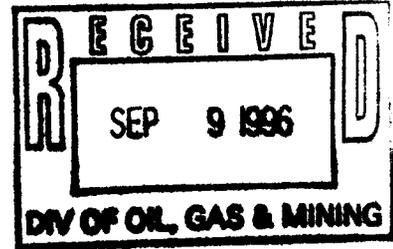


Telephone No.
(307) 472-3211

ROGER D. TESELLE
Petroleum Geologist
1557 North Mill Creek Road
Casper, Wyoming 82604

FAX
(307) 472-1020

September 7, 1996



State of Utah
Division of Oil, Gas, and Mining
1594 W. North Temple, Suite # 1210
P.O. Box 145801
Salt Lake City, Utah 84114-5801

Re: APD # 2 Deuel Federal
SESW Sec. 17, T21S R20E
Grand Co., Utah

Dear Sirs,

Please find enclosed an Application for Permission to Drill for the above captioned well. The permit has been filed with the Moab BLM. A copy of the approved permit will be sent to your office as soon as it is received.

Should you have any questions, please contact me at 307-472-3211.

Sincerely,

A handwritten signature in cursive script that reads "Roger TeSelle".

Roger TeSelle

enclosure

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK
 DRILL DEEPEN

b. TYPE OF WELL
 OIL WELL GAS WELL OTHER

SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR
 Arma Geophysical Co.

3. ADDRESS AND TELEPHONE NO.
 P.O. Box 1606 Casper, WY 82602 307-237-9337 or 307-472-3211

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface ²⁶⁹ 850 FSL, ⁶⁴⁹ 1800 FWL
 At proposed prod. zone Same

5. LEASE DESIGNATION AND SERIAL NO.
 U-55509

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

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME WELL NO.
 N/A #2 Devel Feel.

9. AC WELL NO.

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., W., OR BLK. AND SURVEY OR AREA
 Sec. 17 T21S R20E

12. COUNTY OR PARISH 13. STATE
 Grand Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 1 mile northwest of Thompson Springs, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)
 3350'

16. NO. OF ACRES IN LEASE
 6717.78 acres

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

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

19. PROPOSED DEPTH
 2100'

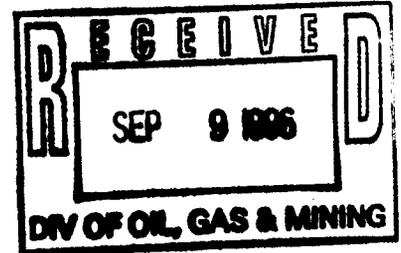
20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5159 GR

22. APPROX. DATE WORK WILL START*
 August 15, 1996

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
SEE DRILLING PLAN				



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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 [Signature] TITLE Agent DATE 7/22/96

(This space for Federal/State office use)

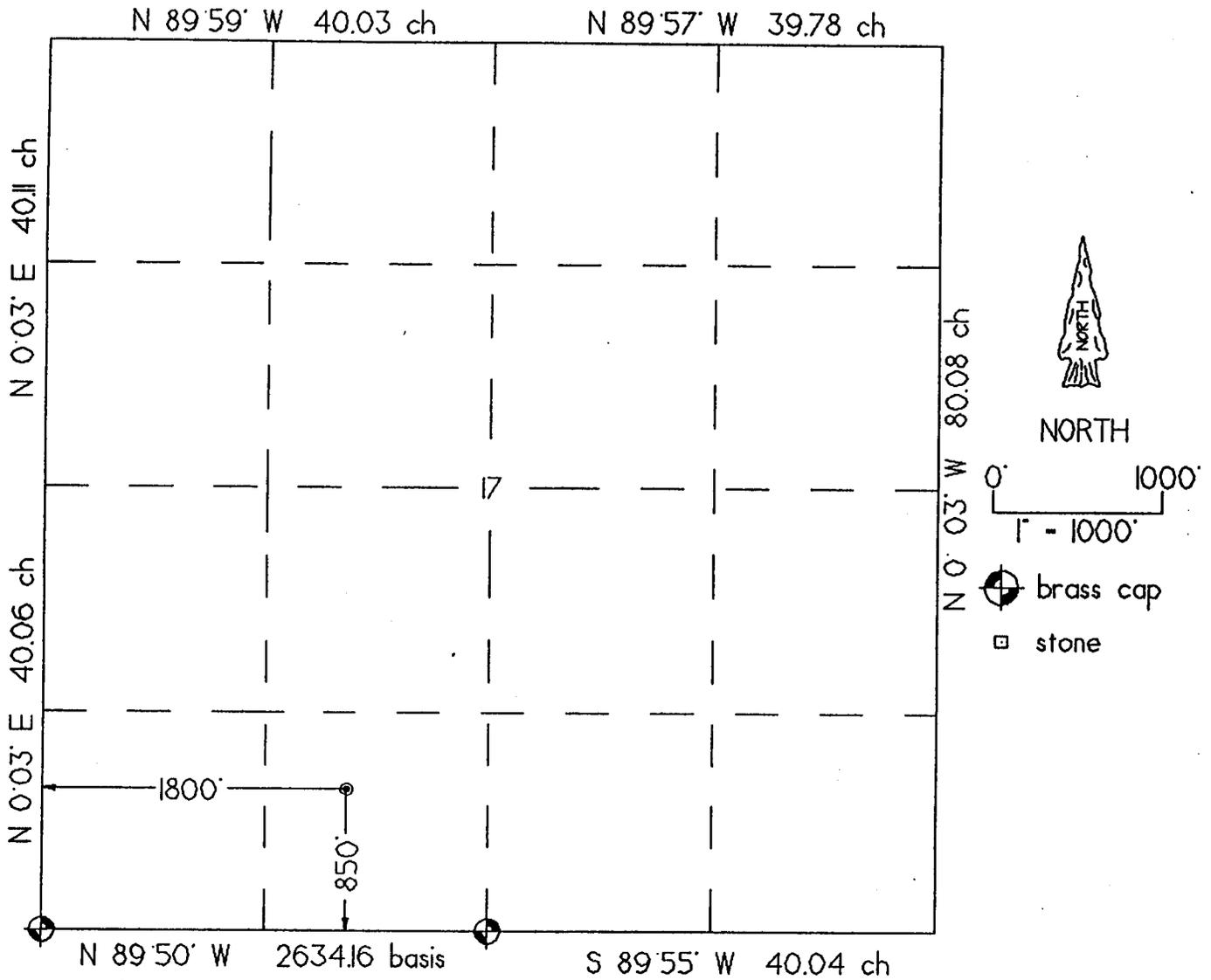
PERMIT NO. 43-019-31350 APPROVAL DATE _____

Application approval 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.

CONDITIONS OF APPROVAL, IF ANY:
 APPROVED BY [Signature] TITLE Petroleum Engineer DATE 9/17/96

*See Instructions On Reverse Side

Well Location Plat



Well Location Description

ARMA GEOPHYSICAL CO., INC.
 Deuel Fed # 2
 850' FSL & 1800' FWL
 Section 17, T.21 S., R.20 E., SLM
 Grand County, UT
 5159' grd. el. (from BM in Thompson 5145')

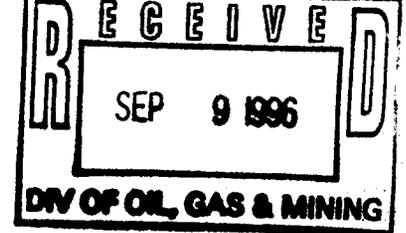


22 July 1996

Gerald G. Huddleston
 Gerald G. Huddleston, LS

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

SELF-CERTIFICATION STATEMENT



Be advised that Arma Geophysical Co., Inc. is considered to be the operator of Well No. #2 Deuel Fed, (11)SESW, Sec. 17, T. 21 S., R. 20 E., Lease U-55509, Grand County, Utah, 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. UT-1004.

(Principal Hilltop Natl. BANK) via surety consent as provided for in 43 CFR 3104.2.

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

DRILLING PLAN

Arma Geophysical Co., Inc.
No. #2 Deuel Fed.
SESW Sec. 17-T21S-R20E
Grand County, Utah
Lease No.U-55509

Supplement to Form 3160-3 "Application for Permit to Drill, Deepen, or Plugback"

1. SURFACE FORMATION

Mancos Shale

2. ESTIMATED TOPS

<u>Formation</u>	<u>Vertical Depth</u>
Mancos Shale	Surface - 2000'
Ferron Sand	2000-2100'
Proposed TD	2200'

3. ESTIMATED DEPTHS AT WHICH ANTICIPATED WATER, OIL, GAS OR OTHER MINERAL BEARING ZONES ARE EXPECTED TO BE ENCOUNTERED

Natural gas may be encountered throughout the Mancos section as shows in this area are from fractured portions of the Mancos Shale. Natural gas is expected in the Ferron Sand at a depth of 2000'. Water was observed at 225' in a shallow stray sand north of the proposed location. There will be casing set through this zone.

4. CASING PROGRAM

0' - 250', 7", 20#, K-55 used pipe will be cemented back to surface with clean returns. Class G cement will be used. *Pipe will be made available for BLM inspection at least 24 hours prior to being run.*

5. PRESSURE CONTROL

The well will be drilled using a double ram BOP and a rotating head (See Diagram and specifications).

6. DRILLING FLUIDS

Well will be drilled with air from surface to Total Depth.

Arma Geophysical Co., Inc.
No. #2 Deuel Fed.
SESW Sec. 17-T21S-R20E
Grand County, Utah
Lease No.U-55509

7. AUXILIARY EQUIPMENT TO BE USED

The primary air compressor is placed 100' from the drilling rig. Drill string safety valves will be available on the drilling floor and a float valve will be run above the bit. A mist pump will be used to control dust when necessary. A pilot light will be used on the blooie line.

8. TESTING, LOGGING AND CORING PROGRAM

- a. Coring: None
- b. Drill Stem Testing: None
- c. Logging: No logs will be run - evaluation potential nil.

9. ABNORMAL CONDITIONS AND POTENTIAL HAZARDS

No abnormal conditions or hazards are expected. Hydrogen sulfide gas is not expected. Expected bottom hole temperature is 80° F.
Bottom hole pressure is estimated to be 100 PSIG or less. (Underpressured)

10. ANTICIPATED STARTING DATE OF DRILLING OPERATIONS

Plan to start drilling August 15, 1996. Five to six days should be required to set casing and drill the test.

11. BLOOIE PIT

A blooie pit 10'X10'X6' will be constructed 100' from the drilling rig. The blooie line will be securely anchored with steel posts. Steel tanks will be used to store produced fluids, should they be encountered.

12. RIG

A rubber tired truck mounted rig will be used and primary air compressors will be adjacent to the rig. See rig layout diagram.

CULTURAL RESOURCE REPORT

See Attached Report by Four Corners Archeological Service

SURFACE USE PROGRAM

Arma Geophysical Co., Inc.

No. #2 Deuel Fed.

SESW Sec. 17-T21S-R20E

Grand County, Utah

Lease No.U-55509

1. EXISTING ROADS

- a. Proposed wellsite is shown on Access Route Map.
- b. To visit wellsite, go to Thompson Springs, Utah and take exit off I-70 go north to the town of Thompson Springs turn west onto the old highway. Travel west about 1/2 mile and turn north and cross the railroad tracks. Follow the unimproved trail to the drill site.
- c. There are no plans to improve or maintain the existing road.

2. ACCESS ROADS

No access roads will be required as the well will be drilled with a truck mounted rig. Existing trails and unimproved roads will not be graded or improved.

3. LOCATION OF EXISTING WELLS (within a 1 mile radius)

- a. Water wells: None
- b. Abandoned wells: 2
- c. Temporarily abandoned wells: None
- d. Disposal wells: None
- e. Drilling wells: None
- f. Producing wells: None
- g. Shut in wells: None
- h. Injection wells: None
- i. Monitoring or Observation wells for other resources: None

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

- a. On site production facilities will consist of a well head and meter.
- b. There are no off site facilities planned.
- c. If the well is gas productive, a pipeline will be constructed parallel to existing roads and to potential markets.
- d. All permanent facilities will be painted in non reflective color to match the surrounding soil and rocks.

Arma Geophysical Co., Inc.
No. #2 Deuel Fed.
SESW Sec. 17-T21S-R20E
Grand County, Utah
Lease No.U-55509

5. LOCATION AND TYPE OF WATER SUPPLY

- a. This well will be air drilled and will not require water while drilling.
- b. Water will be hauled to the location for safety use and dust control from a private source. The water will be purchased from Thompson Springs water supply
Location of the water supply is shown on the Access Route Map.

6. SOURCE OF CONSTRUCTION MATERIALS

- a. Pad construction will be minimal as a rubber tired truck mounted rig will be used and minimal surface damage will be required. Any construction materials will be natural on site materials.

7. METHODS FOR HANDLING WASTE DISPOSAL

- a. Cuttings will be disposed of in a 10'x6'x6' blooie pit constructed at least 100' northeast of the bore hole. The pit will be dug down and into the embankment on the east side of the pad. See rig layout diagram. The blooie pit and mud pits will be fenced.
- b. Dust will be controlled with water introduced into the blooie line.
- c. No water disposal should be required - if water disposal is required, it will be done in accordance with NTL-2B regulations.
- d. Sewage: Drilling operations will be conducted during day light hours only.
No sewage system will be needed.
- e. Garbage and Trash: Garbage barrel will be used and will be hauled to city dump.

8. ANCILLARY FACILITIES

None

9. WELLSITE LAYOUT

- a. Location of rig, pits and associated equipment is shown in attached rig layout plan.
- b. Access to the well pad will be from an existing trail.
- c. Blooie pit will be at least 100' from the well head.
- d. The end of the blooie line will be angled downward to divert cuttings and dust into pit. Material removed in construction of the pit will be stock piled on the uphill portion of the pit. Water will be injected into blooie line to minimize dust.

Arma Geophysical Co., Inc.
No. #2 Deuel Fed.
SESW Sec. 17-T21S-R20E
Grand County, Utah
Lease No.U-55509

10. **SURFACE RECLAMATION PLAN**

- a. Any top soil removed in pad construction will stockpiled separately as shown in Rig Layout Diagram. All temporary disturbances will be restored to their original contour.
- b. Well Abandonment: The disturbed areas will be re-contoured to the original topography. No unnatural depressions will be left that may collect water. The stockpiled topsoil will be distributed evenly over the area.
- c. Producing Well: Those areas not needed for production purposes will be re-contoured to the surrounding topography. Topsoil will be evenly distributed over areas not needed for production. These areas will be seeded per BLM specifications.
- d. Pipelines and Flowlines needed for producing well will be removed upon abandonment.
- e. Rehabilitation will begin between November 1 and February 28.
- f. The disturbed area will be seeded with 2 lbs. each of crested wheat grass, indian rice grass, shadscale, and winterfat.
- g. Abandonment marker will be to BLM specifications and be inscribed with appropriate information.

11. **SURFACE and MINERAL OWNERSHIP**

The location and proposed access are on lands owned by:

Bureau of Land Management
82 East Dogwood
Moab, Utah
84532

12. **OTHER INFORMATION**

- a. See attached report by Four Corners Archeological Service.
- b. Threatened or Endangered Species Concerns: None
- c. Wildlife Seasonal Restrictions: None
- d. Off Location Geophysical Testing: None
- e. Drainage crossings that require additional State or Federal approval: None

Arma Geophysical Co., Inc.
No. #2 Deuel Fed.
SESW SEC. 17-T21S-R20E
Grand County, Utah
Lease No.U-55509

13. LESSEE OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION

Arma Geophysical Co., Inc.
P.O. Box 1606
Casper, WY 82602
(307) 237-9337

or

Roger TeSelle
1557 N. Mill Creek Rd.
Casper, WY 82604
(307) 472-3211

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 myself and/or our 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 false statement.

July 22, 1996
Date


Roger D. TeSelle/Agent

ARMA Geophysical Co., Inc.
#2 Deuel Federal
SESW Section 17 T21S R20E
Grand County, Utah

Proposed Completion Plan

1. The well will be drilled with a Larkin well head on the 7" casing and the BOP on the Larken head.
2. If the well is productive, plan to nipple up off of the Larkin head and run 4 1/2' production casing.
3. Run 2 3/8 " tubing and well head.
4. Complete the well as a open hole completion.

NOTES AND AUXILIARY EQUIPMENT FOR ROTATING HEAD

1. Steel tank for any fluids produced while drilling.
2. Dedusting equipment or mist pump will be on location. There are no plans to use dedusting equipment because the well is in an unpopulated area and distant from major highways. Also dedusting equipment makes formation evaluation difficult.
3. Mud circulating equipment, water, and mud materials sufficient to maintain the capacity of the hole and circulating tanks will be on location during the air drilling operations.
4. A blooie line will extend 100 feet from the well bore to the pit and be secured by steel posts.. A compressor will be located in the opposite direction from the blooie line a minimum of 100 feet. Blooie line will have automatic igniter or continuous pilot light.
5. Proper lubrication and maintenance at all times.
6. Spark arrestors on engines.
7. Float valve above drill bit at all times.

Arma Geophysical Co., Inc.

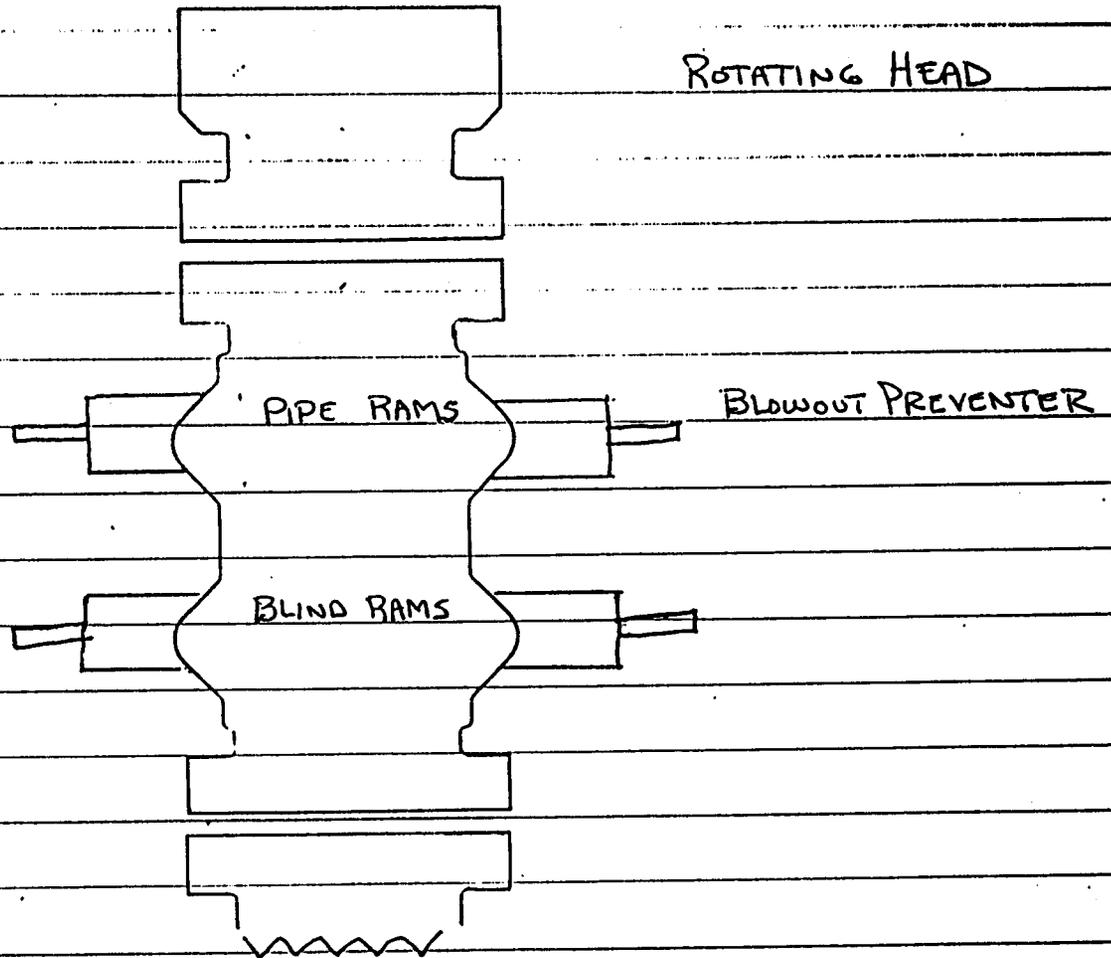
#2 Deuel Fed.

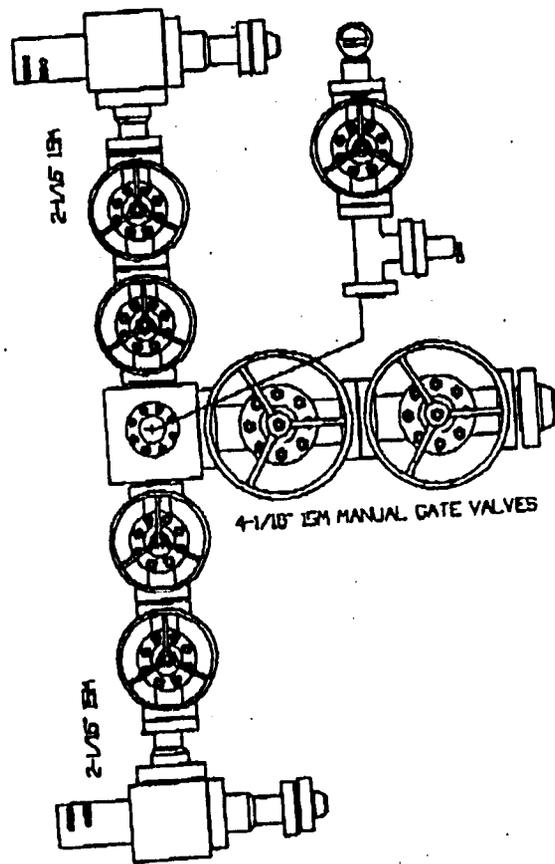
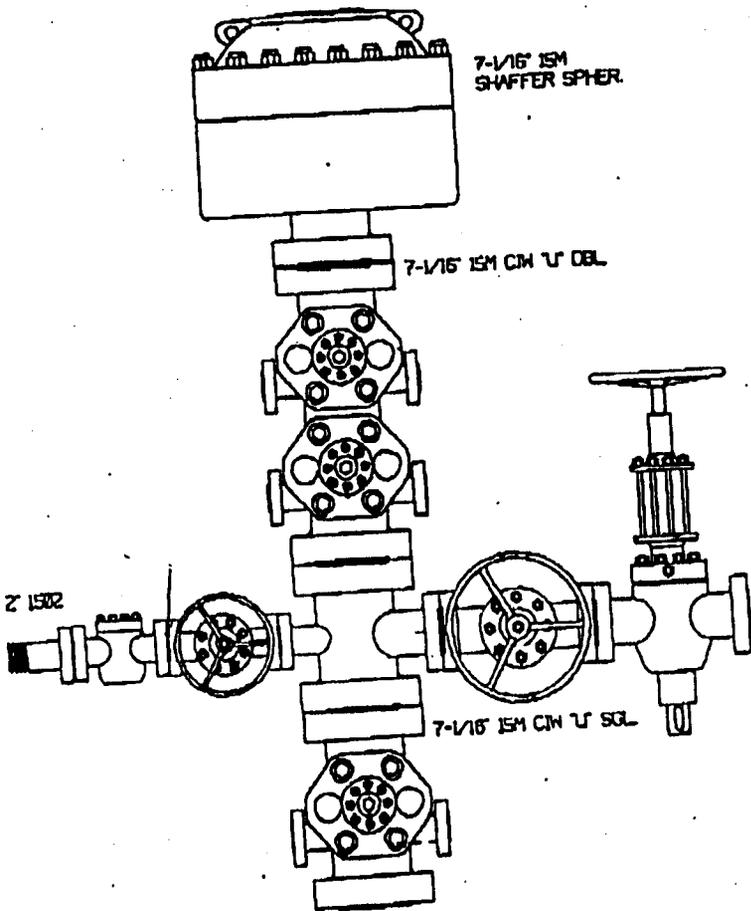
SecSw Sec. 17, T21S R20E

Grand Co. Utah

Pressure Control Diagram

7' 1/16 3600^{ft}

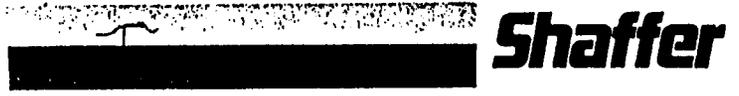




ARMA Geophysical Co. Inc.
 #2 Deuel Fed.
 SeSw Sec. 17 T21S R20E
 Grand Co. Utah

Choke Manifold Diagram

Arma Geophysical Co., Inc.
 #2 Deucl Fed.
 ScSw Sec. 17, T21S R20E
 Grand Co. Utah

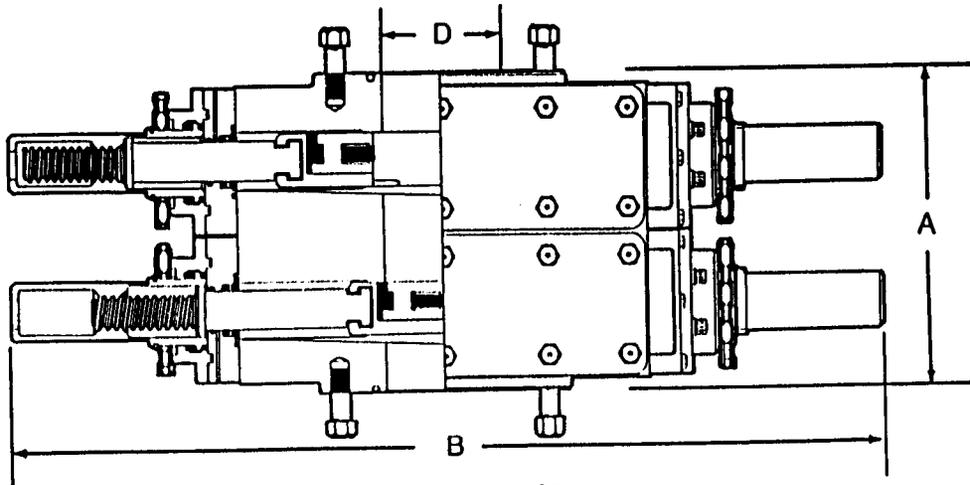


Blowout Preventor Diagram

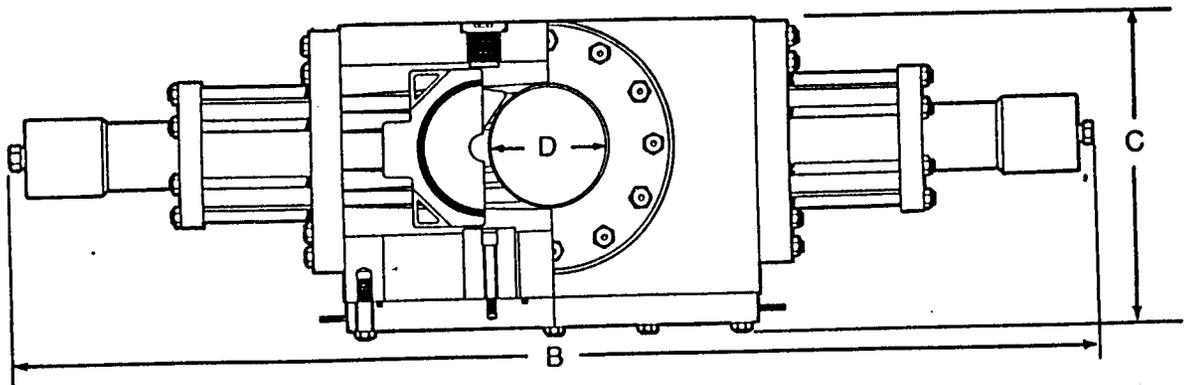
WEIGHTS, CAPACITIES, DIMENSIONS

		Hydraulic		Manual	
		7 1/16	9	7 1/16	9
Approximate Weight (Lbs)	Single	1,152	1,272
	Double	2,095	3,700	2,335	4,100
A) Overall Height, Less Studs (Inches)	Single	10	10
	Double	18 1/2	21 1/4	18 1/2	21 1/4
B) Overall Length (Inches)		61 1/4	61 1/16	51 1/4	67 1/2
C) Overall Width, Less Handwheel (Inches)		18 1/4	24 1/16	21 1/4	27 1/4
D) Opening through Preventer (Inches)		7 1/16	9	7 1/16	9
Working Pressure (psi)		3,000	3,000	3,000	3,000
Test Pressure (psi)		6,000	6,000	6,000	6,000
Handwheel Diameter (Inches)		20	20	20	20
Ring Joint Gasket API Number		R-45	R-49	R-45	R-49

	SENTINEL II BOP HYDRAULIC CYLINDER			
	To Open		To Close	
	7 1/16	9	7 1/16	9
Maximum Operating Pressure (psi)	1,500	1,500	1,500	1,500
Ratio	2.5:1	2.5:1	4.0:1	4.0:1
Volume of Fluid (U.S. Gallons)	.28	.34	.29	.36
Fluid Volume per Inch of Stroke (Cu. In.)	15.6	15.6	16.5	16.5
Piston Stroke (Inches)	4.125	5.0	4.125	5.0



Manual Sentinel II BOP
 (Side View)



Hydraulic Sentinel II BOP
 (Top View)

GRANT

Rotating Drilling Heads

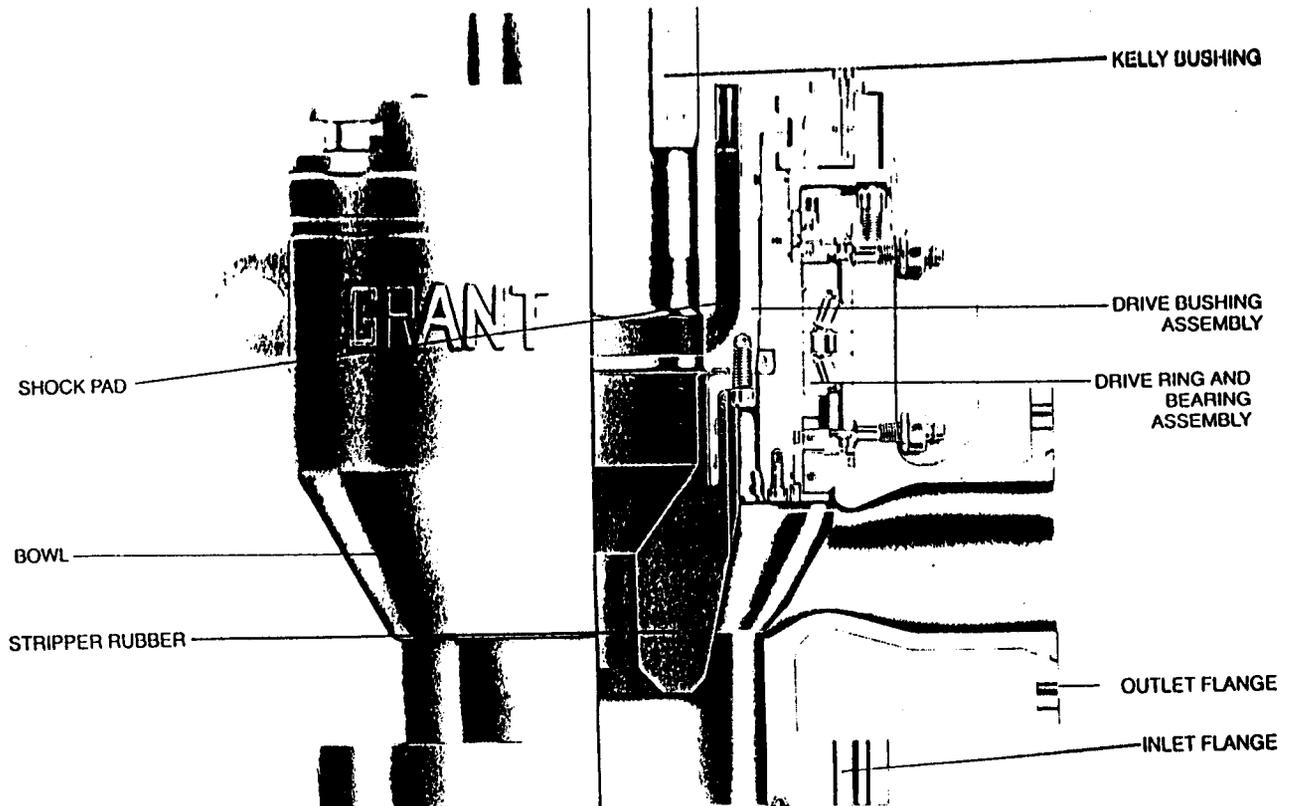
Grant Rotating Drilling Heads seal off drillstring components while diverting dust, mud, air/gas or steam away from the rig floor.

FEATURES:

- Rugged construction provides overall durability and long-range economy, proven in hundreds of thousands of hours of field use in all types of drilling environments.
- Integral lifting eyes allow ease of movement for quick hook-up to the BOP or other units.
- Stripping flexibility increased by available assortment of drive bushings/stripper rubbers for string components such as reamers and stabilizers.
- Automatic engagement/disengagement of the drive bushing by the kelly bushing as the kelly is run-in or picked-up.
- Drill bit passage, permitted with the removal of the drive bushing, is accomplished simply by loosening a single bolt clamp.
- Lateral shock loads from kelly cushioned by massive rubber insert.
- Geothermal and H₂S trim available.

Arma Geophysical Co., Inc.
#2 Deuel Fed.
ScSw Sec. 17, T21S R20E
Grand Co. Utah

Rotating Head Diagram



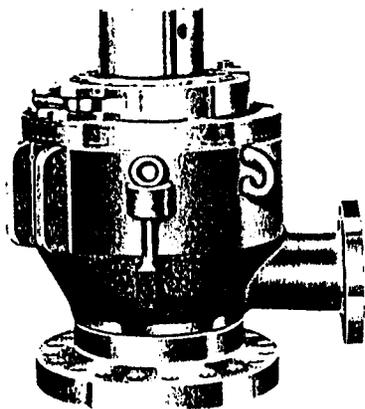
A-Z/GRANT INTERNATIONAL

GRANT ROTATING DRILLING HEADS

Model 7068

FEATURES:

- Integral body with both a side outlet and lower flange for mounting on BOP.
- Drive bushing/stripper rubber assembly will pass through 17½" rotary.
- 10" size available in "shorty" versions when space is limited beneath table.



SPECIFICATIONS FOR MODEL 7068

SIZE	LOWER FLANGE	MAXIMUM BORE	SIDE OUTLET	HEIGHT	
				W/STD. BUSHING	W/SHORT BUSHING
11"	11"-3000/5000# combination	11¼"	7½"-2000#	36"	29⅞"
11" SHORTY	11"-3000/5000# combination	11¼"	7" Threaded (Mnlo)	--	24¾"
13⅞"	13⅞"-3000#	14"	17½"-2000#	36"	29⅞"
13⅞"	13⅞"-5000#	13⅞"	9"-2000#	38"	31⅞"

KELLY BUSHINGS AVAILABLE: 3½" Hex or Square, 4¼" Hex or Square, and 5¼" Hex only.

STRIPPER RUBBERS AVAILABLE: 2⅞", 3½", 4½", 5", and 5½". (Stationary casing stripper rubbers from 6⅞" thru 10¾" on special order.) Other sizes on special order.

When ordering, specify: (1) Model Number, (2) Lower Flange Size, (3) Outlet Flange Size, (4) Kelly Size and Shape, (5) Drill Pipe Size, (6) Drilling Environment, and (7) High Temperature Model, if desired.

SPECIFICATIONS FOR MODEL 7368

SIZE	LOWER FLANGE	MAXIMUM BORE	SIDE OUTLET	HEIGHT
7⅞"	7⅞"-2000/3000/5000#	7⅞"	4⅞"-2000/3000# combination	23⅞"

KELLY BUSHING: 3½" Hex or Square

STRIPPER RUBBERS: 2⅞", 2⅞", and 3½". (Special stripper rubbers, such as for wireline, on order.)

When ordering, specify: (1) Model Number, (2) Lower Flange Size, (3) Outlet Flange Size, (4) Kelly Size and Shape, (5) Drill Pipe Size, (6) Drilling Environment, and (7) High Temperature Model, if desired.

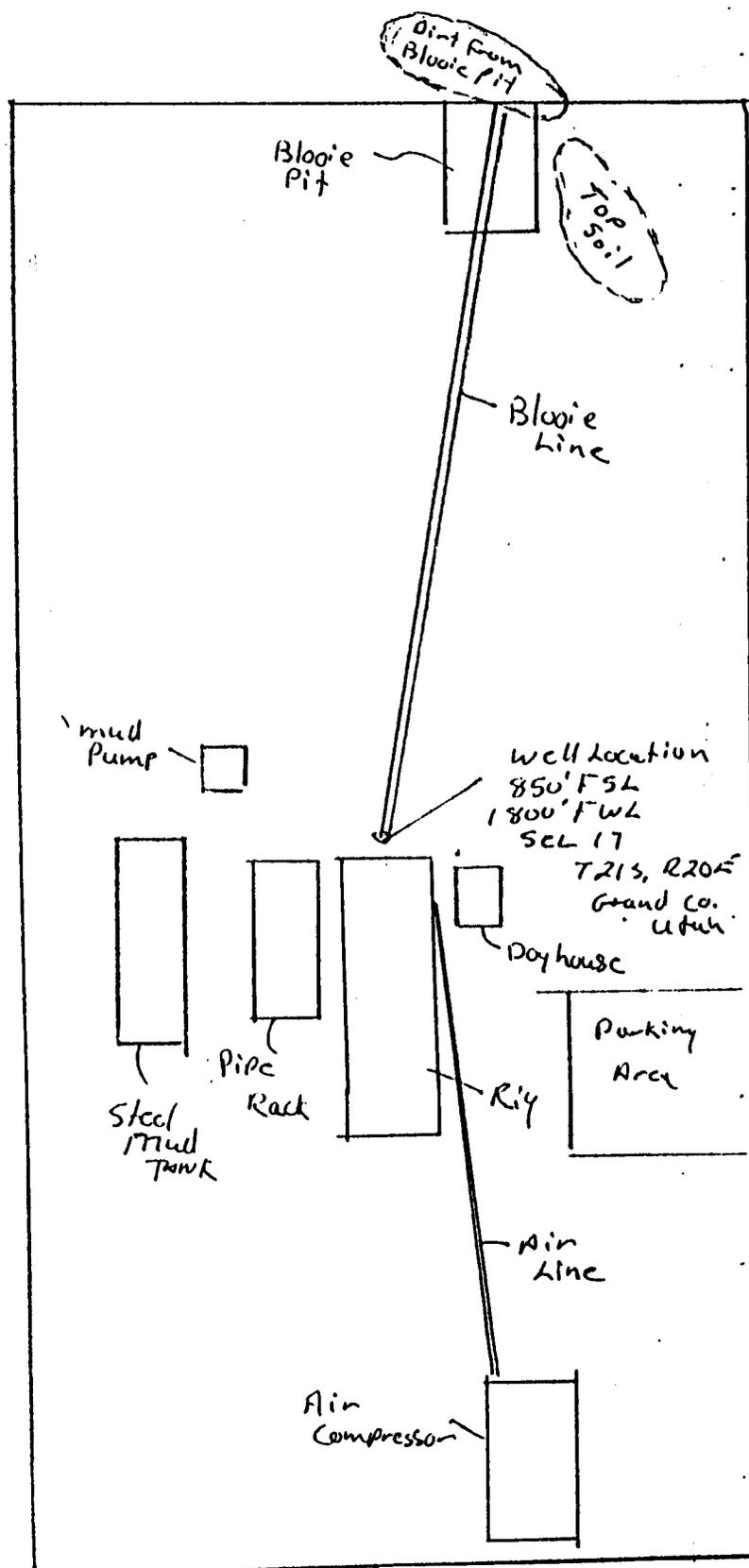
Model 7368



FEATURES:

- Same basic design as the larger models.
- Ideal for slim holes and workover jobs because height is only 23⅞".
- One piece drive bushing/stripper rubber assembly passes through 10½" rotary table.
- Available with 4⅞" flange or 7"-8 round thread outlet.

North

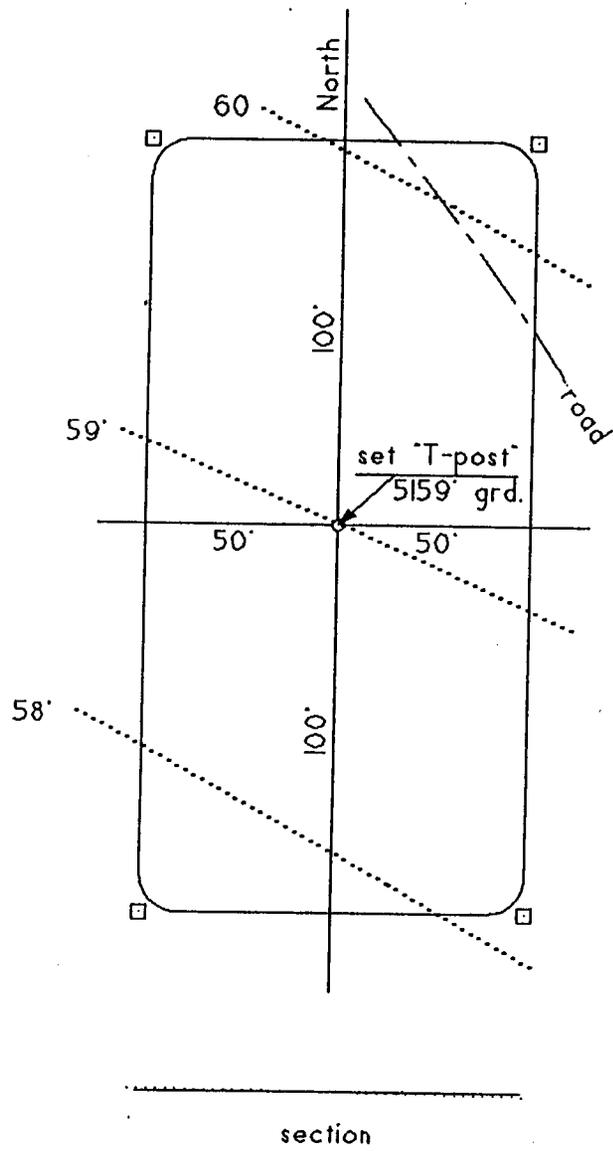
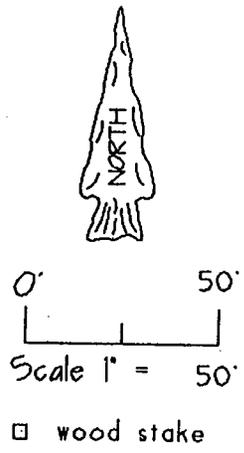


Scale 1" = 50'

Arma Geophysical Co., Inc.
#2 Deuel Fed.
Sec Sw Sec. 17, T21S R20E
Grand Co. Utah

Rig Layout Diagram

Deuel Fed # 2
well pad & section



**ARCHAEOLOGICAL SURVEY OF
ARMA GEOPHYSICAL COMPANY INC.
DEUEL FEDERAL #2 WELL PAD & ACCESS ROUTE
NEAR THOMPSON SPRINGS VICINITY
GRAND COUNTY, UTAH**

4-CAS REPORT 9616

by
Carol S. DeFrancia

**4-CORNERS ARCHAEOLOGICAL SERVICES
76 S. Main Street
Moab, Utah 84532
(801) 259-2777**

July 16, 1996

**FEDERAL ANTIQUITIES PERMIT 95UT62712
Utah State Permit No. U-96-FE-0389b**

Prepared For:

**Arma Geophysical Company Inc.
and Roger D. Teselle
1557 N. Mill Creek Road
Casper, WY 82601**

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ABSTRACT

The archaeological survey of Arma Geophysical Company's Deuel Federal #2 well location and access route was conducted by personnel of 4-Corners Archaeological Services on July 15, 1996. The project is located in the vicinity of Thompson Springs in Grand County, Utah, approximately thirty to thirty-five miles north of the town of Moab. A total of 21.3 acres were inventoried for cultural resources.

No cultural resources were found in the project area. Archaeological clearance is recommended.

INTRODUCTION

The archaeological survey of Arma Geophysical Company's Deuel Federal #2 well location and access route was conducted by Carol DeFrancia of 4-Corners Archaeological Services on July 15, 1996. The project is located along a floodplain region near Thompson Springs, Utah (Figure 1) on lands administered by the Bureau of Land Management, Grand Resource Area Office, Moab. The survey was requested by Mr. Roger Teselle, Petroleum Geologist with Arma Geophysical. Huddleston Surveying personnel will stake and flag the well pad prior to drilling activities. Over one-half mile (3300') of an access route was surveyed along an existing dirt road to the proposed location. A total of 21.3 acres were inventoried for cultural resources (Figure 2).

Principal federal legislation that is designed to conserve and protect cultural resources includes the Antiquities Act of 1906 (PL 52-209), the National Historic Preservation Act of 1966 (PL 89-665), the National Environmental Policy Act of 1969 (PL 91-190), the 1971 Executive Order No. 11593, the Archaeological and Historical Conservation Act of 1974 (PL 93-291), and the Archaeological Resource Protection Act (ARPA) of 1978 (PL 95-96).

No cultural resources were found in the project area and archaeological clearance is recommended.

PROJECT AREA

Map Reference: Thompson Springs, Utah 1991 (7.5' series)

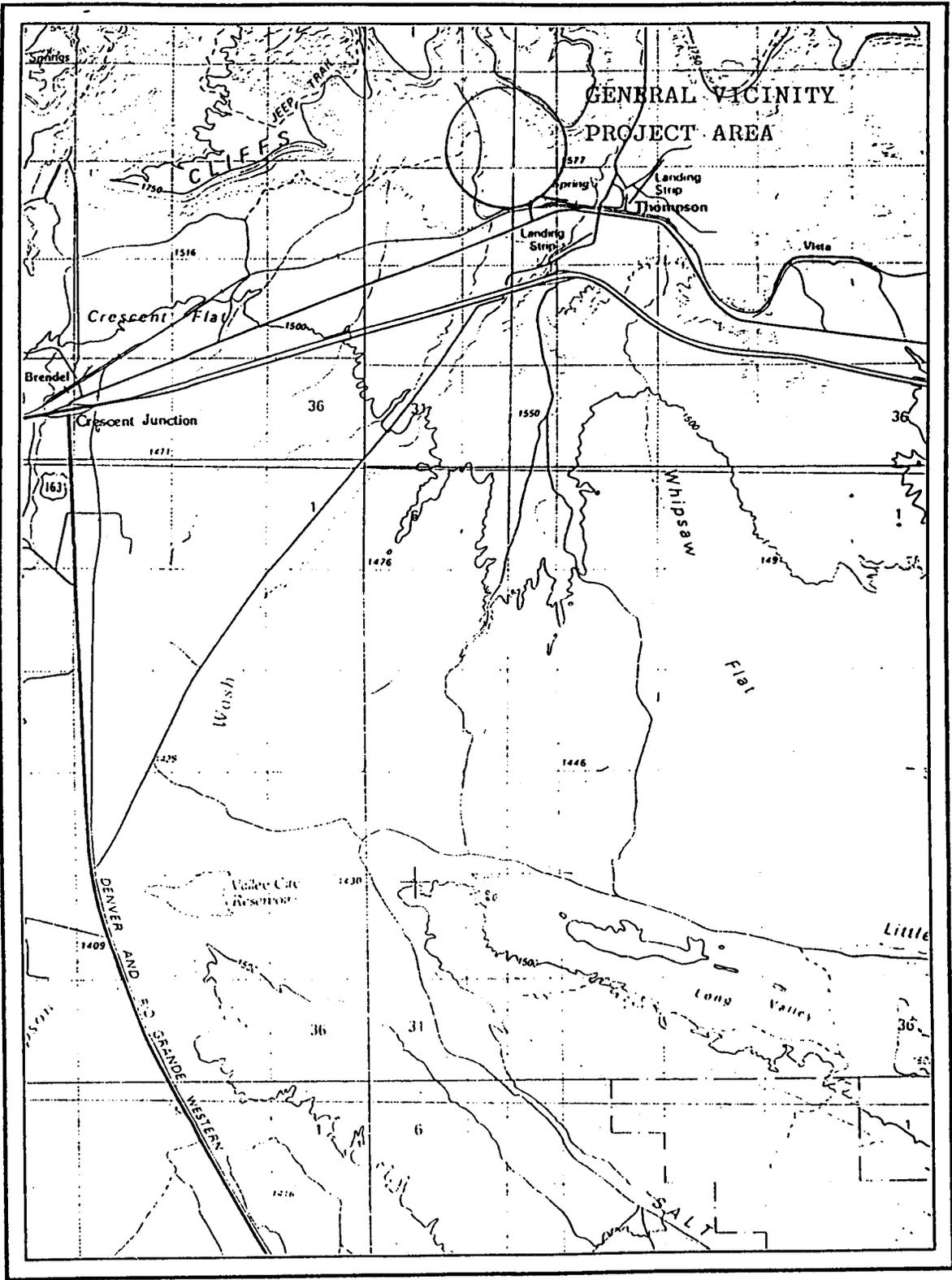
Total Project Area: 4.9 acres; area surveyed 21.3 acres

Deuel Federal #2 Well Pad

Legal Description: T21S, R20E: NW, SE, SW of section 17

Center Stake: 660' FSL, 1850' FWL

UTM Coordinates: (Surveyed Area)		Easting	Northing
	NW Corner	609550	4315210
	NE Corner	609760	4315180
	SE Corner	609710	4314880
	SW Corner	609510	4315010



General vicinity of project area
(Figure 1)

Project Area: Well Pad 200' x 100'; (.46 acres)

Surveyed Area: 660 x 660' (10 acres)

Results: No cultural resources found.

Access Route:

Legal Description: T21S, R20E: SE, SW of section 17;
NW 1/4, NE 1/4 of section 20

UTM Coordinates:		Easting	Northing
(Surveyed Area)	NW End	609610	4315100
	SE End	610250	4314240

Project Area: 3300' long, maximum 60' wide (4.9 acres)

Surveyed Area: 3300' x 150' (11.3 acres)

Results: No cultural resources found.

PHYSIOGRAPHY AND ENVIRONMENT

The project area is located in Grand County, Utah approximately thirty to thirty-five miles north of the town of Moab, along a floodplain region near Thompson Springs. The area lies in the Colorado Plateau physiographic province and is a structural element of the Mancos Shale Lowlands (Stokes 1977). The proposed well pad and access route lies along sandy alluvial deposits overlying Mancos Shale.

Vegetation along the floodplain is sparse and contains a cold desert shrub association consisting of shadscale, four-wing saltbush, snakeweed, rabbitbrush, crested wheat, russian thistle, pricklypear cactus, cheatgrass, and Indian ricegrass. A permanent water source in the area is Thompson Springs, located approximately two miles northeast of the location.

Reptilian, avian, and mammalian associations are consistent with those of the Upper Sonoran Life Zone throughout the Colorado Plateau.

PREVIOUS RESEARCH

A file search was conducted on July 12, 1996 at the BLM Grand Resource District Office in Moab. The results of the review indicated that a small number of oil and gas related surveys (Montgomery 1982, and Dechambre 1982) have been conducted in the vicinity during the early 1980's, and that only a few archaeological sites are documented within one to three miles from the project area. These sites are predominately found north along the Book Cliff area and east near Thompson Springs. Site types affiliated with the Fremont and Archaic occupation of the area range from small isolated features, and small to extensive open lithic scatters. Thompson Canyon, located a few miles to the northeast, contains abundant rock art panels associated with the Fremont cultural period (Gunnerson 1957).

EXAMINATION PROCEDURES

Prior to the field investigations the well pad was temporarily staked and flagged. A 660 x 660' area surrounding the proposed center stake (10 acres) was inventoried by walking a series of parallel transects spaced 15m apart. Two parallel zig-zag transects were walked along the 3300' of access route, covering a 150' wide corridor.

SURVEY RESULTS

No cultural resources were encountered in the project area.

CONCLUSION AND RECOMMENDATIONS

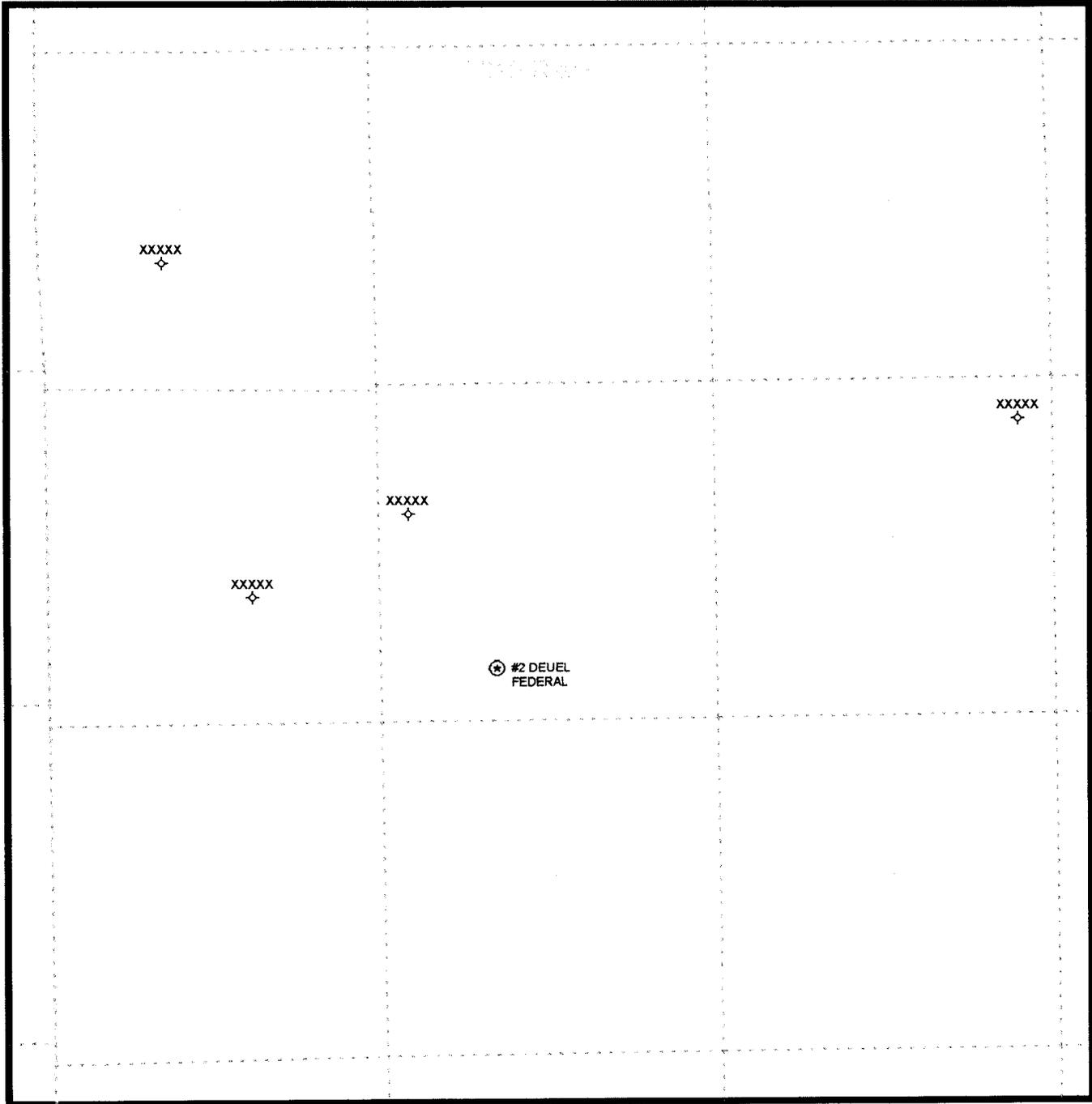
The archaeological survey of Arma Geophysical Company's Deuel Federal #2 well location and access route was conducted by personnel of 4-Corners Archaeological Services on July 15, 1996. The project is located along the floodplain near Thompson Springs in Grand County, Utah, approximately thirty to thirty-five miles north of the town of Moab. A total of 21.3 acres were inventoried for cultural resources.

No cultural resources were found in the project area. Archaeological clearance is recommended.

REFERENCES

- Dechambre, David and Susan Schock
1982 Archaeological Survey of Sefel Geophysicals
Thompson - Green River Seismic Survey, Grand
County, Utah. Northland Research Institute, Flagstaff.
- Gunnerson, James H.
1957 An Archeological Survey of the Fremont Area.
University of Utah Anthropology Papers, no. 20.
- Montgomery, Keith and Jacki Montgomery
1982 Arma Geophysical Seismic Corridor Survey
Near Thompson, Utah, in Grand County.
AERC Report 81-UT-179, Bountiful.
- Stokes, William Lee
1987 Geology of Utah. Occasional Paper Number 6. Utah
Museum of Natural History, University of Utah, Salt Lake City.

OPERATOR: ARMA GEOPHYSICAL
FIELD: WLDCAT
SEC, TWP, RNG: 17, T21S, R20E
COUNTY: GRAND
UAC: R649-3-2



PREPARED:
DATE: 11-SEPT-96

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK
 DRILL DEEPEN

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

2. NAME OF OPERATOR
 Arma Geophysical Co.

3. ADDRESS AND TELEPHONE NO.
 P.O. Box 1606 Casper, WY 82602 307-237-9337 or 307-472-3211

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface 850 FSL, 1800 FWL
 At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 1 mile northwest of Thompson Springs, Utah

16. NO. OF ACRES IN LEASE
 6717.78 acres

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

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

19. PROPOSED DEPTH
 2100'

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5159 GR

22. APPROX. DATE WORK WILL START*
 August 15, 1996

5. LEASE DESIGNATION AND SERIAL NO.
 U-55509

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

7. UNIT AGREEMENT NAME

8. FARMOR LEASE NAME, WELL NO.
 N/A

9. AP WELL NO.
 Dinet Federal #2

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., N., OR BLK. AND SURVEY OR AREA
 Sec. 17 T21S R20E

12. COUNTY OR PARISH 13. STATE
 Grand Utah

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
SEE DRILLING PLAN				

RECEIVED
 SEP 16 1996
 DIV. OF OIL, GAS & MINING



CONDITIONS OF APPROVAL ATTACHED

FLA... OF...
 GA... 4-A
 Date...

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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.

SIGNED Raymond T. Felt TITLE Agent DATE 7/22/96

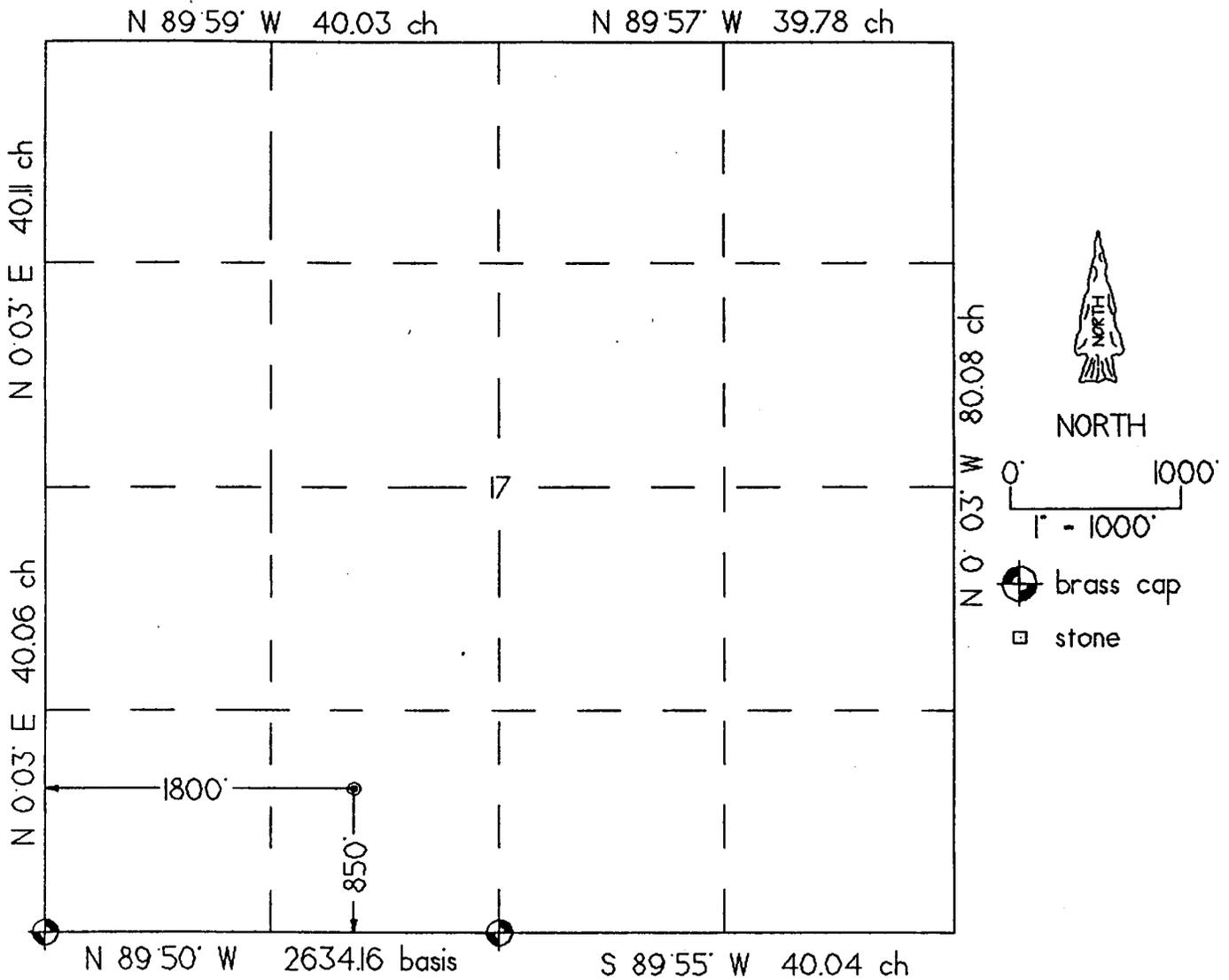
PERMIT NO. 43-019-31350 APPROVAL DATE _____

APPROVED BY /s/ Brad D Palmer TITLE Assistant Field Manager, Resource Management DATE SEP 1 1996

*See Instructions On Reverse Side

and willfully to make to any department or agency of the

Well Location Plat



Well Location Description

ARMA GEOPHYSICAL CO., INC.
 Deuel Fed # 2
 850' FSL & 1800' FWL
 Section 17, T.21 S., R.20 E., SLM
 Grand County, UT
 5159' grd. el. (from BM in Thompson 5145')



22 July 1996

Gerald G. Huddleston
 Gerald G. Huddleston, LS

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

SELF-CERTIFICATION STATEMENT

Be advised that ARMA Geophysical Co., Inc. is considered to be the operator of Well No. # 2 Deuel Federal, (1/4) SESW, Sec. 17, T. 21 S., R. 20 E., Lease UTU-55509, Grand County, Utah, 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. UT-1004.

(Principal Hilltop National Bank) via surety consent as provided for in 43 CFR 3104.2.

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

1906 JUN 27 11 11 AM
BUREAU OF LAND MANAGEMENT

Arma Geophysical Co.
Deuel Fed. No. 2
Lease U-55509
SE/SW Sec 17, T17S, R20E
Grand County, Utah

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 Arma Geophysical Co. 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 UT 1004 (Principal - Arma Geophysical Co.) via surety consent as provided for in 43 CFR § 3104.2.

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

This permit will be valid for a period of one year from the date of approval. After permit termination, a new application must be filed for approval.

All lease operations will be conducted in full compliance with applicable regulations (43 CFR § 3100), Onshore Oil and Gas Orders, lease terms, notices to lessees, 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 field representatives to insure compliance.

A. DRILLING PROGRAM

1. Used pipe is proposed for the surface casing. The wall thickness of used pipe must be at least 87-1/2% of the nominal thickness of new pipe and shall meet the API strength standards for new pipe. We reserve the right to reject used pipe upon inspection.
2. No electric log suite was proposed. In order to increase our knowledge of the geology of this area, a minimal electric log suite consisting of dual induction and SP or gamma must be run.
3. If production casing is set, it shall be cemented to at least 500 feet above the top of the Ferron Sandstone.
4. If a gas meter run is constructed, it will be located on lease within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and will be buried downstream of the meter until it leaves the pad. Meter runs will be housed and/or fenced. The gas meter shall be calibrated prior to first sales and shall be calibrated quarterly thereafter. All gas production and measurement shall comply with the provisions of 43 CFR § 3162.7-3, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.

B. SURFACE USE PLAN

1. No drilling operations will be authorized between April 15 and July 1, unless additional raptor surveys are completed prior to conducting operations to identify and avoid raptor nesting sites within 1/2 mile of the proposed action. Any peregrine falcon nesting areas identified within the project area will be avoided by 1 mile. These limitations do not apply to maintenance and operation of existing wells.
2. If the well is productive, drainage control (waterbars, ditches, berms, crowning) will be provided along the existing road as directed by the authorized officer.

C. REQUIRED APPROVALS, REPORTS AND NOTIFICATIONS

Required verbal notifications are summarized in Table 1, attached.

Building Location- Contact the BLM Natural Resource Protection Specialist at least 48 hours prior to commencing construction of location.

Spud- The spud date will be reported to BLM 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the Moab BLM Office within 24 hours after spudding, regardless of whether spud was made with a dry hole digger or big rig.

Daily Drilling Reports- Daily drilling reports shall detail the progress and status of the well and shall be submitted to the Moab BLM Office on a weekly basis.

Monthly Reports of Operations- In accordance with Onshore Oil and Gas Order No. 1, this well shall be reported on Minerals Management Service (MMS) Form 3160, "Monthly Report of Operations," starting the month in which operations commence and continuing each month until the well is physically plugged and abandoned. This report will be filed directly with MMS.

Sundry Notices- There will be no deviation from the proposed drilling and/or workover program without prior approval. "Sundry Notices and Reports on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR § 3162.3-2. Safe drilling and operating practices must be observed.

Drilling Suspensions- Operations authorized by this permit shall not be suspended for more than 30 days without prior approval of the Moab BLM Office. All conditions of this approval shall be applicable during any operations conducted with a replacement rig.

Undesirable Events- Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be immediately reported to the BLM in accordance with requirements of NTL-3A.

Cultural Resources- If cultural resources are discovered during construction, work that might disturb the resources is to stop, and the BLM is to be notified.

First Production- Should the well be successfully completed for production, the Moab BLM Office will be notified when the well is placed in producing status. Such notification may be made by phone, but must be followed by a sundry notice or letter not later than five (5) business days following the date on which the well is placed into production.

A first production conference will be scheduled as soon as the productivity of the well is apparent. This conference should be coordinated through the local BLM Field Office. The local BLM Field Office shall be notified prior to the first sale.

Well Completion Report- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the Moab BLM Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR § 3162.4-1. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. When requested, samples (cuttings and/or samples) will be submitted to the Moab BLM Office.

Venting/Flaring of Gas- Gas produced from this well may not be vented/flared beyond an initial, authorized test period of 30 days or 50 MMcf, whichever first occurs, without the prior, written approval of the BLM. Should gas be vented or flared without approval beyond the authorized test period, the well may be ordered shut-in until the gas can be captured or approval to continue the venting/flaring as uneconomic is granted. In such case, compensation to the lessor shall be required for that portion of the gas that is vented/flared without approval and which is determined to have been avoidably lost.

Produced Water- Produced waste water may be confined to an unlined pit for a period not to exceed 90 days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted to the Moab BLM Office for approval pursuant to Onshore Oil and Gas Order No. 7.

Off-Lease Measurement, Storage, Commingling- Prior approval must be obtained from the Moab BLM Office for off-lease measurement, off-lease storage and/or commingling (either down-hole or at the surface).

Plugging and Abandonment- If the well is completed as a dry hole, plugging instructions must be obtained from the Moab BLM Office prior to initiating plugging operations.

A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the Moab BLM Office within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR § 3162.6. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the BLM, or the appropriate surface managing agency.

TABLE 1

NOTIFICATIONS

Notify Jack Johnson (801) 259-2129 or Rich McClure (801) 259-2127 of the BLM, Moab Office in Moab, Utah, for the following:

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

1 day prior to spudding;

50 feet prior to reaching each casing setting depth;

3 hours prior to testing BOPE

If the person at the above number cannot be reached, notify the Moab Office at (801) 259-6111. If unsuccessful, contact one of the people listed below.

Well abandonment operations require 24 hour advance notice and prior approval. In the case of newly drilled dry holes, verbal approval can be obtained by calling the Moab Office at (801) 259-6111. If approval is needed after work hours, you may contact the following:

Eric Jones, Petroleum Engineer	Office:	(801) 259-2117
	Home:	(801) 259-2214

Gary Torres, Petroleum Engineer	Office:	(801) 587-2141
	Home:	(801) 587-2705



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

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

September 17, 1996

Arma Geophysical Company
P.O. Box 1606
Casper, Wyoming 82602

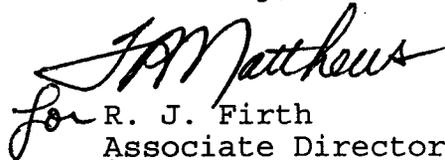
Re: #2 Deuel Federal Well, 850' FSL, 1800' FWL, SE SW,
Sec. 17, T. 21 S., R. 20 E., Grand County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-019-31350.

Sincerely,


for R. J. Firth
Associate Director

lwp

Enclosures

cc: Grand County Assessor
Bureau of Land Management, Moab District Office



Operator: Arma Geophysical Company
Well Name & Number: #2 Deuel Federal
API Number: 43-019-31350
Lease: U-55509
Location: SE SW Sec. 17 T. 21 S. R. 20 E.

Conditions of Approval

1. General

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. Notification Requirements

Notify the Division within 24 hours following spudding the well or commencing drilling operations. Contact Jimmie Thompson at (801)538-5336.

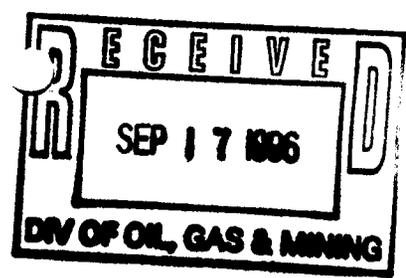
Notify the Division prior to commencing operations to plug and abandon the well. Contact Frank Matthews at (801)538-5334 or Mike Hebertson at (801)538-5333.

3. Reporting Requirements

All required reports, forms and submittals shall be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.



ARCH W. DEUEL
Independent — Oil



PETROLEUM BUILDING • SUITE 203 • P.O. Box 1606 • CASPER, WYOMING 82602 • (307) 237-9337 • (307) 234-3168

111 W. 2nd Street, Suite 203, Casper, Wyoming 82601 307-237-1036 (fax)

September 16, 1996

Re: ARMA Geophysical Company, Inc.
#2 Deuel-Federal
SE/4SW/4 Sec. 17
T. 21 S., R. 20 E.
Grand County
U T A H

State of Utah
Department of Natural Resources
Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114

Attention: Mike Hebertson

Gentlemen:

Enclosed you will find the front page of the Application for Permit to Drill, which has been approved by the Bureau of Land Management by the Assistant Field Manager, Resource Management, in Moab. In addition, the BLM's Conditions of Approval are attached so that, with previous submission of documents, your copy of the APD should now be complete.

We very much would appreciate your handling the assignment of an API number as soon as possible, as the drilling contractor wishes to begin operations immediately.

If you should have any questions, please do not hesitate to call me at the letterhead phone number, or Roger TeSelle at 307-472-3211.

Very truly yours,

ARCH W. DEUEL

Dana H. Deuel

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK
 DRILL DEEPEN

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

2. NAME OF OPERATOR
 Arma Geophysical Co.

3. ADDRESS AND TELEPHONE NO.
 P.O. Box 1606 Casper, WY 82602 307-237-9337 or 307-472-3211

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface 850 FSL, 1800 FWL
 At proposed prod. zone Same

5. LEASE DESIGNATION AND SERIAL NO.
 U-55509

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

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME, WELL NO.
 N/A

9. AP WELL NO.
 Dinet Federal #2

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., N., OR BLK. AND SURVEY OR AREA
 Sec. 17 T21S R20E

12. COUNTY OR PARISH
 Grand

13. STATE
 Utah

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 1 mile northwest of Thompson Springs, Utah

16. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any)
 3350'

16. NO. OF ACRES IN LEASE
 6717.78 acres

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

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

19. PROPOSED DEPTH
 2100'

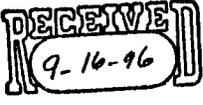
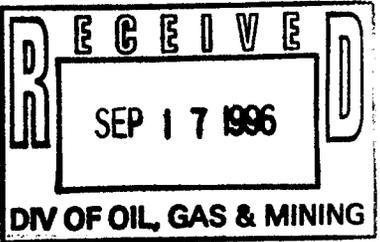
20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5159 GR

22. APPROX. DATE WORK WILL START*
 August 15, 1996

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
SEE DRILLING PLAN				



CONDITIONS OF APPROVAL ATTACHED

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

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, 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 [Signature] TITLE Agent DATE 7/22/96

PERMIT NO. _____ APPROVAL DATE _____

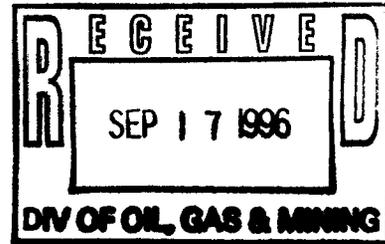
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL, IF ANY:
 APPROVED BY [Signature] TITLE Assistant Field Manager, Resource Management DATE 9/14/96

*See Instructions On Reverse Side

and willfully to make to any department or agency of the

Arma Geophysical Co.
Deuel Fed. No. 2
Lease U-55509
SE/SW Sec 17, T17S, R20E
Grand County, Utah



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 Arma Geophysical Co. 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 UT 1004 (Principal - Arma Geophysical Co.) via surety consent as provided for in 43 CFR § 3104.2.

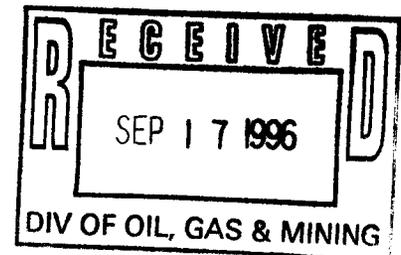
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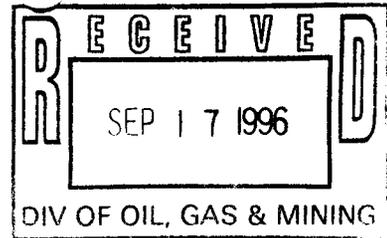
This permit will be valid for a period of one year from the date of approval. After permit termination, a new application must be filed for approval.

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A. DRILLING PROGRAM

1. Used pipe is proposed for the surface casing. The wall thickness of used pipe must be at least 87-1/2% of the nominal thickness of new pipe and shall meet the API strength standards for new pipe. We reserve the right to reject used pipe upon inspection.
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B. SURFACE USE PLAN

1. No drilling operations will be authorized between April 15 and July 1, unless additional raptor surveys are completed prior to conducting operations to identify and avoid raptor nesting sites within 1/2 mile of the proposed action. Any peregrine falcon nesting areas identified within the project area will be avoided by 1 mile. These limitations do not apply to maintenance and operation of existing wells.
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Sundry Notices- There will be no deviation from the proposed drilling and/or workover program without prior approval. "Sundry Notices and Reports on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR § 3162.3-2. Safe drilling and operating practices must be observed.

Drilling Suspensions- Operations authorized by this permit shall not be suspended for more than 30 days without prior approval of the Moab BLM Office. All conditions of this approval shall be applicable during any operations conducted with a replacement rig.

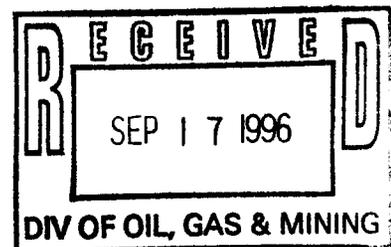
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Cultural Resources- If cultural resources are discovered during construction, work that might disturb the resources is to stop, and the BLM is to be notified.

First Production- Should the well be successfully completed for production, the Moab BLM Office will be notified when the well is placed in producing status. Such notification may be made by phone, but must be followed by a sundry notice or letter not later than five (5) business days following the date on which the well is placed into production.

A first production conference will be scheduled as soon as the productivity of the well is apparent. This conference should be coordinated through the local BLM Field Office. The local BLM Field Office shall be notified prior to the first sale.

Well Completion Report- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the Moab BLM Office not later than thirty (30) days after completion of the well or after completion of operations being performed, in accordance with 43 CFR § 3162.4-1. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. When requested, samples (cuttings and/or samples) will be submitted to the Moab BLM Office.



Venting/Flaring of Gas- Gas produced from this well may not be vented/flared beyond an initial, authorized test period of 30 days or 50 MMcf, whichever first occurs, without the prior, written approval of the BLM. Should gas be vented or flared without approval beyond the authorized test period, the well may be ordered shut-in until the gas can be captured or approval to continue the venting/flaring as uneconomic is granted. In such case, compensation to the lessor shall be required for that portion of the gas that is vented/flared without approval and which is determined to have been avoidably lost.

Produced Water- Produced waste water may be confined to an unlined pit for a period not to exceed 90 days after initial production. During the 90 day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted to the Moab BLM Office for approval pursuant to Onshore Oil and Gas Order No. 7.

Off-Lease Measurement, Storage, Commingling- Prior approval must be obtained from the Moab BLM Office for off-lease measurement, off-lease storage and/or commingling (either down-hole or at the surface).

Plugging and Abandonment- If the well is completed as a dry hole, plugging instructions must be obtained from the Moab BLM Office prior to initiating plugging operations.

A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the Moab BLM Office within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR § 3162.6. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the BLM, or the appropriate surface managing agency.

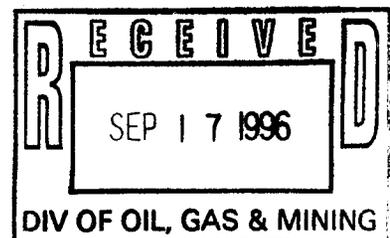


TABLE 1

NOTIFICATIONS

Notify Jack Johnson (801) 259-2129 or Rich McClure (801) 259-2127 of the BLM, Moab Office in Moab, Utah, for the following:

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

1 day prior to spudding;

50 feet prior to reaching each casing setting depth;

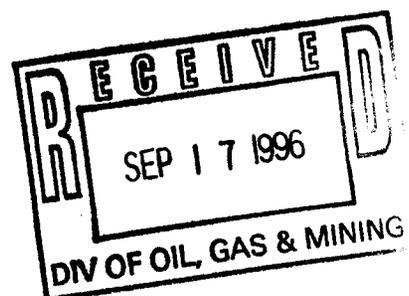
3 hours prior to testing BOPE

If the person at the above number cannot be reached, notify the Moab Office at (801) 259-6111. If unsuccessful, contact one of the people listed below.

Well abandonment operations require 24 hour advance notice and prior approval. In the case of newly drilled dry holes, verbal approval can be obtained by calling the Moab Office at (801) 259-6111. If approval is needed after work hours, you may contact the following:

Eric Jones, Petroleum Engineer	Office:	(801) 259-2117
	Home:	(801) 259-2214

Gary Torres, Petroleum Engineer	Office:	(801) 587-2141
	Home:	(801) 587-2705



DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

Name of Company: ARMA GEOPHYSICAL CO. INC.

Well Name: # 2 DEUEL FEDERAL

Api No. 43-019-31350

Section 17 Township 21S Range 20E County GRAND

Drilling Contractor PROPETROCO

Rig #: 1

SPUDDED:

Date: 9/20/96

Time: _____

How: ROTARY

Drilling will commence: _____

Reported by: DAYNA DEUEL

Telephone #: 1-307-237-9337

Date: 9/23/96 Signed: JLT

Telephone No.
(307) 472-3211

ROGER D. TESELLE
Petroleum Geologist
1557 North Mill Creek Road
Casper, Wyoming 82604

FAX
(307) 472-1020

October 8, 1996

State of Utah
Department of Natural Resources
Division of Oil, Gas, and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Attn: Mr. Jim Thompson

Re: Completion Reports
2 Deuel Federal
SESW Sec. 17, T21S R20E
Grand Co., Utah

Dear Mr. Thompson,

Enclosed is a copy of the Daily Drilling Report, Sample Log, Geologic Summary, and Form 3160-5 for the above captioned well. These have also been submitted to the BLM in Moab.

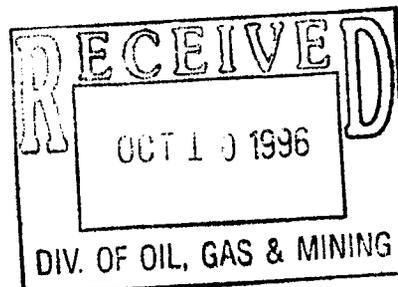
I visited the location on October 4, 1996. The dry hole marker has been installed, but the pits have not been back-filled and final clean-up of the location has not been done. Terry Leach will complete the clean-up as soon as possible. Re-seeding of the location will be done after November 1, 1996 as stated in the APD.

Please let me know if I have failed to file any appropriate forms or information.

Sincerely,



Roger D. TeSelle



Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE

1. Type of Well
 Oil Well Gas Well Other Exploratory

2. Name of Operator
 ARMA Geophysical Company, Inc.

3. Address and Telephone No. (307) 472-3211
 P.O. Box 1606 Casper, WY 82602 (307) 237-9337

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
 1800' FWL, 850' FSL
 SESW, Sec. 17, T21S - R20E

5. Lease Designation and Serial No.

UTU-55509

6. If Indian, Allottee or Tribe Name

NA

7. If Unit or CA, Agreement Designation

UTU-75544X

8. Well Name and No.

#2 Deuel - Fed.

9. API Well No.

43-019-31350

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

Grand Co., Utah

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

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input checked="" type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other _____
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

(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 well was P & A as follows:

Cement from TD (2040') to 1880'; 9# mud from 1880' to 326'; cement from 326' to 226'; 9# mud from 226' to 50'; cement from 50' to surface. A regulation dry hole marker with well identification has been installed.

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

Signed: [Signature]

Title Agent

Date 10-08-96

(This space for Federal or State office use)

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

Geologic Summary

ARMA Geophysical Company, Inc.

#2 Deuel Federal

API No. 43-019-31350

SESW Section 17 T21S R20E

Grand County, Utah

Lease Number UTU-55509

Blaze Unit Area

Unit No. UTU-75544X

The #2 Deuel Federal was drilled as a wildcat well in the Blaze Unit. The well was spudded on September 20, 1996 and completed as a dry hole on September 25, 1996. Total depth of the well was 2,040 feet. The Ferron Sandstone Member of the Mancos Shale was penetrated at a depth of 1,930 feet and did not have any shows.

Air was used as the drilling fluid from surface to total depth, in order to fully evaluate any gas shows and minimize formation damage. A minor gas show was observed after a bit trip with very small flare of short duration. No water of any significance was observed through the drilling of the well. A water show was observed at a depth of 90' while drilling surface hole, which dried up immediately.

The well was not logged, but the samples tied closely to the lithology in the Texaco "Y" well located in NWSE Section 18, T21S R20E and the Premium Oil #1 Walvin located in SWNW Section 17 T21S R20E. A detailed sample description of well cuttings is included with this report. The Premium Oil #1 Walvin well reported a water zone from 225'-229' which was not encountered in the #2 Deuel Fed.

The #1 Deuel Fed. was drilled in SESE Section 29 T21S R20E using air drilling methods and had several gas shows in the Mancos Shale, but no reservoir development. The gas shows were not observed in the Deuel #2 well which was drilled in an area of potential reservoir development. The lack of gas generation in the area resulted in a dry hole.

The Deuel #2 well was plugged and abandon on September 26, 1996.

Roger D. TeSelle
Petroleum Geologist
1557 N. Mill Creek Road
Casper, Wyoming 82604

ARMA Geophysical Company, Inc.
#2 Deuel Federal
SESW Section 17 T21S R20E
Grand County, Utah

Daily Drilling Report

Date

- 9/20/96 Spud pilot hole for surface casing at 9:15 AM drill 6 1/4" hole to 320'. Encountered small amount of water at depth of 90'. Water dried up. SDFN
- 9/21/96 Ream 6 1/4" hole to 8 3/4" to depth of 280'. Ran 276' J-55 7" casing. Cement with 38 sx Class G cement. Clean returns to surface. SDFN
- 9/22/96 Nipple up and test BOP. Test to 1500# held OK. Drill 6 1/4" hole to depth of 620'
- 9/23/96 Drill to 1480'. Made 860' in 11 hrs. SDFN
- 9/24/96 Drill to 1550'. Trip for bit . Drill to 1880' . SDFN
- 9/25/96 Drill to 2040'. Reached TD at 11:15 AM. Call for plugging orders. Gary Torres, BLM , gave pluffing orders as Cement from TD to 1880', 9# mud from 1880' to 326', cement from 326' to 226' 9# mud from 226' to 50', cement from 226' to surface.
- 9/26/96 Finish P&A

ARMA Geophysical Company, Inc.
 #2 Deuel Federal
 SESW Section 17, T21S R20E
 Grand County, Utah

Sample Description

Depth	Lithology	Description	Comments
Surface		Re-worked Mancos Shale and sandstone	
20		Shale Med gry.	
40		Same as Above	
60		Same as Above	
80		Same as Above	Sli show water at 90'
100		Same as Above	wtr. dried up
120		Same as Above	
140		Same as Above	
160		Same as Above	
180		Same as Above	
200		Same as Above	
220		Same as Above	
240		Same as Above	
260		Same as Above	
280		Same as Above	Set Surface casing at 276'
300		Same as Above	with 38 sacks class G
320		Same as Above	cement
340		Sh. med. to drk gry	
360		Same as Above	
380		Same as Above	
400		Same as Above	
420		Sh. as above, some lt. gry Ls.	
440		Sh. drk gry	
460		Same as Above	
480		Same as Above	
500		Same as Above	
520		Sh. med to drk gry, sli sandy	
540		Same as Above	
560		Sh, as above, occ. lt. gry Ss.	
580		As above, less Ss	
600		Same as Above	
620		Same as Above	
640		Same as Above	
660		Sh. as above, occ. lt gry Ss, soft	
680		Sh. drk gry, some white specks	
700		Sh drk gry-black, hard	
720		Same as Above	
740		Same as Above	
760		Same as Above	
780		Same as Above	
800		Same as Above	
820		Same as Above	
840		Same as Above	
860		Same as Above	
880		Same as Above	
900		Same as Above	
920		Same as Above	
940		Same as Above	
960		Same as Above	
980		Same as Above	
1000		Sh. drk gry to black, sli sandy	
1020		Sh, blk, soft	
1040		Same as Above	
1060		Same as Above	
1080		Same as Above	
1100		Same as Above	
1120		Sh, as above, trace aragonite	
1140		Sh, blk, soft	
1160		Same as Above	
1180		Sh, blk, soft, tr. pyrite	

1200	=====	Same as Above	
1220	=====	Same as Above	
1240	=====	Sh, drk gry to black, sli sandy	
1260	=====	Same as Above	
1280	=====	Sh, drk gry to black, sli sandy, tr aragonite	
1300	=====	Sh, drk gry to blk., tr. pyrite, some white specks	
1320	=====	Sh, as above, tr. aragonite	
1340	=====	Same as Above	
1360	=====	Sh, as above, med gry vfg Ss, tr pyrite	
1380	=====	Sh, as above	
1400	=====	Sh, as above, sli sandy	
1420	=====	As above w/ Fe st Sitst.	
1440	=====	Sh, as above, occ vfg lt gry Ss, tite	
1460	=====	Sh, drk gry, white specks, sandy, tr. aragonite	
1480	=====	Sh, drk gry to blk, sandy, tr aragonite	
1500	=====	Same as Above	
1520	=====	Sh as above, occ. lt. gry Sitst, tr pyrite	
1540	=====	Same as Above	Trip for bit at 1550'
1560	=====	Sh, as above, vfg ss, tr pyrite	minor show of gas
1580	=====	Sh, as above, less Ss	
1600	=====	Sh, blk, tr aragonite	
1620	=====	Same as Above	
1640	=====	Same as Above	
1660	=====	Same as Above	
1680	=====	Same as Above	
1700	=====	Same as Above	
1720	=====	Same as Above	
1740	=====	Sh, drk gry to blk, tr. lt. gry Sitst, tr aragonite	
1760	=====	Same as Above	
1780	=====	Sh, blk, hard	
1800	=====	Sh, as above, occ. lt gry vfg tite Ss	
1820	=====	Same as Above	
1840	=====	Same as Above	
1860	=====	Sh, blk, sli sandy	
1880	=====	Same as Above	
1900	=====	Sh, drk gry to blk, occ vfg lt gry Ss, tite	
1920	=====	Sh, drk gry to blk	
1940	=====	Ss, Vfg, tite, white to tan	Top of Ferron Sandstone
1960	=====	Sh, drk gry, occ Ss as above	at 1930'
1980	=====	Ss, Fe stain, vfg, tite, white to tan	
2000	=====	Sh, blk, occ Ss as above	
2020	=====	Sh, drk gry to blk	
2040	=====	Same as Above	Total depth 2040'

OPERATOR ARMA GEOPHYSICAL COMPANY, INC. OPERATOR ACCT. NO. N 0315
 ADDRESS c/o Arch W. Deuel
P. O. Box 1606
Casper, WY 82602

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	99998	43-019-31350	#2 Deuel-Federal	SESW	17	21S.	20E.	Grand	9-20-96	

WELL 1 COMMENTS: This well is located on Federal Oil and Gas Lease UTU-55509. In addition, it is the obligation well for the Blaze Unit UTU-75544X, a Federal Exploratory Unit. THIS WELL WAS PLUGGED AND ABANDONED ON 9-26-96. NO FURTHER REPORTING SHOULD BE NECESSARY.

WELL 2 COMMENTS: *Entity fr. 99999 off 9-26-96. Jec*

WELL 3 COMMENTS:

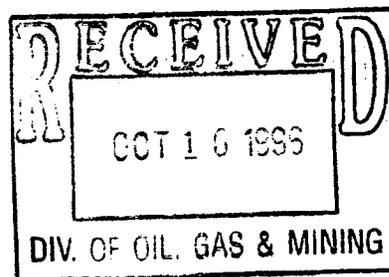
WELL 4 COMMENTS:

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)



ARMA GEOPHYSICAL COMPANY, INC.

Dana H. Deuel
Signature Dana H. Deuel

Agent _____ Title _____
Date 10-2-96

Phone No. (307) 237-9337