gooey type (evaporite cycle)

With narrow zone

Limestone-very similar to above, plus occasionally dolomitic, and fairly chalky, also anhydritic (tidal flats, a regressive fill-in evaporite cycle)

5449-5458

Limestone/Dolomite- light to medium grey brown, micro to cryptosparitic, firm to locally very firm, likely a microspongiostrome laminate micritic mudstone to a laminated dolomite-lime mudstone (tidal flats, a regressive fill-in evaporite cycle)

### 5458 2nd Cyclic Local Anhydrite

5458-5564

Anhydrite-white, gooey type (evaporite cycle)

With scattered

Limestone- medium grey to scattered brown grey, crypto to micromicritic to sparitic in dolomitized parts, firm to very firm, anhydritic, laminated micritic mudstone-grainstone, locally anhydritic (tidal flats, a regressive fill-in evaporite cycle)

5564-5470

Limestone- as in above description

### 5470 3rd Cyclic Local Anydrite

5470-5478

Identical sequence to the 2nd Cyclic Anhydrite, described previously  
(Note: dolomitized limestone transition zone to Massive Anhydrite is truncated)

## 5478 Massive Anhydrite Evaporite

5478-5526

Anhydrite- white, cottage cheese type, to sugary

With isolated

Dolomite- light to medium tan to occasionally brown, cryptocrystalline matrix surrounding dolomite rhombs, anhydrite clast washout molds.

## 5526 Algal Facies

5526-5527 Transitional Stringer

Limestone-dark brown greys to dark greys, microcrystalline to cryptocrystalline matrix, a skeletal/ oolitic (coating possible mud balls) intramicritic limestone (the oolites almost seem crushed), the skeletal fragments seem to be from tabular formamifera? and tree branch algal, trace algal blades (high energy, low oxygen, possible slump feature,)

5527-5528 Transitional Stringer

Limestone- medium to dark grey brown to brown grey, microcrystalline to cryptocrystalline with very isolated microsucrosic streaks (tight sparite), local clay (3-5%), not oolitic, possible microlaminated pelletoidal, a certain mottled appearance, in part, scattered brecciated appearance, locally anhydritic (subtidal, high energy- with scattered slump features)

5528-5533 First Break, No show

Limestone- cream to light cream grey, microcrystalline to cryptocrystalline, wackestones, skeletal micrities, 20-30% clay in matrix (low organic), little or no algal blades, calcite/anhydrite filled molds (no clear cut association with algae), no significant stain, tight, scattered fluorescence, with very weak chalky cuts (foreslope, below the storm line)

5533-5548

Limestone- medium brown grey to light brown grey, predominantly microcrystalline, moderately firm to scattered very firm, layers of grainstone (25%), mudstone (30%), wackestone (25%), 20% almost marly (possible intertidal)

5548-5553 Show #1  
5557-5559 Show #1a

Lithology- Show #1

Limestone- medium brown grey to trace browns, sparitic microsucrosic with strong intergrowth to microcrystalline, firm to trace very firm, few *Ivanovia* indications, mostly a strongly recrystallized wackestone to packstone, approximately 15% bioclastic locally finely layered with asphaltic residual stain along chalky streaks (2-3%), pinpoint black residual stain on scattered microsucrosic crystals, approximately 15% clay in tight matrix, overall tight, fair yellow green fluorescence, trace light brown chalk bound live oil, good streaming cut

Lithology- Show 1a

Limestone- very similar to that of Show #1 except that the rock is a darker medium grey, the zone has more asphaltic dead oil stain, and the rock is tighter

Drill Rate-

From a back ground of 7 minutes per foot, broke to 2' which drilled at 3 minutes per foot. After the interval, the formation drilled at 7 minutes per foot

Show #1a did not register with any penetration rate change

Gas-

	Before	During	After
HW	3	6.5	2
C1	<1 ppm	2.5 ppm	1.0 ppm
C2	<1 ppm	1.5 ppm	.5 ppm
C3	-	<1.0 ppm	<.5 ppm
C4	-	-	-

**Conclusion-**

1. Insuffiencent porosity over too short intervals to warrant more than a very poor show rating. This zone is likely the major contributor to the final shut-in pressures recorded on DST #1 (See DST #1 report)

**5553-5563**

Limestone- brown grey to dark brown grey, microcrystalline to cryptocrystalline, bioclastic in part, wackstone in large measure, moderately firm to trace very firm, locally anhydritic, slightly brecciated, trace moldic porosity reduced by anhydrite, tight, scattered asphaltic residual stain, slight mineral fluorescence, (that portion of two samples not covered in the 5548-5553 show (possibly fairly slow energy slope)

**5563-5567      Show #2**

**Lithology-**

Limestone- light brown to light brown grey, microcrystalline, moderately firm to very firm, a wackstone, significant less bioclastic (10%) than in Show #1, possibly anhydritic, 10% clay in matrix, scattered inter-crystalline (and intergranular) asphaltic stain, likely becomes darker and more organic rich towards base, low porosity, yellow green fluorescence, slight milky cut

**Penetration Rate-**

After a background of 7 to 7.5 minutes per foot, the interval broke down to 2.5 minutes per foot.

Gas-

	Before	During	After
HW	3	9	4
C1	1 ppm	2 ppm	<1 ppm
C2	<1 ppm	1 ppm	<1 ppm
C3	<.5 ppm	.75 ppm	<.5 ppm
C4	-	-	-

Conclusions:

1. Insufficient porosity over too short an interval. Zone was tested in DST #1.

5567-5574

Limestone-light grey to tan grey to scattered dark grey, predominantly cryptosparmicritic mudstones, moderately firm to very firm, scattered dark grey shale streaks (open platform, subtidal)

5574

Hovenweep

5574-5592

Shale- black brown to black to dark grey, soft to moderately firm, subblocky to subplatey, sooty, subearthy of subwaxy, scattered white calcite clasts, silty, almost a sparmicrite in part, no fluorescence, good cut (dry) (basinal exuxinic)

## Straddle Drill Stem Test #1

Interval: 5510-5582 (E-Log)  
Times: 45-90-180-540  
Type: Conventional Straddle without water cushion

---

### Surface blows

Through 1/4" top choke, 3/4" bottom choke

Initial Open      Opened with a weak surface blow  
3" at 5 minutes  
(3 1/2 ounces at 10 minutes)  
9" at 15 minutes  
(6 1/2 ounces at 20 minutes)  
12" at 30 minutes  
(6 ounces at 40 minutes)  
9" (5 ounces) at 45 minutes

Initial Shut-In      Died gradually in 30 minutes

Final Open      Opened with a 1" blow  
3" at 5 minutes  
3" (2 ounces) at 30 minutes  
2" (1 ounce) at 45 minutes  
1" at 60 minutes  
1 1/2" (1 ounce) at 90 minutes  
1 1/2" (1 ounce) at 90 minutes  
1 1/2" (1 ounce) at 90 minutes  
1 1/2" (1 ounce) at 120 minutes  
1 1/2" (1 ounce) at 150 minutes  
1 1/2" (1 ounce) at 180 minutes

Pipe Recovery:

86' of mud  
40' of slightly gas cut mud

Top Sample Resistivity-	.18 at @ 65 F, 30,000 Chlorides*
Middle Sample Resistivity-	.10 at @ 65 F, 40,000 Chlorides*
Bottom Sample Resistivity-	.20 at @ 65 F, 26,000 Chlorides

\*Higher Chlorides possibly related to slow water flow from DuChelly formation uphole (See Hole History), note that the Bottom Sample, Sampler, and Pit Mud resistivities were identical.

---

Instrument Readings:

24 hour clock, #16815, at 5515, located outside

Initial Hydrostatic	3120
Final Hydrostatic	3104
Initial Flow	60-82
Initial Shut-In	341
Final Flow	82-96
Final Shut-In	1920

Bottom Hole Temperature            125 F

All recorders read values with + or - 2% tolerances

---

Bottom Hole Sampler:

Sampler Pressure	21 PSIG
Total Sampler Volume	2300 cc

Oil:	None
Water:	None significant
Mud:	2300 cc of slightly oil and gas (dark green brown) cut mud
Gas:	None significant

Sampler Resistivity:            .20 at @ 65 F; 26,000 ppm Chlorides

Mud Pit Resistivity:            .20 at @ 65 F; 26,000 ppm Chlorides

CONCLUSIONS:

1. The test was mechanically successful. No mud volume was lost (instead the hole tended to flow slightly despite the heavy mud, due to DuChelly Formation water flows.

## SCIENTIFIC DRILLING INTERNATIONAL

Client : AXEM RESOURCES  
 Well : BLACK STEER #13-30  
 Location : SAN JUAN COUNTY, UTAH

Page 1 of 1  
 Date 11/04/89  
 Filename : BS-13-30

No Interpolation

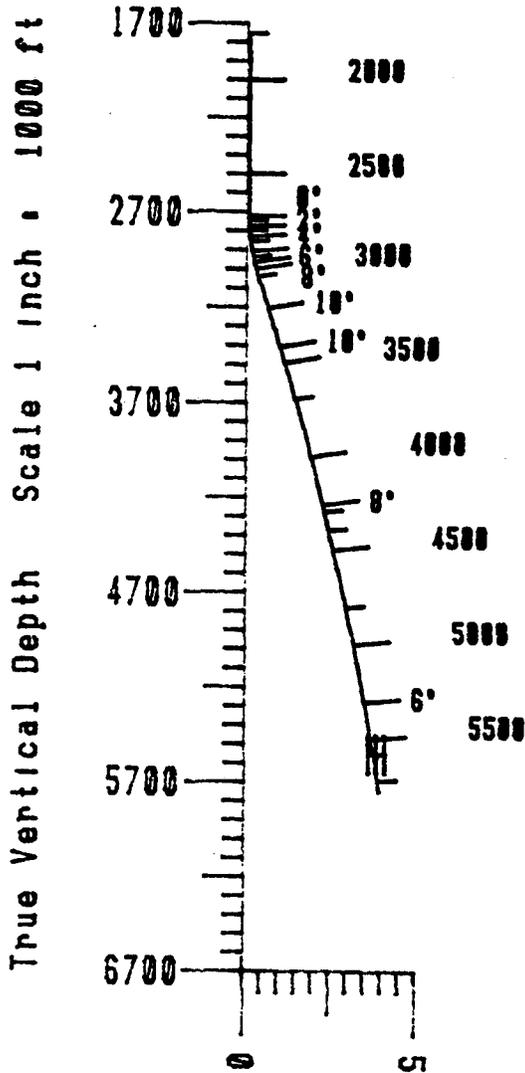
M. DEPTH	INC	DIRECT'N	C/L	T V D	V/S	N/S-	E/W-	DL5
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3691.00	9.00	N54.00°W	152	3679.72	148.09	93.34	-115.49	0.39
3847.00	8.75	N43.00°W	156	3833.86	171.95	109.26	-133.49	1.10
4002.00	8.50	N43.00°W	155	3987.10	194.66	126.26	-149.34	0.16
4159.00	8.25	N33.00°W	157	4142.43	216.47	144.26	-163.40	0.94
4221.00	8.50	N33.00°W	62	4203.77	224.83	151.83	-168.32	0.40
4239.00	8.50	N33.00°W	18	4221.57	227.29	154.06	-169.77	0.00
4270.00	7.75	N39.00°W	31	4252.26	231.42	157.61	-172.34	3.65
4302.00	6.75	N48.00°W	32	4284.00	235.37	160.53	-175.12	4.72
4333.00	6.25	N61.00°W	31	4314.80	238.87	162.57	-177.97	5.00
4363.00	6.50	N66.00°W	30	4344.62	242.17	164.05	-180.95	2.03
4437.00	7.75	N64.00°W	74	4418.04	251.21	167.93	-189.27	1.72
4595.00	7.50	N62.00°W	158	4574.65	271.99	177.45	-207.95	0.23
4751.00	7.25	N62.00°W	156	4729.36	291.87	186.85	-225.63	0.16
4909.00	6.50	N55.00°W	158	4886.22	310.75	196.73	-241.75	0.71
5092.00	6.00	N51.00°W	183	5068.13	330.65	208.71	-257.65	0.36
5304.00	6.00	N42.00°W	212	5278.97	352.53	223.95	-273.71	0.44
5550.00	5.75	N39.00°W	246	5523.68	376.87	243.10	-290.06	0.16
5775.00	4.75	N35.00°W	225	5747.73	396.41	259.54	-302.45	0.47

Origin of Bottom Hole Closure PLATFORM CENTRE  
 Bottom Hole Closure 399 ft N49.37°W



SCIENTIFIC DRILLING INTERNATIONAL  
 FOR  
 AXEN RESOURCES INCORPORATED  
 BLACK STEER 313-30  
 SAN JUAN COUNTY, UTAH  
 1N  
 SEC. 30 TH 30S R 25E  
 BY D. URBAN  
 CASPER, WYOMING

ALL DIRECTIONS REL TO  
 LOCAL NORTH



Vertical Section Scale 1 Inch = 500 ft

PLANE OF VERT SECT<sub>n</sub> N55.20W

PLDT DATE 11-10-1989

TARGET DETAILS

No	TVD	Lat	Dep
1	5559.8	228.8	-329.8

WELL PROPOSAL

KOP	WD	TYD	YS	DIR	INC	N/S	E/W
2800	2890	2890.00	18.85	N04E	0.50	26.10N	05.12E

PLANE OF BOTTOM HOLE CLOSURE

398.54 FT. ± N49.37W

259.54N 302.45W

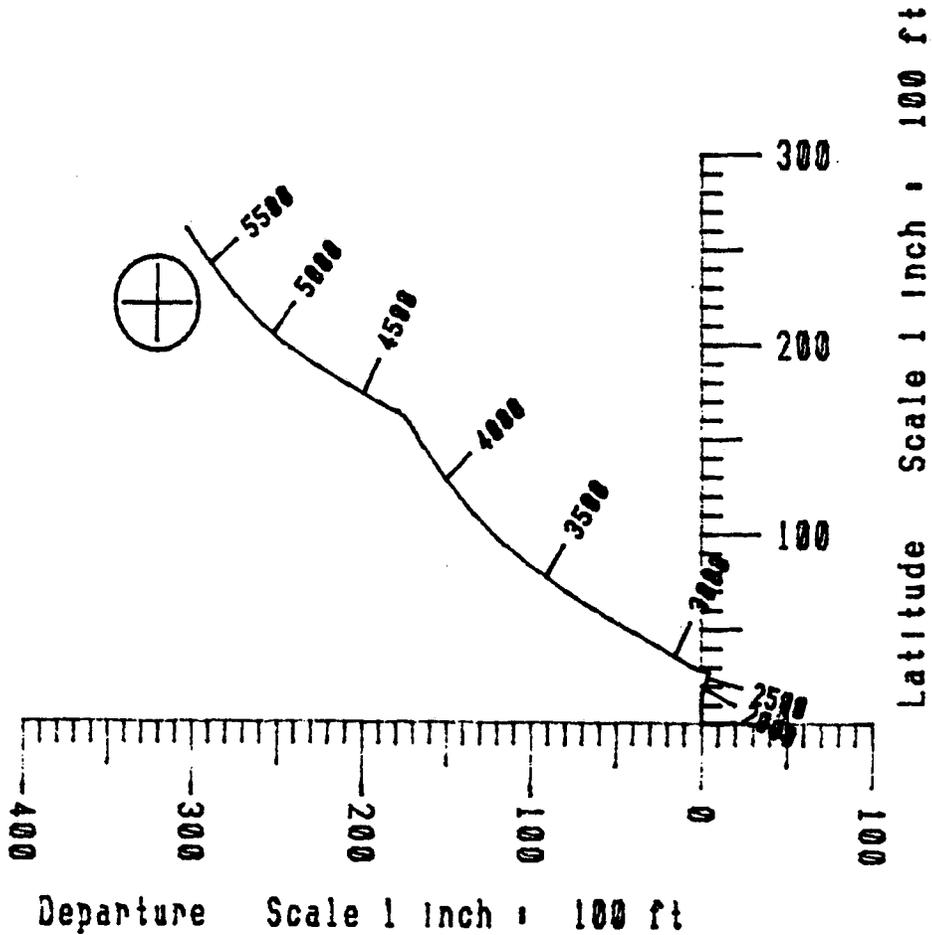
CASING DETAILS

No	Size	TYD	WD



SCIENTIFIC DRILLING INTERNATIONAL  
 FOR  
 AXEN RESOURCES INCORPORATED  
 BLACK STEER 813-38  
 SAN JUAN COUNTY, UTAH  
 IN  
 SEC. 38 TH 38S R 25E  
 BY D. URBAN  
 CASPER, WYOMING

ALL DIRECTIONS REL TO  
 LOCAL NORTH



PLANE OF VERT SECT<sup>n</sup> N55.23W

PLOT DATE 11-16-1988

TARGET DETAILS

No	TVD	Lat	Dep
1	5558.8	228.8	-329.8

WELL PROPOSAL

KOP	MD	TVD	YS	DIR	INC	N/S	E/W
2800	2800	2800.82	18.85	N94E	8.58	26.10W	85.12E

CASING DETAILS

No	Size	TVD	MD
----	------	-----	----

PLANE OF BOTTOM HOLE CLOSURE

398.54 FT. @ N49.37W  
 259.54N 382.45W

CONFIDENTIAL UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE

(See other instructions on reverse side)

Form approved. Budget Bureau No. 1004-0137 Expires August 31, 1985

WELL COMPLETION OR RECOMPLETION REPORT AND LOG \*

1. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] DRY [X] Other DRY & ABANDONED

2. TYPE OF COMPLETION: NEW WELL [ ] WORK OVER [ ] DRIP-EX [ ] FILL BACK [ ] DIFF. REMV. [ ] Other DRY & ABANDONED

3. NAME OF OPERATOR: AXEM RESOURCES INCORPORATED

4. ADDRESS OF OPERATOR: 7800 EAST UNION AVENUE, SUITE 1100 DENVER, CO 80237

5. LOCATION OF WELL (Report location clearly and in accordance with any State requirements): At surface 540' FSL, 1,080' FWL

6. At top prod. interval reported below NA

7. At total depth 800' FSL, 780' FWL

RECEIVED JAN 11 1991

DIVISION OF OIL, GAS & MINING

PA 11-17-89 Per Sundry 11-27-89

14. PERMIT NO. 143-037-31471 DATE ISSUED 8/11/89

15. DATE SPUDDED 10/21/89 16. DATE T.D. REACHED 11/15/89 17. DATE COMPL. (Ready to prod.) DRY AND ABANDONED 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)\* 4,789' KB, 4,775' GR 19. ELEV. CASINGHEAD 4,775'

20. TOTAL DEPTH, MD & TVD 5808 MD 5781 TVD, NA 21. PLUG, BACK T.D., MD & TVD NA 22. IF MULTIPLE COMPL., HOW MANY\* NA 23. INTERVALS DRILLED BY ROTARY TOOLS ROTARY CABLE TOOLS

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)\* NA 25. WAS DIRECTIONAL SURVEY MADE YES SEE ATTACHED

26. TYPE ELECTRIC AND OTHER LOGS RUN 11-22-89 DUAL LATEROLOG, LONG SPACED SONIC, COMPENSATED DENSITY NEUTRON, DIPMETER YES (SIDEWALL) 27. WAS WELL CORRED YES (SIDEWALL)

28. CASING RECORD (Report all strings set in well) Table with columns: CASING SIZE, WEIGHT, LB./FT., DEPTH SET (MD), HOLE SIZE, CEMENTING RECORD, AMOUNT PULLED

29. LINER RECORD Table with columns: SIZE, TOP (MD), BOTTOM (MD), SACKS CEMENT\*, SCREEN (MD) 30. TUBING RECORD Table with columns: SIZE, DEPTH SET (MD), PACKER SET (MD)

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

33. PRODUCTION Table with columns: DATE FIRST PRODUCTION, PRODUCTION METHOD, WELL STATUS, DATE OF TEST, HOURS TESTED, CHOKER SIZE, PROD'N. FOR TEST PERIOD, OIL-BBL., GAS-MCF., WATER-BBL., GAS-OIL RATIO, FLOW, TUBING FORM, 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: DIRECTIONAL SURVEY, LITHOLOGY AND SHOWS, DRILL STEM TEST.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records. SIGNED Roger D. Kincaid TITLE PRODUCTION TECHNICIAN DATE 01/09/91

\*(See Instructions and Spaces for Additional Data on Reverse Side)

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):

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH	TOP TRUE VERT. DEPTH
UPPER ISMAY	5,436'	5,478'	LIMESTONE	SHINARUMP	2,298'	2,298'
MASSIVE ANHYDRITE EVAPORITE	5,478'	5,526'	ANHYDRITE/DOLOMITE	SALINE FLOW	2,452'	2,452'
ALGAL FACIES	5,526'	5,574'	LIMESTONE (SLIGHT SHOWS - SEE ATTACHED)	MOENKOPI	2,498'	2,498'
HOVENWEEP	5,574'	5,592'	SHALE	CUTLER	2,604'	2,604'
				HONAKER TRAIL	4,442'	4,423'
				UPPER ISMAY	5,436'	5,409'
				MASSIVE ANHYDRITE	5,478'	5,455'
				BASE OF ANHYDRITE	5,524'	5,498'
				HOVENWEEP	5,571'	5,545'
				LOWER ISMAY	5,590'	5,564'
				GOthic	5,646'	5,630'
				UPPER DESERT	5,673'	5,656'
				CREEK		
				LOWER DESERT	5,717'	5,691'
				CREEK		
				CHIMNEY ROCK	5,750'	5,724'
				AKAH	5,774'	5,757'
				SALT	5,803'	5,777'
				TOTAL DEPTH	5,808'	5,781'
			<p>DRILL STEM TEST: INTERVAL 5,510'-5,582' TIMES: 45-90-180-540</p> <p>TYPE: CONVENTIONAL STRADDLE WITHOUT WATER CUSHION. (SEE ATTACHED FOR FULL DESCRIPTION)</p> <p>SIDEWALL CORES: 5,427' ONE CORE RECOVERED SECOND SIDEWALL CORE TRUCK: 5,530', 5,532', 5,544', 5,545', 5,546' 5,546.5', 5,547.5', 5,548.5', 5,561', 5,562', 5,563'</p>			

38. GEOLOGIC MARKERS



**Axem**

Resources Incorporated

November 7, 1991

RECEIVED

NOV 12 1991

DIVISION OF  
OIL GAS & MINING

Vickie Carnie  
Division of Oil & Gas  
Gas Mining Utah  
355 W. N. Temple  
3 Triad Center - Suite 350  
Salt Lake City, Utah 84180-1203

Sec. 30, T. 28S, R. 25E  
43-037-31471

RE: Black Steer Federal #13-30

Dear Ms. Carnie:

Enclosed please find the Core Analysis on the above mentioned well. I hope this is what you need. I have checked our files and this is all I could find. If you have any questions, please do not hesitate to call.

Sincerely,

AXEM RESOURCES INCORPORATED

Terry L. Hoffman  
Drilling Technician

tlh

Enclosure

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**RECEIVED**

INDIVIDUAL WELL RECORD

JUL 20 1993

Sec. 30

T. 38 S.

R. 25 E.

SLB & Mer.

DIVISION OF  
OIL GAS & MINING

Date June 6, 1991

Ref. No. \_\_\_\_\_

	30		

FEDERAL

Lease No. U-51685

State Utah

Lessee Jerry Chambers Exploration 100%

County San Juan

Operator Axem Resources Incorporated

Field Wildcat

Well Name & No. Black Steer Federal 13-30

Unit/CA \_\_\_\_\_

A.P.I. Well No. 43-037-31471

District Moab

Subdivision SWSW

Location 540' FSL & 1080' FWL

Date Drilling Approved 8/8/89

Well Elevation 4789' KB, 4775' GR Feet

Date Drilling Commenced 10/21/89

Total Depth 5808' MD, 5781' TVD Feet

Date Drilling Ceased 11/15/89

Initial Production dryhole

Date Completed For Production Dry Hole

Gravity A.P.I. \_\_\_\_\_

Date Abandonment Approved (Final) 7/13/93

Initial Reservoir Pressure Dry Hole

GEOLOGIC FORMATIONS

PRODUCTIVE HORIZONS

SURFACE  
Morrison

LOWEST TESTED

NAME

DEPTHS

CONTENTS

SURFACE MANAGEMENT AGENCY	<u>Private</u>
MINERAL OWNERSHIP	<u>BLM</u>
LEASE EXPIRATION	<u>9/30/92</u>

WELL STATUS

YEAR	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1989										spud	P&A	
1993							FAN APPROVAL					

First Production Memorandum \_\_\_\_\_ Lease Extension Memorandum \_\_\_\_\_ Confirmation \_\_\_\_\_

Remarks \_\_\_\_\_

