

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS WELL LOG ELECTRIC LOGS FILE **X** AERIALS PLANT

DATE FILED **11-21-91**

LAND FEE & PATENTED STATE LEASE NO PUBLIC LEASE NO **UTU-49979** INDIAN

DRILLING APPROVED **10-15-92 (EXCEPTION LOCATION)**

SPOOLED IN

COMPLETED PUT TO PRODUCTION

INITIAL PRODUCTION

GRAVITY API

GOR

PRODUCING ZONES

TOTAL DEPTH

WELL ELEVATION

DATE ABANDONED **04-07-94**

FIELD **WILDCAT**

UNIT

CITY **SAN JUAN**

NO **KANE SPRINGS CANYON FEDERAL 1-6** API NO. **43-037-31691**

LOCATION **1325' FNL** FT FROM (IN) (S) LIP **1247' FWL** FT FROM (E) (W) LINE **C-NW** 14 - 14 SEC **6**

BHL: 1320' FNL **1320' FEL** **C-NE**

TWP RGE SEC OPERATOR

TWP RGE SEC OPERATOR

29S 22E 6 DOUBLE EAGLE PETROLEUM



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Hangerter
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 84100 1203
801 538 5340

October 28, 1991

TO: Dianne R. Nielson, Director

FROM: Christopher J. Kierst, Oil and Gas Inspector 

SUBJECT: Report on the 10/23/91 Pre-site Inspection of the Double Eagle Petroleum and Mining Kane Spring Federal 1-6 Well Location, 1325 FNL, 1247 FWL, S. 6, T.29 S., R 22 E., San Juan County, Utah

This Pre-site Inspection meeting started at 2.45 PM at the pad and was attended by Robert M. Anderson of Heitzman Drill-Site Services, representing the operator, Elmer Duncan and Salvator Vinticinque of the Bureau of Land Management, Grand Resource Area, and myself. The location sits in the west-facing cove of an low, arcuate hill. An old road passes by within about 300' to the northwest of the pad. It may be upgraded by removal of the center bar between the tire tracks and widening to 18' with the soil to be stored on the downwind side of the road and will be watered to keep the dust down. Mr. Duncan will check to see if it is a county road. A short (~ 300' long, 16' wide) spur road will reach the pad from the west northwest. The hill is probably a stabilized sand dune, perhaps developed around a knob of Jurassic Entrada Sandstone and is sparsely dotted with low sagebrush. Mr. Duncan estimated 6" of topsoil. He questioned the need for such a capacious reserve pit (75' X 240'), and suggested that it may require blasting to reach its 10' depth. The pit will be lined but no liner has been settled upon yet and must be approved after the pit is dug and before it is used. Mr. Anderson estimated that there would be about 30 truckloads of equipment to set up the rig. Able trucking may provide the water hauling service and the water source. An alternative water source may be Mr. Cecil Fowler in the La Sal area.

Mr. Anderson said the well is to be a horizontal penetration of the Cane Creek pay. The drilling program calls for an invert oil mud system from mud-up depth to T.D. to keep the Pennsylvanian Paradox Salt section in gauge. The derrick will be visible from the road to the Hatch Point Campground at a distance of about 2.5 miles. Mr. Duncan requested a more accurate figure for the amount of rig-up and drilling crew traffic for inclusion in the Environmental Assessment (E.A.)

Page 2

Dianne R. Nielson - Memo

October 28, 1991

A January, 1992 spud date is anticipated at the earliest because of the normal commentary and waiting periods. Mr. Duncan will be using the nearby Giant Oil Co. #1 Federal (see S.14, T.29 S., R.21 E.) proposed well as a model for the E.A., since the wells are so close and in similar circumstances. A copy of the pad configuration, location plat, and locator maps are included. Seed mixtures will be the same or very similar to those for use on the model well.

It is likely that this well will not be drilled under the current Grand Resource Area Environmental Impact Statement (E.I.S.) but will be relegated to the status of a well awaiting review of its A.P.D. after the new E.I.S. is implemented (1.5 to 2 years hence). The operator has not provided much of the information normally available to the operator's representative at the pre-site meeting and so it is apparent to the B.L.M. representatives and myself that it will take some time to generate the A.P.D. and other related paperwork. Considerable planning remains to be done for this well to be approved.

ldc

cc. R J Firth

F.R Matthews

WIN1

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1 TYPE OF WORK
 DRILL DEEPEN PLUG BACK

2 NAME OF OPERATOR
 Double Eagle Petroleum & Mining Company

3 ADDRESS OF OPERATOR
 P. O. Box 766, Casper, Wyoming 82602-0766

4 LOCATION OF WELL (Report location clearly and in accordance with any State requirements*)
 At surface
 1325' FNL, 1247' FWL (C NW $\frac{1}{4}$) Section 6, T29S, R22E
 A' proposed prod zone
 1320' FNL, 1320' FEL (C NE $\frac{1}{4}$) Section 6, T29S, R22E

14 DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approximately 25 Miles Southwest of Moab, Utah

10 NO OF ACRES IN LEASE
 2225.12

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

17 NO OF ACRES ANTIONED 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
 10,940' MD C R C N

20 ROTARY OR CABLE TOOLS
 Rotary

21 ELEVATIONS (Show whether DF, RT, GR, etc.)
 6196' GR

22 APPROX DATE WORK WILL START*
 January 1, 1992

5 LEASE DESIGNATION AND SERIAL NO
 UTU-49979

6 IF INDIAN, ALLOTTEE OR TRIBE NAME
 Not Applicable

7 UNIT AGREEMENT NAME
 Not Applicable

8 NAME OR LEASE NAME
 Kane Springs Canyon Fed.

9 WELL NO
 1-6

10 FIELD AND POOL, OR WILDCAT
 Wildcat (OO)

11 SEC, T, R, M, OR BLK AND SURVEY OR AREA
 Section 6, T29S, R22E

12 COUNTY OR PARISH 13 STATE
 San Juan Utah

23 PROPOSED CASING AND CEMENTING PROGRAM - Measured Depth

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" K-55	36.0#	0-2500'	927 sx Circ. to Surface *
8-3/4"	5-1/2" J-55	15.5#	0-5500'	267 sx Class "G"
	N-80	20.0#	5500-8100'	
	J-55	17.0#	8100-T.D.	

* Cement volumes may change due to hole size
 Calculate from Caliper log.

EIGHTY-POINT RESOURCE PROTECTION PLAN ATTACHED.

I hereby certify that Double Eagle Petroleum & Mining Company is authorized by the proper Lease Interest Owners to conduct lease operations associated with this Application for Permit to Drill the Kane Springs Canyon Federal #1-6, Federal Lease # UTU-49979. Bond coverage pursuant to 43 CFR 3104 for lease activities will be provided by Double Eagle Petroleum & Mining Company, who will be responsible for compliance with all the terms and conditions of that portion of the lease associated with this Application for Permit to Drill.

NOV 21 1991

DIVISION OF
 OIL GAS & MINING

15 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 Richard B. Laudon TITLE President DATE Nov. 19, 1991
 (This space for Federal of State office use)

PERMIT NO 43-037-31691 APPROVAL DATE 10/15/92
 APPROVED BY [Signature] TITLE [Signature]
 CONDITIONS OF APPROVAL IF ANY ALL SPACING 649-3-3

*See Instructions On Reverse Side

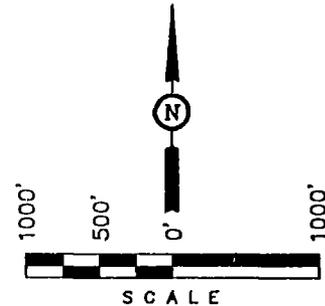
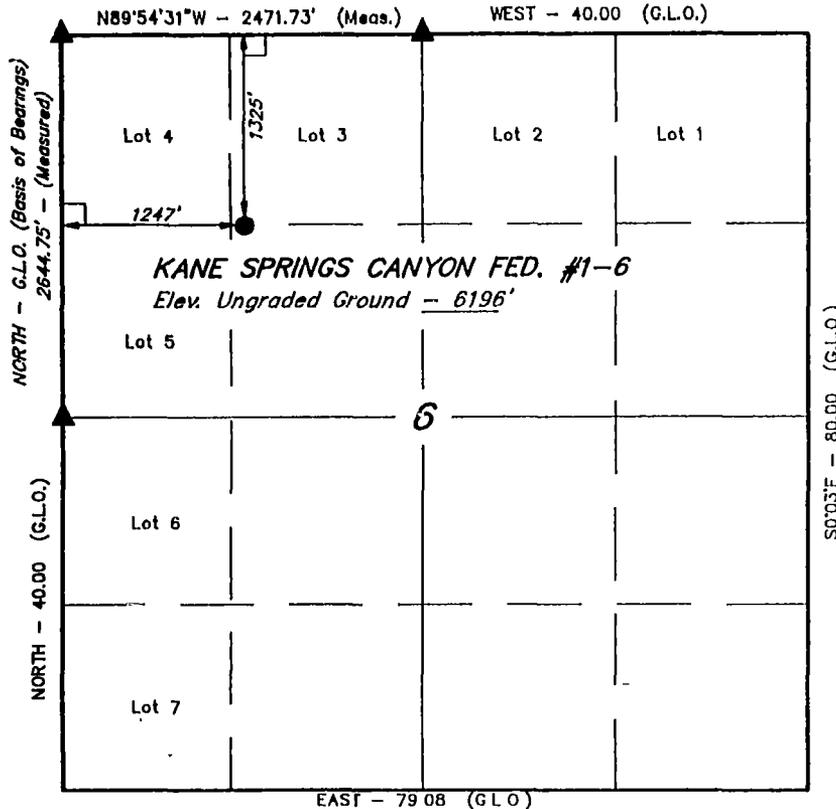
**DOUBLE EAGLE PETROLEUM
& MINING CO.**

T29S, R22E, S.L.B.&M.

Well Location, KANE SPRINGS CANYON FED. #1-6, located as shown in the NW 1/4 of Section 6, T29S, R22E, S.L.B.&M. San Juan County, Utah.

BASIS OF ELEVATION

CANE TRIANGULATION, LOCATED IN THE NW 1/4 OF SECTION 6, T29S, R22E, S.L.B.&M. TAKEN FROM THE EIGHTMILE ROCK QUADRANGLE, UTAH, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6224 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Robert L. Kray
REGISTERED LAND SURVEYOR
REGISTRATION NO. 5708
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 9-27-91
PARTY D.A K.L. MDA	REFERENCES G.L.O. PLAT
WEATHER WARM WINDY	FILE DOUBLE EAGLE PETROLEUM & MINING CO.

▲ = SECTION CORNERS LOCATED. (Brass Caps)

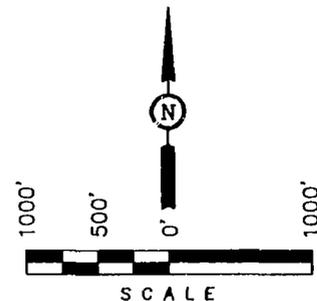
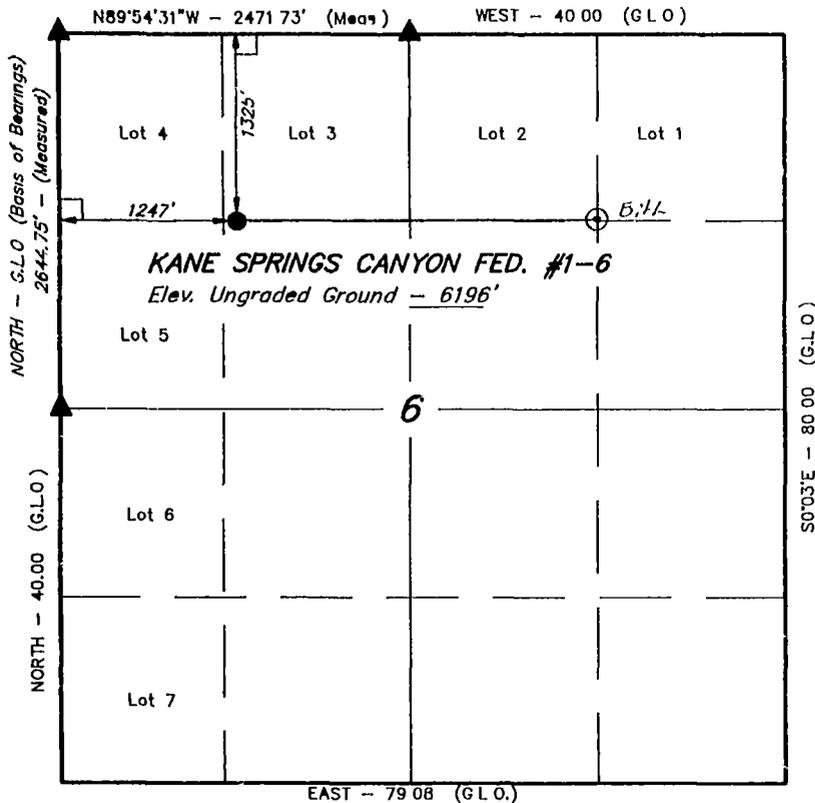
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& MINING CO.**

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CERTIFICATE

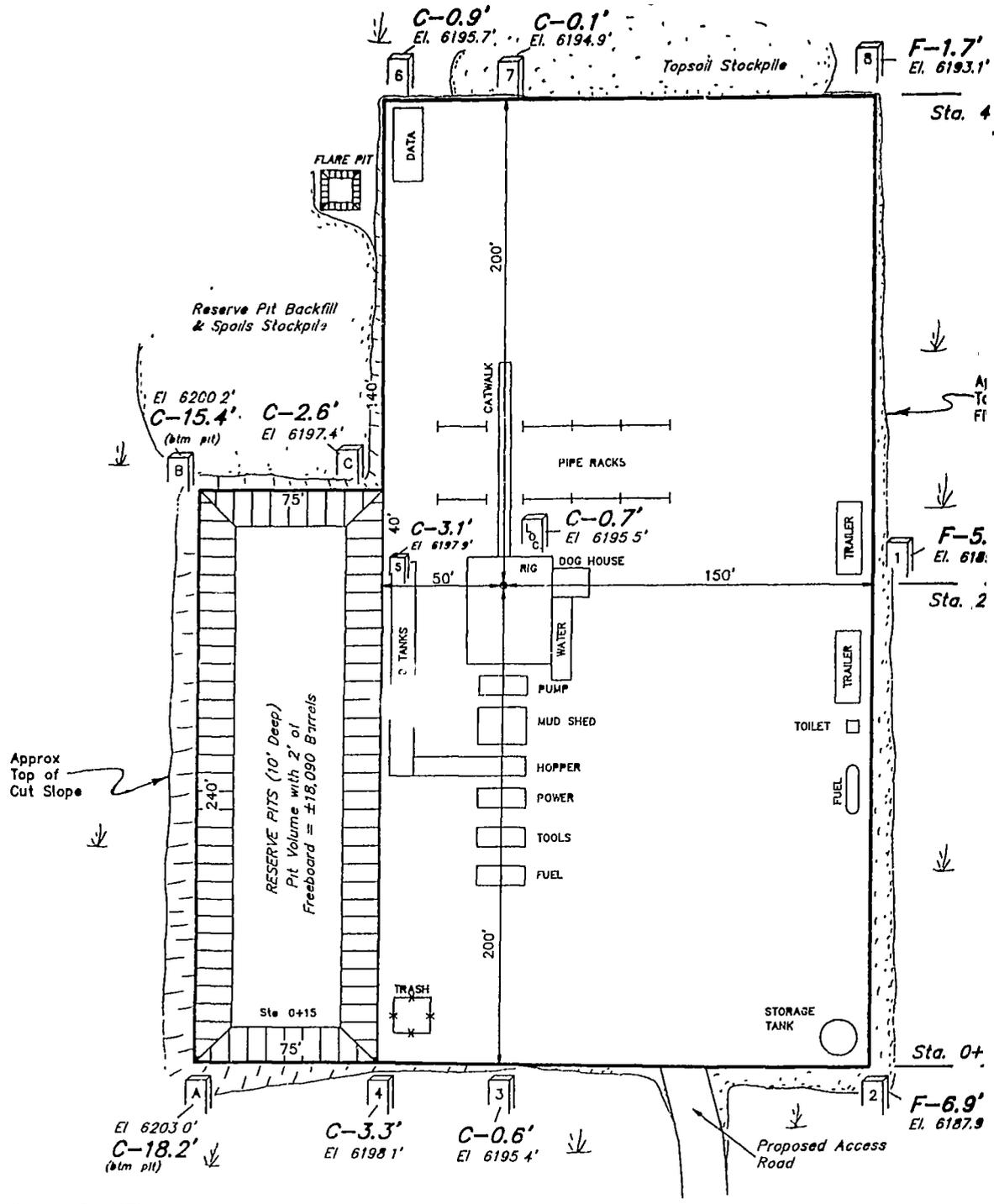
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEY, MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 5709
STATE OF UTAH
Robert L. Kay

UINTAH ENGINEERING & SURVEYING
85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 9-27-91
PARTY D A K L MDA	REFERENCES GLO PLAT
WEATHER WARM WINDY	FILE DOUBLE EAGLE PETROLEUM & MINING CO

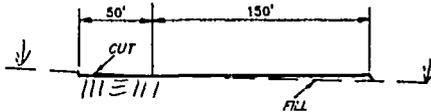
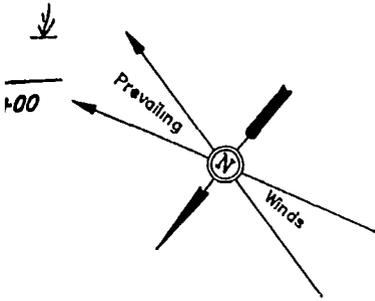
▲ = SECTION CORNERS LOCATED. (Bress Caps)



DOUBLE EAGLE TROLEUM AND MINING CO.

LOCATION LAYOUT FOR

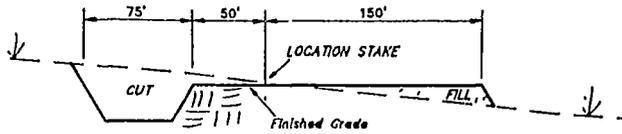
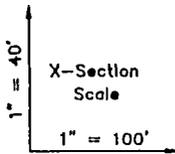
KANE SPRINGS CANYON FED. #1-6
SECTION 6, T29S, R22E, S.L.B.&M.



STA. 4+00

SCALE: 1" = 50'
DATE: 9-26-91
Drawn By: MDA

prox.
of
Slope



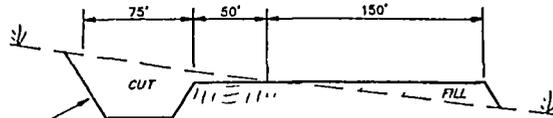
STA. 2+00

3'
5'

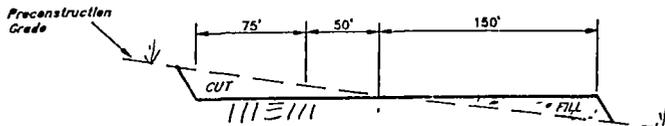
100

TYP. LOCATION LAYOUT

TYP. CROSS SECTION



STA. 0+15



STA 0+00

APPROXIMATE YARDAGES

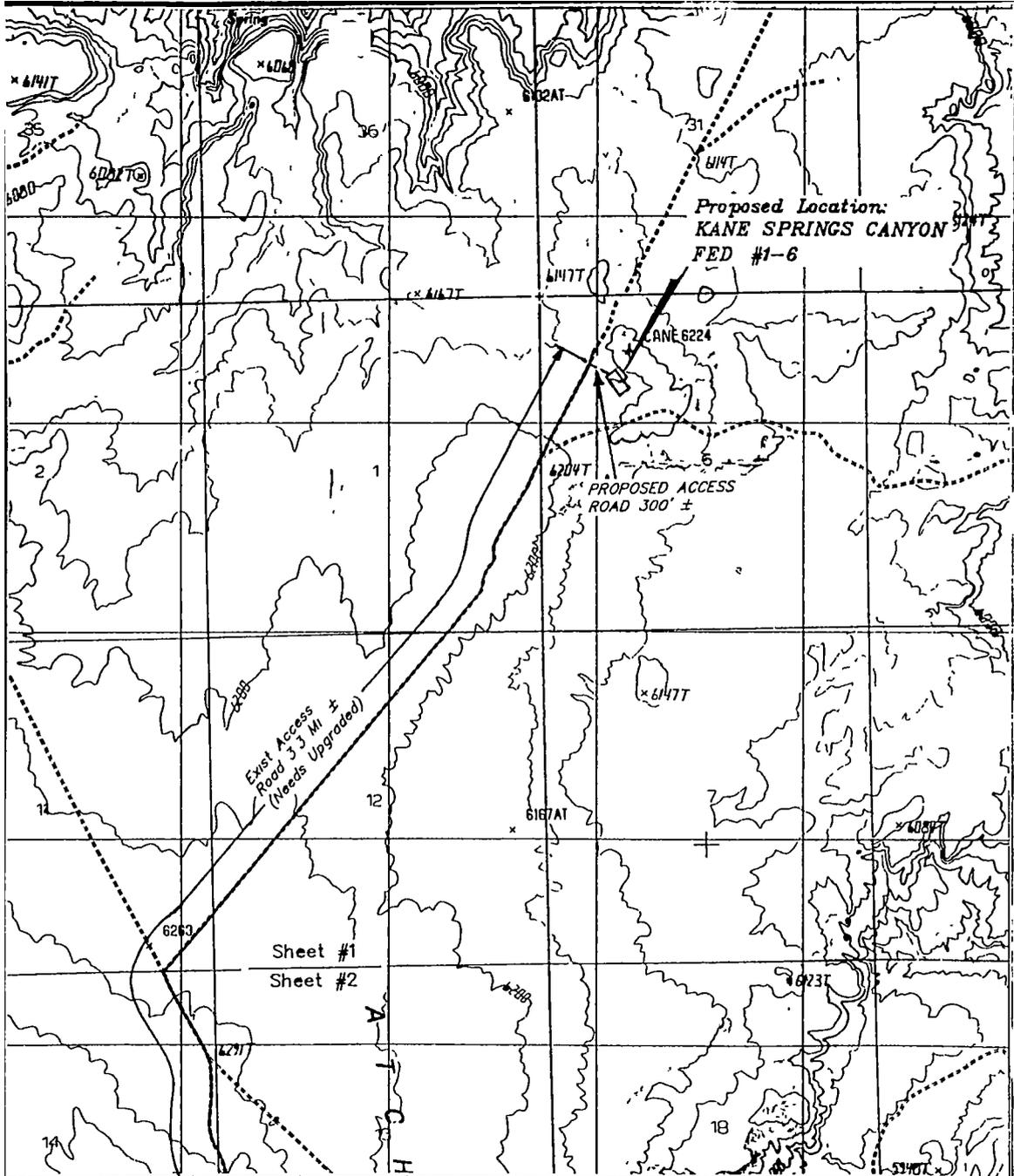
(6") Topsoil Stripping	=	1,820 Cu Yds
Remaining Location	=	9,150 Cu. Yds.
TOTAL CUT	=	10,970 CU.YDS.
FILL	=	6,320 CU YDS.

EXCESS MATERIAL AFTER 5% COMPACTION	=	4,320 Cu Yds
Topsoil & Pit Backfill (1/2 Pit Vol)	=	4,320 Cu. Yds
EXCESS UNBALANCE (After Rehabilitation)	=	0 Cu. Yds

Elev. Ungraded Ground at Location Stake = 6195.5'

Elev Graded Ground at Location Stake = 6194.8'

UINTAH ENGINEERING & LAND SURVEYING
85 So 200 East Pernal, Utah



Proposed Location:
KANE SPRINGS CANYON
 FED #1-6

PROPOSED ACCESS
 ROAD 300' ±

Exist Access
 Road 3.5 Mi ±
 (Needs Upgraded)

Sheet #1
 Sheet #2

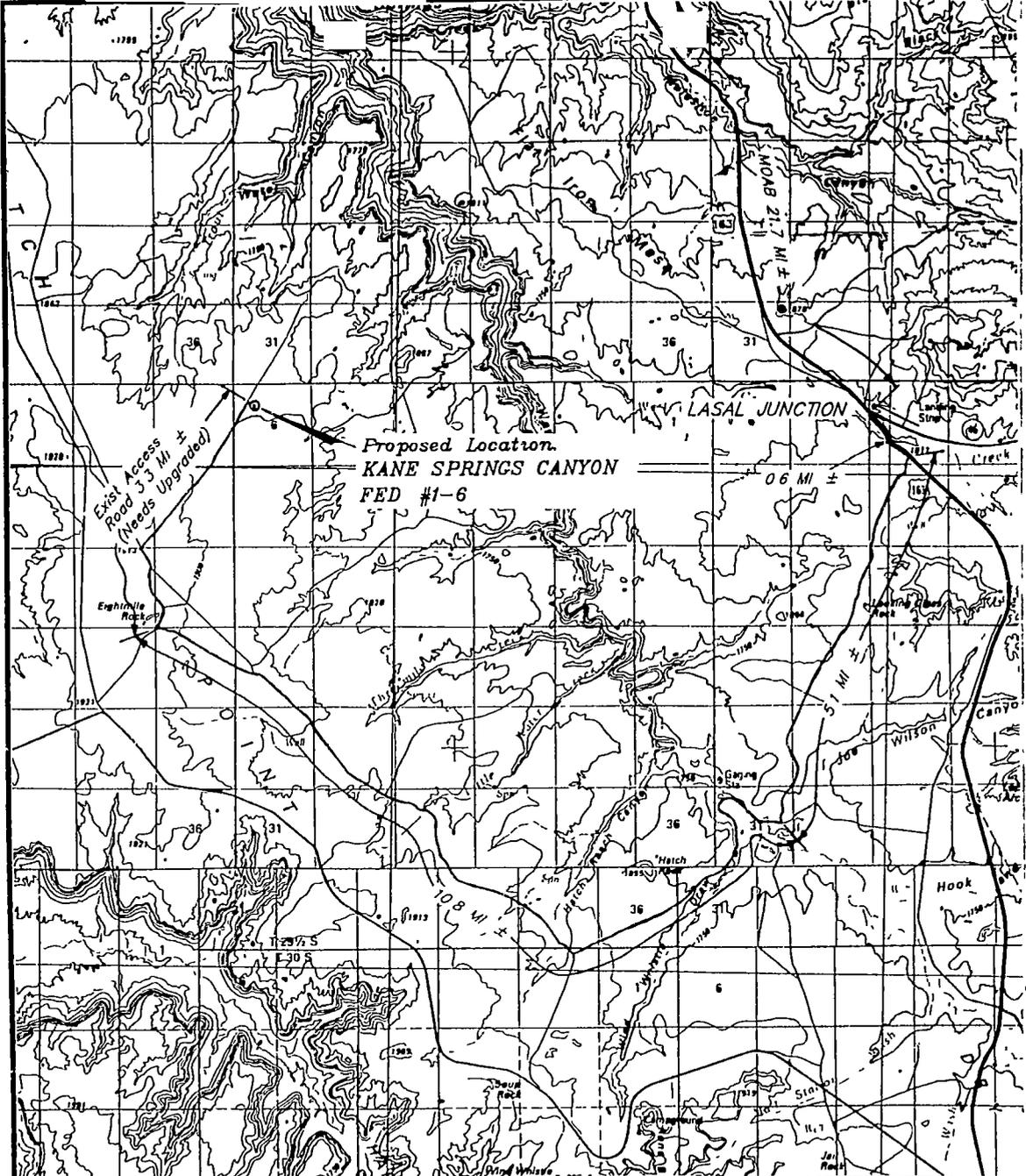
TOPOGRAPHIC
 MAP " B "
 SCALE 1" = 2000'
 DATE 9-27-91 MDA



**DOUBLE EAGLE PRODUCTION
 & MINING CO.**

KANE SPRINGS CANYON FED. #1-6
 SECTION 6, T29S, R22E, S.L.B & M.

SHEET 1 OF 2



TOPOGRAPHIC
MAP "A"

DATE 9-27-91 MDA



**DOUBLE EAGLE PRODUCTION
& MINING CO.**

KANE SPRINGS CANYON FED #1-6
SECTION 6, T29S, R22E, S1B & M

DOUBLE EAGLE PETROLEUM & MINING COMPANY
Lease #UTU-49979, Kane Springs Canyon Federal #1-6
C NW $\frac{1}{4}$, Section 6, T29S, R22E
San Juan County, Utah

Drilling Prognosis

1. Estimated Tops of Important Geologic Markers: (TVD)

Quaternary Silt	Surface	Paradox "A"	5,411'
Navajo SS	+/- 10'	Paradox "B"	5,620'
Shinarump	2,154'	Salt	5,674'
Moenkopi	2,304'	Cane Creek	8,049'
Cutler	2,369'	Total Depth	8,300'
Hermosa	3,930'		

2. Estimated Depths of Anticipated Water, Oil, Gas or Mineral Formations:

Paradox "A"	5,411'	Oil/Gas (Possible)
Paradox "B"	5,620'	Oil/Gas (Possible)
Salt	5,674'	Salt Section
Cane Creek	8,049'	Oil/Gas (Primary Objective)

Any shallow water zones encountered will be adequately protected and reported. All potentially productive hydrocarbon zones will be cemented off.

3. Pressure Control Equipment: (Schematic Attached)

A. Type: 11" Double Gate Hydraulic with 11" Annular Preventer (Hydril).

The Blow-Out Preventer will be equipped as follows:

1. One (1) blind ram (above).
2. One (1) pipe ram (below).
3. Drilling spool with two (2) side outlets (choke side 3-inch minimum, kill side 2-inch minimum).
4. Kill line (2-inch minimum).
5. Two (2) kill line valves, one of which will be a check valve (2-inch minimum).
6. 3-inch (minimum) choke line.
7. Two (2) choke line valves (minimum).
8. Two (2) adjustable chokes.
9. Pressure gauge on choke manifold.
10. Upper kelly cock valve with handle available.
11. Safety valve & subs to fit all drill strings in use.
12. Fill-up line above the uppermost preventer.

B. Pressure Rating: 3,000 psi

3. Pressure Control Equipment: Continued

C. Testing Procedure:

Annular Preventer (Hydril).

At a minimum, the Annular Preventer will be pressure tested to 50% of the rated working pressure for a period of ten (10) minutes or until provisions of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

1. When the annular preventer is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

In addition to the above, the annular preventer will be functionally operated at least weekly.

Blow-Out Preventer.

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface casing by a test plug) or to 70% of the internal yield strength of the surface casing (if the BOP is not isolated from the casing by a test plug). Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

1. When the BOP is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day.

All BOP drills and tests will be recorded in the IADC driller's log.

3. Pressure Control Equipment: Continued

D. Choke Manifold Equipment:

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

E. Accumulator:

The accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps. The fluid reservoir capacity will be double the accumulator capacity and the fluid level will be maintained at the manufacturer's recommendations. The BOP system will have two (2) independent power sources to close the preventers. Nitrogen bottles (3 minimum) will be one (1) of these independent power sources and will maintain a charge equal to the manufacturer's specifications. The accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six (6) months thereafter. The accumulator pressure will be corrected if the measured precharge pressure is found to be above or below the maximum or minimum limits specified in Onshore Operating Order #2.

F. Miscellaneous Information:

The choke manifold and BOP extension rods with hand wheels will be located outside of the rig sub-structure. The hydraulic BOP closing unit will be located at least twenty-five (25) feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole.

The Blow-Out Preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and requirements of Onshore Operating Order #2.

A flare line will be installed after the choke manifold, extending 125 feet (minimum) from the center of the drill hole to a separate flare pit.

4. The Proposed Casing and Cementing Program:

The proposed well will be drilled to a total vertical depth (TVD) of 8,100' at which time the hole will be **directionally** drilled due east to an approximate measured depth of 10,940' and a total vertical depth of 8,300'

Approximately 2,640 feet of **horizontal** hole will be drilled in the Cane Creek formation with the final bottom hole location being at approximately 1320' FSL and 1320' FWL (C NE¼) of Section 6, T29S, R22E.

A. Casing Program: (All New)

<u>Hole Size</u>	<u>Casing Size</u>	<u>Wt./Ft.</u>	<u>Grade</u>	<u>Joint</u>	<u>Depth Set*</u>
12-1/4"	9-5/8"	36.0#	K-55	LT&C	0- 2,500'
8-3/4"	5-1/2"	15.5#	J-55	LT&C	0- 5,500'
8-3/4"	5-1/2"	20.0#	N-80	LT&C	5,500- 8,100'
8-3/4"	5-1/2"	17.0#	J-55	LT&C	8,100-10,940'

* Measured Depth

The surface casing will have centralizers on every fourth (4th) joint of casing, starting at the shoe joint and extending up to the bottom of the cellar.

Casing string(s) will be pressure tested to 0.22 psi/foot, or 1500 psi (not to exceed 70% of the internal yield strength of the casing), whichever is greater, after cementing and prior to drilling out from under the casing shoe.

B. Cementing Program:

Surface Casing : Lead with approximately 727 sx 65:35 Lite cement + 2% A-7 and 0.25#/sx celloflake, tail with approximately 200 sx Class "G" cement + 2% A-7 and 0.25#/sx celloflake, circulated to surface with 100% excess.

Production Casing : Cement with approximately 267 sx Class "G" cement + 0.5% FL-19, 0.2% BA-61 and 3% KCl; circulated to approximately 5500' with 20% excess.

4. The Proposed Casing and Cementing Program.

B. Cementing Program: Continued

Production Casing : Actual volumes to be determined
 from caliper log. Top of cement
 will be at approximately 5,500'

A greater amount of cement will be used if necessary to
 ensure that all potentially productive hydrocarbon zones
 are cemented off. Actual volumes of cement to be used
 will be determined after review of hole caliper log(s).

All waiting on cement (WOC) times will be adequate to
 achieve a minimum of 500 psi compressive strength at the
 casing shoe prior to drilling out!

5. Mud Program: (Visual Monitoring)

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0- 2,500	Fresh H ₂ O/Gel	8.3- 8.8	35-50	No Control
2,500- 6,100	KCl Polymer	8.8-11.0	32-40	10-20 cc/s
6,100-10,940	KCl Polymer	11.0-15.0	32-45	5-10 cc/s

Sufficient mud inventory will be maintained on location
 during drilling to handle any adverse conditions that may
 arise. Inventory will not be less than the required amount
 needed to drill this well.

6. Evaluation Program:

<u>Logs</u>	:	DLL-MSP-GR	'	-	10,940' - 5,500'
		ONI-FDC-GR		-	10,940' - 5,500'
		BHC-Sonic		-	10,940' - 2,500'
		Deviation Survey		-	or bit trips
		Multi-Shot Survey		-	@ 10,940' TVD

* Full Gamma Ray to base of surface casing.

IST's : Two (2) possible Drill Stem Tests -
 one each in Paradox and Cane Creek
 Formations.

Cores : None anticipated.

6. Evaluation Program: Continued

A directional survey will be run upon completion of drilling operations in order to determine the exact bottom hole location and these footages will be promptly reported to the Authorized Officer, Bureau of Land Management.

The proposed evaluation program may change at the discretion of the wellsite geologist, with prior approval from the Authorized Officer, Bureau of Land Management.

Stimulation : The drill site, as approved, will be of sufficient size to accommodate all anticipated completion activities.

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 District Office not later than thirty (30) days after the completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164.

Two (2) copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form #3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the Authorized Officer, Moab District Office, Bureau of Land Management, P.O. Box 970, Moab, Utah 84532, Phone: (801) 259-6111.

7. Abnormal Conditions:

No abnormal temperatures or pressures are anticipated. No H₂S has been encountered in or known to exist from previous wells drilled to similar depths in the general area.

Maximum anticipated bottom hole pressure equals approximately 3,860 psi (calculated at 0.465 psi/foot) and maximum anticipated surface pressure equals approximately 2,034 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. Anticipated Starting Dates and Notification of Operations:

A. Anticipated Starting Dates

Anticipated Commencement Date : January 1, 1992

8. Anticipated Starting Dates and Notification of Operations:

A. Anticipated Starting Dates - Continued

Drilling Days : Approximately 45 Days
Completion Days : Approximately 15 days

B. Notification of Operations

The spud date will be reported orally to the Resource Area Office 24 HOURS PRIOR TO SPUDDING, unless otherwise required in the site specific conditions of approval.

All wells, whether drilling, producing, or abandoned shall be identified in accordance with 43 CFR 3162.6. This requires the name of the operator, the lease number, the well number and the location of the well.

In accordance with Onshore Operating Order #1, this well will be reported on MMS Form #3160-6, "Monthly Report of Operations", starting with 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 the Royalty Management Program, Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217.

Spills, blowouts, fires, leaks, accidents, theft, or any other unusual occurrences will be promptly reported to the Grand Resource Area Office in accordance with NTL-3A.

If a replacement rig is contemplated for completion operations, a "Sundry Notice" (Form #3160-5) to that effect will be filed for prior approval of the Area Manager, Grand Resource Area Office, and all conditions of this approved plan are applicable during all operations conducted with the replacement rig.

No well abandonment operations will be commenced without the prior approval of the Area Manager or his authorized representative. In the case of newly-drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the Area Petroleum Engineer. A "Notice of Intention to Abandon" (Form #3160-5) will be filed with the Area Manager within fifteen (15) days following the granting of oral approval to abandon.

8. Anticipated Starting Dates and Notification of Operations:

B. Notification of Operations - Continued

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6 The following information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch: "Fed" or "Ind", as applicable; Company Name, Well Name and Number, Location by Quarter/Quarter, Section, Township, Range, and Federal or Indian Lease Number.

A "Subsequent Report of Abandonment" (Form #3160-5) will be submitted within thirty (30) days following the actual plugging of the well bore. This report will indicate where plugs were placed and the current status of surface restoration operations. If surface restoration has not been completed at that time, a follow-up report on Form 3160-5 will be filed when all surface restoration work has been completed and the location is considered ready for final inspection.

Approval to vent/flare gas during initial well evaluation will be obtained from the Moab District Office. This preliminary approval will not exceed thirty (30) days or fifty (50) MMCF gas. Approval to vent/flare gas beyond this initial test period will require District Office approval pursuant to the guidelines contained in NTL-4A.

Not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than ninety (90) days, the operator shall notify the Authorized Officer by letter or "Sundry Notice", of the date on which such production has begun or resumed. The notification shall provide as a minimum, the following informational items:

- a. Operator name, address, and telephone number
- b. Well name and number
- c. Well location " $\frac{1}{4}$, $\frac{1}{4}$, Section, Township, Range, P.M."
- d. Date well was placed in a producing status
- e. The nature of the wells production, i.e.: crude oil casing gas, or natural gas and entrained liquid hydrocarbons.

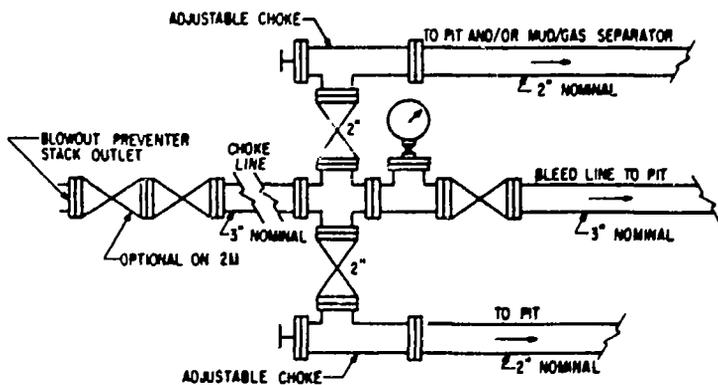
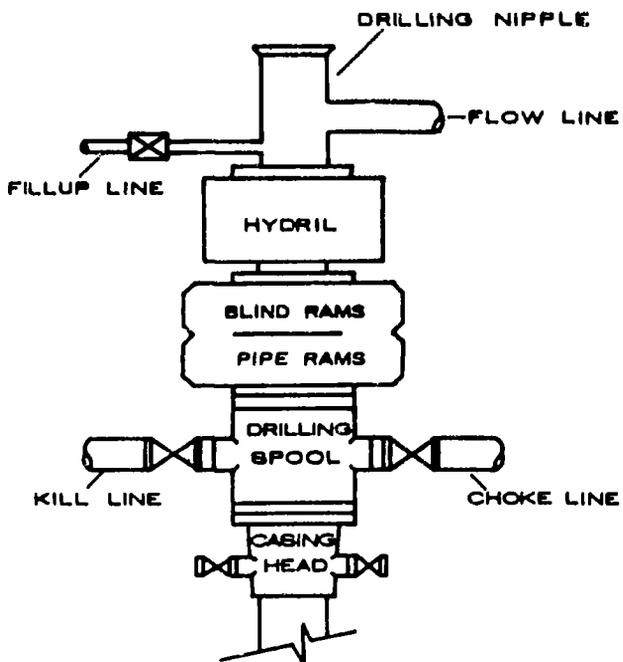
8. Anticipated Starting Dates and Notification of Operations:

B. Notification of Operations

The notification shall provide as a minimum, the following informational items: continued

- f. The OCS, Federal or Indian lease prefix and number on which the well is located. Otherwise, the non-Federal or non-Indian land category, ie.: state or private.
- g. As appropriate, the communitization agreement number, the unit agreement name, number and participating area name.

BOP STACK



DOUBLE EAGLE PETROLEUM & MINING COMPANY
Lease #UTU-49979, Kane Springs Canyon Federal #1-6
C NW¼, Section 6, T29S, R22E
San Juan County, Wyoming

Multi-Point Surface Use and Operations Plan

1. Existing Roads: Refer to Maps "A" and "B" (shown in ORANGE)

- A. The proposed well site is staked and four 200-foot reference stakes are present.
- B. To reach the location from the city of Moab, Utah; proceed generally southeast approximately 21.7 miles on U.S. Highway 163 (a paved highway), thence generally southwest approximately 5.1 miles on an existing, upgraded San Juan County Road (crowned & ditched with a gravel surface), thence generally west/northwest approximately 10.8 miles on an existing, upgraded San Juan County Road (crowned & ditched with a gravel surface), thence generally north approximately 1.1 mile on an existing San Juan County Road (previously bladed with a native soil surface), thence generally northeast approximately 2.2 miles on an existing San Juan County Road (previously bladed trail with a native soil surface), thence generally southeast approximately 300 feet to the proposed Kane Springs Canyon Federal #1-6 well location.
- C. Access roads - refer to Maps "A" and "B".
- D. Access roads within a one (1) mile radius - refer to Map "B".
- E. The existing roads will be maintained in the same or better condition as existed prior to the commencement of operations and said maintenance will continue until final abandonment and reclamation of the well location.

2. Planned Access Roads: Refer to Map "B" (shown in GREEN)

Approximately 300 feet of new road construction will be required for access to the proposed Kane Springs Canyon Federal #1-6 well location.

In addition, approximately 3.3 miles of existing San Juan County Road will require minor maintenance prior to the commencement of drilling operations. This maintenance will include both blading of selected stretches of the existing road running surface and the installation of water turnouts as required to provide proper drainage of the existing access road.

- A. Width - maximum 30-foot overall right-of-way with a 16-foot road running surface, flat-bladed for drilling & completion operations.

2. Planned Access Roads: Continued

B. Construction standard

Drilling & Completion Operations

The new construction portion of the access road (300 feet) will be flat-bladed, with the remaining 2.2 miles of existing trail requiring only minor maintenance consisting of blading the road running surface and installation of water turnouts as required for drainage of the road route.

Production Operations

In the event that commercial production is established at the Kane Springs Canyon Federal #1-6 well location, the access road will be upgraded in accordance with Bureau of Land Management Roading Guidelines established for oil & gas exploration and development activities as referenced in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, Third Edition, and/or Bureau of Land Management Manual Section 9113 on road construction.

The access road will be constructed to meet the standards of the anticipated traffic flow and all-weather requirements including ditching, draining, graveling, crowning, and capping the roadbed as necessary to provide a well constructed and safe road.

Prior to construction/upgrading, the roadway shall be cleared of any snow cover and allowed to dry completely.

Traveling off of the thirty (30) foot right-of-way will not be allowed.

Road drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause siltation or the accumulation of debris in the drainage crossing nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by runoff water shall be prevented by diverting water off at a frequent intervals by means of cutouts.

Upgrading shall not be allowed during muddy conditions.

2. Planned Access Roads:

B. Construction standard

Production Operations - Continued

Should mud holes develop, they shall be filled in and detours around them avoided.

C. Maximum grade - 3%.

D. Turnouts - turnouts will be constructed along the access road route as necessary or required to allow for the safe passage of traffic. None anticipated at this time.

E. Drainage design - in the event commercial production is established at the Kane Springs Canyon Federal #1-6 well location, the access road will be upgraded and maintained as necessary to prevent soil erosion and accommodate year-round traffic.

F. Culverts, cuts and fills - no culverts will be required. There are no major cuts and/or fills on/along the proposed access road route.

G. Surface materials - construction materials which may be required for surfacing of the access road will be purchased from a local contractor having a permitted source of materials in the area, if required by the Authorized Officer, Bureau of Land Management. None anticipated at this time.

H. Gates, cattleguards or fence cuts - none required.

I. Road maintenance - during both the drilling and production phase of operations, the road surface and shoulders will be kept in a safe and useable condition and will be maintained in accordance with the original construction standards. All drainage ditches and culverts will be kept clear and free-flowing, and will also be maintained in accordance with the original construction standards. The access road right-of-way will be kept free of trash during operations.

J. The proposed access road route has been centerline staked.

3. Location of Existing Wells Within a One-Mile Radius:

A. Water wells - none known.

B. Abandoned wells - none known.

C. Temporarily abandoned wells - none known.

D. Disposal wells - none known.

E. Drilling wells - none known.

F. Producing wells - none known.

3. Location of Existing Wells Within a One-Mile Radius: Cont.

- G. Shut-in wells - none known.
- H. Injection wells - none known.
- I. Monitoring wells - none known.

4. Location of Existing and/or Proposed Facilities Owned By Double Eagle Petroleum & Mining Company Within a One-Mile Radius:

A. Existing

- 1. Tank batteries - none.
- 2. Production facilities - none.
- 3. Oil gathering lines - none.
- 4. Gas gathering lines - none.

B. New Facilities Contemplated

- 1. All production facilities will be located on the disturbed portion of the well pad and at a minimum of twenty (20) feet from the toe of the backcut or top of the fill slope.
- 2. If commercial production is established from the Kane Springs Canyon Federal #1-6 well location, the subsequent Production facilities will require an area approximately 300' X 150' in size. A diagram showing the proposed production facility layout will be submitted to the Authorized Officer via Sundry Notice (Form 3160-5) for approval prior to commencement of installation operations.
- 3. Production facilities will be accommodated on the well pad. Construction materials needed for installation of the production facilities will be obtained from the site. Any additional materials needed for installation of the production facilities will be purchased from a local supplier having an approved (permitted) source of materials within the area, as may be required.

A dike will be constructed completely around those production facilities which contain liquids (i.e., production tanks, produced water tanks and/or separator). These dikes will be constructed of compacted subsoil, be impervious, hold 110% of the capacity of the largest tank, and be independent of the back cut.

4. Location of Existing and/or Proposed Facilities Owned By Double Eagle Petroleum & Mining Company Within a One-Mile Radius:

B. New Facilities Contemplated - Continued

4. All permanent (on-site for six months or longer) above-the-ground structures constructed or installed including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Five (5) State Rocky Mountain Interagency Committee. All production facilities will be painted within six (6) months of installation.

Facilities required to comply with Occupational Health and Safety Act Rules and Regulations will be excluded from this painting requirement.

The recommended paint color is Carlsbad Canyon, Munsell standard color number 2.5Y 6/2.

5. If at any time the facilities located on public lands and authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change), the Bureau of Land Management will process a change in authorization to the appropriate statute). The authorization will be subject to the appropriate rental or other financial obligation as determined by the Authorized Officer.
- C. The production (emergency) pit will be fenced with woven wire mesh topped with one (1) strand of barbed wire held in place with metal side posts and wooden corner "H" braces in order to protect livestock and wildlife.

Please refer to Item #9E (page #9) for additional information regarding these fencing specifications.

- D. During drilling and subsequent operations, all equipment and vehicles will be confined to the access road and any additional areas which may be specified in the approved Application for Permit to Drill.

4. Location of Existing and/or Proposed Facilities Owned By Double Eagle Petroleum & Mining Company Within a One-Mile Radius: Continued

E. Reclamation of disturbed areas no longer needed for operations will be accomplished by grading, leveling and seeding as recommended by the Authorized Officer, Grand Resource Area Office, Bureau of Land Management.

5. Location and Type of Water Supply:

A. Fresh water for drilling will be obtained from one of several existing water sources in the area as follows:

- 1) The primary source of water will be from Hatch Wash at a point located in SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 31, T29S, R23E and situated on private surface estate owned by Paul Redd.
- 2) A secondary source of water will be from an existing spring and reservoir located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 4, T29S, R23E and situated on private surface estate owned by Paul Scofield.

Prior to the diversion of any water from either of these potential sources, an approved Temporary Water Permit will be obtained from the Utah Department of Natural Resources, Division of Water Rights.

B. Water will be transported over existing roads via tank truck from the point of diversion to the proposed Kane Springs Canyon Federal #1-6 well location. No new construction will be required on/along the proposed water haul route. Access across any off-lease federal lands crossed on/along the proposed water haul route will be secured under a separate right-of-way authorization to be issued by the Grand Resource Area Office, Bureau of Land Management, if required.

C. No water well will be drilled on this location.

6. Source of Construction Materials:

A. No off-site construction materials will be needed for well pad construction; surface and subsurface soils will be sufficient. Refer to Item #2G (page #3) regarding construction materials which may be required on the access road.

6. Source of Construction Materials: Continued

- B. No construction materials will be taken from Federal and/or Indian lands without prior approval from the appropriate Surface Management Agency.
- C. If production is established, any construction materials needed for surfacing the access road and/or installation of production facilities will be purchased from a local supplier having an approved (permitted) source of materials in the area.
- D. No new access roads for construction materials will be required.

7. Methods of Handling Waste Materials:

- A. Cuttings - the cuttings will be deposited in the reserve pit.
- B. Drilling fluids - including salts and chemicals will be contained in the reserve pit and allowed to evaporate.

The reserve pit will be designed to prevent the collection of surface runoff and will be constructed with a minimum of one-half (1/2) the total depth below the original ground level at the lowest point within the pit.

The reserve pit will be constructed so as not to leak, break, or allow discharge of fluids therefrom.

- C. Produced fluids - liquid hydrocarbons produced during completion operations will be placed in test tanks on the well location. Water produced during completion operations will be confined in the reserve pit for a period not to exceed ninety (90) days after initial production.

During the ninety (90) day period, in accordance with NTL-2B, an application for approval of a permanent disposal method and location, along with the required water analysis, shall be submitted for the Authorized Officer's approval.

Any spills of oil, gas, salt water or other noxious fluids will be immediately cleaned up and removed to an approved disposal site.

- D. Sewage - portable, self-contained chemical toilets will be provided for human waste disposal.

7. Methods of Handling Waste Materials: Continued

- D. Sewage - upon completion of operations, or as needed, the toilet holding tanks will be pumped and the contents thereof disposed of in the nearest, approved, sewage disposal facility.
- E. Garbage and other waste materials - garbage, trash and other waste materials will be collected in a portable, self-contained and fully-enclosed trash cage during drilling and completion operations. Upon completion of operations (or as needed) the accumulated trash will be disposed of at an authorized sanitary landfill. No trash will be burned on location or placed in the reserve pit.
- F. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned up and removed from the well location. No adverse materials will be left on the well location upon the termination of drilling and completion operations. Any open pits will be fenced during the drilling operation and the fencing will be maintained until such time as the pits are backfilled.

8. Ancillary Facilities:

None anticipated.

9. Wellsite Layout:

- A. Figure #1 shows the drill site layout as staked. Cross sections have been drafted to visualize the planned cuts and fills across the location. A minimum of six (6) inches of topsoil will be stripped from the location (including areas of cut, fill and/or subsoil storage) and stockpiled for future reclamation of the well site. Refer to Figure #1 for the location of the topsoil and subsoil stockpiles.
- B. Figure #1 is a diagram showing the rig layout. No permanent living facilities are planned. There will be approximately five (5) trailers on location during drilling operations: one each for the drilling supervisor, drilling engineer, geologist, mud logger and toolpusher.
- C. A "Sundry Notice" (Form #3160-5) showing the proposed production facility layout will be submitted to the Authorized Officer for approval prior to commencement of installation operations. Please refer to Item #4B2 (page #4) for additional information in this regard.

9. Wellsite Layout: Continued

- D. If porous subsoil materials (gravel, scoria, sand, faulted rock structures, etc.) are encountered during reserve pit construction, an impervious liner will be installed in order to prevent drilling water loss through seepage. We do not anticipate the need for a pit liner at this time.
- E. Prior to the commencement of drilling operations, the reserve pit will be fenced "sheep tight" on three (3) sides according to the following minimum standards:
 - 1. 39-inch net wire shall be used with at least one (1) strand of barbed wire on top of the net wire (barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence).
 - 2. The net wire shall be no more than two (2) inches above the ground. The barbed wire shall be three (3) inches above the net wire. Total height of the fence shall be at least 42 inches.
 - 3. Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
 - 4. Standard steel, wood, or pipe posts shall be used between the corner braces. maximum distance between any two (2) posts shall be no greater than sixteen (16) feet.
 - 5. All wire shall be stretched, by using a stretching device, before it is attached to the corner posts.

The fourth side of the reserve pit will be fenced immediately upon removal of the drilling rig and the fencing will be maintained until the pit is backfilled.

- F. Any hydrocarbons on the pit will be removed as soon as possible after drilling operations are completed.

10. Plans for Reclamation of the Surface:

- A. Rat and mouse holes will be backfilled and compacted from bottom to top immediately upon release of the drilling rig from the location.
- B. Backfilling, leveling and re-contouring are planned as soon as the reserve pit has dried.

10. Plans for Reclamation of the Surface: Continued

- B. All waste materials will be disposed of immediately upon termination of drilling and completion activities.

If production is established, the unneeded areas of the location will be reclaimed as soon as the reserve pit has dried. For production, the fill slopes will be reduced from a 1.5:1 slope to a 3:1 slope and the cut slopes will be reduced from a 2:1 slope to a 4:1 slope by pushing the fill material back up into the cut.

Upon final abandonment of the well location, gravel will be removed from both the access road surface and well location (as applicable), water diversion installed as needed, and both the access road and location will be restored to approximately the original ground contour by pushing the fill material back up into the cut and up over the backslope. No depressions will be left that would trap water or form ponds.

- C. Upon completion of backfilling, leveling and recontouring of the well location, the stockpiled topsoil will be evenly spread over the reclaimed area(s). Prior to commencement of seeding operations, the seedbed will be prepared by disking on the contour to a depth of four (4) to six (6) inches, leaving no depressions that would trap water or form ponds.

All disturbed surfaces (including the access road and well pad areas) will be reseeded using the following seed mixture (or a different mixture if recommended by the Authorized Officer, Bureau of Land Management):

<u>Species</u>	<u>Lbs. PLS/Acre</u>
Western Wheatgrass	5
Indian Ricegrass	3
Curly Grass	2
Regular Bitterbrush	2
Fourwing Saltbush (dewinged)	2
Winterfat	1

Seed will be drilled on the contour to a depth of one-quarter (1/4) to one-half (1/2) inch, with drill row spacing of six (6) inches, using a drill equipped with a depth regulator.

10. Plans for Reclamation of the Surface: Continued

- C. Fall seeding will be completed after September 1 and prior to ground frost. If applicable, spring seeding will be completed after the frost has left the ground and prior to May 15. The seeding shall be repeated until a satisfactory stand of vegetation, as determined by the Authorized Officer, Bureau of Land Management is obtained. The first evaluation of growth will be made following completion of the first growing season after seeding.
- D. If any oil is on the pits and is not immediately removed after operations cease, the pit containing the oil or other adverse substance(s) will be flagged overhead or covered with wire/net mesh in order to protect migrating waterfowl and shorebirds.
- E. Initial reclamation operations will begin immediately after the drilling rig has been removed. Removal of oil or other adverse substances will begin immediately or the affected area(s) will be flagged and/or fenced.

Other clean-up will be done as needed or requested by the Authorized Officer, Grand Resource Area Office, Bureau of Land Management. Reclamation and reseeding activities are considered best in the Fall, 1992, unless requested otherwise by the Authorized Officer.

11. Surface Ownership:

The well site and proposed access road are situated on surface estate owned by the United States of America and administered by:

Area Manager
Grand Resource Area Office
Bureau of Land Management
885 South Sand Flats Road
Moab, Utah 84532
Phone: (801) 259-8193

12. Other Information:

- A. General Description of the Project Area: The project area is located on Hatch Point, an area of southeastern Utah which is situated due east of Canyonlands National Park and the Colorado River, south of Arches National Park, west and north of Manti-La Sal National Forest and north of a local landmark known as "Eightmile Rock".

12. Other Information:

A. General Description of the Project Area: Continued

This area is classified as a "High Plains Steppe" (Cold Desert) and is characterized by gently undulating upland areas dissected by numerous dendritically-patterned, ephemeral drainages of the Colorado River. These erosional features dominate the landscape through the formation of spectacular canyon systems along both the Colorado and Green Rivers, and tributary drainages thereof.

Generally, local flora consists of native grasses such as salt grass, galleta grass, needle-and-thread grass, western wheatgrass, Indian ricegrass, and woody species such as shadscale, horsebrush, black sagebrush, fringe sagebrush, big sagebrush, rabbitbrush, and greasewood along the dry drainages. Local fauna consists primarily of mule deer, antelope, coyotes, rabbits, raptors, and various smaller vertebrate and invertebrate species.

There are no known threatened or endangered species that will be affected by construction and operations on the proposed Kane Springs Canyon Federal #1-6 well location.

B. Surface Use Activities: The primary surface use is for grazing.

C. Proximity of Water, Occupied Dwellings, Archaeological, Historical or Cultural Sites:

1. The closest source of permanent water is the Colorado River, located approximately twelve (12) miles due west of the proposed well location.
2. The closest occupied dwellings are located approximately ten (10) miles to the southeast at Hatch Rock.
3. Double Eagle Petroleum & Mining Company will be responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites or for collecting artifacts.

12. Other Information:

C. Proximity of Water, Occupied Dwellings, Archaeological, Historical or Cultural Sites:

If historic or archaeological materials are uncovered, Double Eagle Petroleum & Mining Company will suspend all operations that might further disturb such materials and immediately contact the Authorized Officer.

Within five (5) working days the Authorized Officer will inform Double Eagle Petroleum & Mining Company as to: continued

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and
- a time frame for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that mitigation is appropriate.

If Double Eagle Petroleum & Mining Company wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Officer will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, Double Eagle Petroleum & Mining Company will be responsible for mitigation costs.

The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, Double Eagle Petroleum & Mining Company will then be allowed to resume construction.

12. Other Information:

D. Additional Requirements for Operations on Lands
Administered by the Bureau of Land Management:

1. Double Eagle Petroleum & Mining Company will control noxious weeds along rights-of-way for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds may be obtained from the Bureau of Land Management, or the San Juan County Extension Office.

On lands administered by the Bureau of Land Management, it is required that a "Pesticide Use Proposal" shall be submitted, and approval obtained, prior to the application of herbicides or other pesticides or possible hazardous chemicals for the control of noxious weeds.

2. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on federal lands after conclusion of drilling operations or at any other time without the proper authorization from the Bureau of Land Management. However, if BLM authorization is obtained, it is only a temporary measure to allow Double Eagle Petroleum & Mining Company the time to make arrangements for permanent storage at a commercial facility.
3. Double Eagle Petroleum & Mining Company will contact the Bureau of Land Management between 24 and 48 hours prior to commencement of construction activities on the access road and/or well location.
4. The Bureau of Land Management shall be notified upon site completion and prior to moving drilling tools onto the location.

13. Lessee's or Operator's Representative and Certification:

Representative

Double Eagle Petroleum & Mining Company
Richard B. Laudon, President
P.O. Box 766
Casper, Wyoming 82602-0766
Phone (307) 237-9330

13. Lessee's or Operator's Representative and Certification:

Representative - Continued

Heitzman Drill-Site Services *
Dale Heitzman and/or Robert M. Anderson
P.O. Drawer 3579
Casper, Wyoming 82602-3579
Phone: (307) 266-4840

- * Contact for any additional information which may be required for approval of this Application for Permit to Drill.

Certification

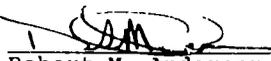
All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil & Gas Orders, the approved plan of operations, and any applicable Notice to Lessees.

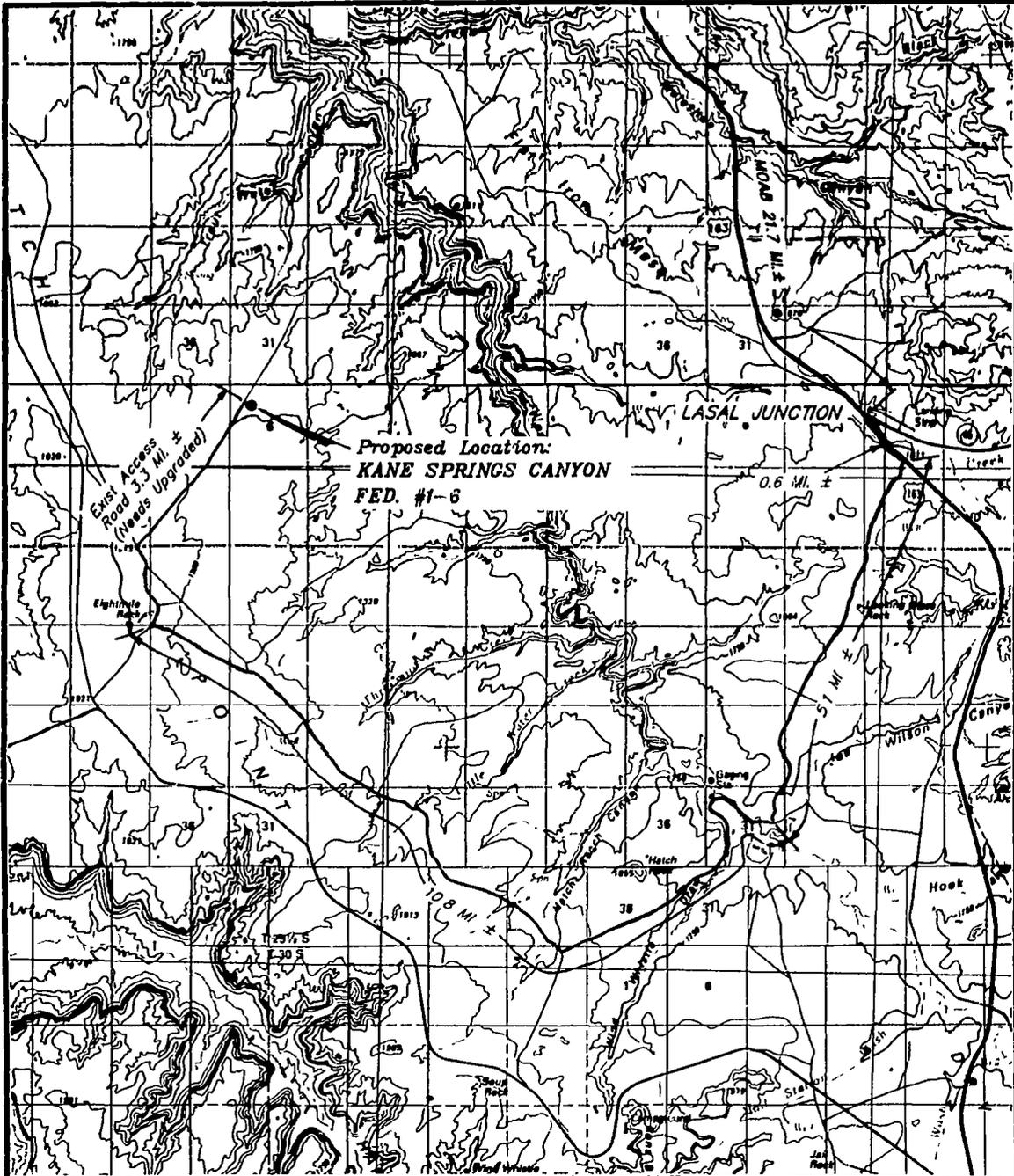
Double Eagle Petroleum & Mining Company will be fully responsible for the actions of their subcontractors. A copy of these conditions will be furnished to their field representative(s) to ensure compliance.

The dirt contractor will be provided with a copy of the Surface Use Plan from the approved Application for Permit to Drill.

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 the operations proposed herein will be performed by Double Eagle Petroleum & Mining Company, 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.

19 November 1991
Date

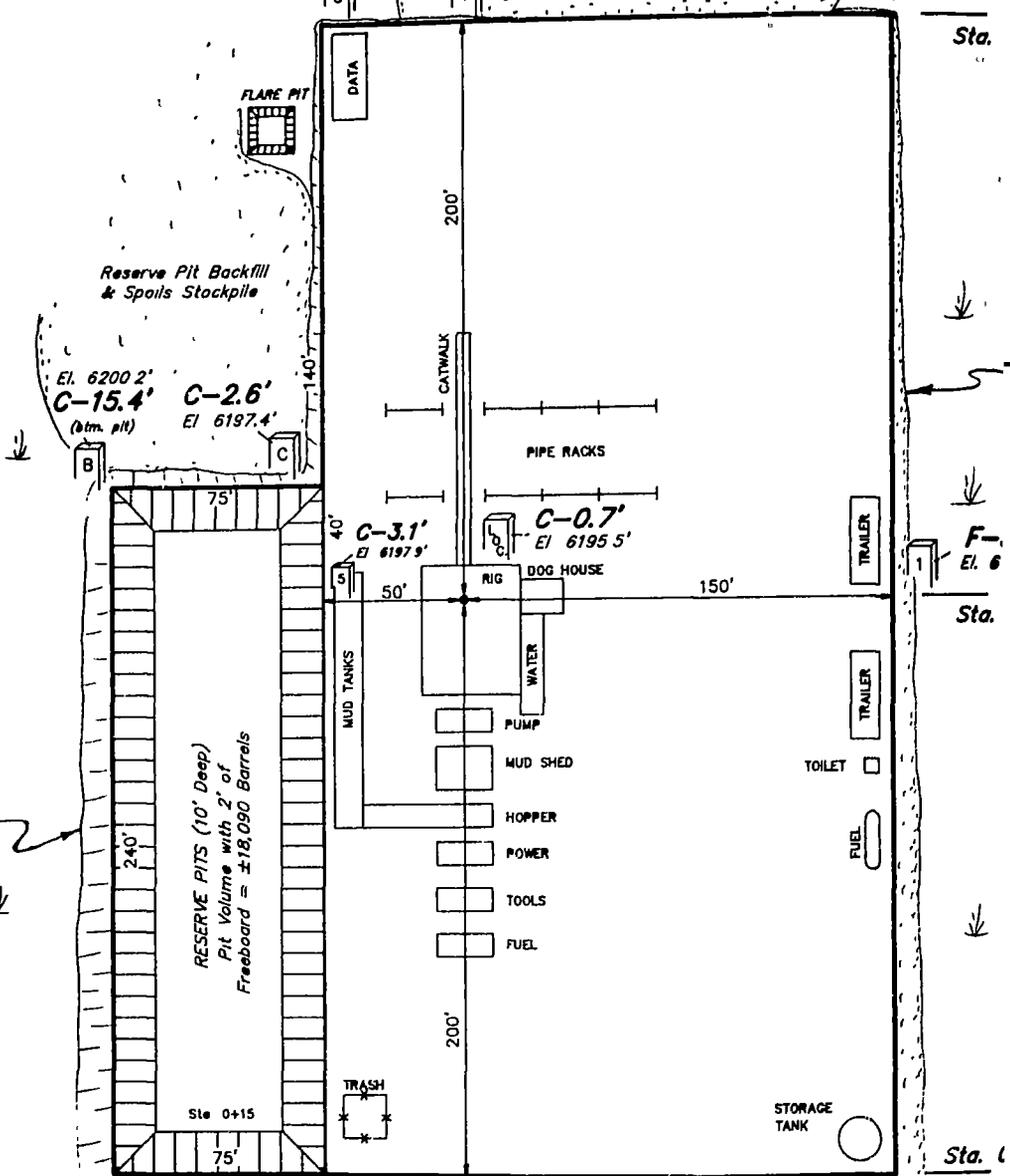

Robert M. Anderson/Authorized Agent



**DOUBLE EAGLE PRODUCTION
 & MINING CO.**

KANE SPRINGS CANYON FED. #1-6
 SECTION 6, T29S, R22E, S.L.B & M.

C-0.9' El. 6195.7' C-0.1' El. 6194.9' *Topsail Stockpile* F-1.7 El. 6193.0



Approx. Top of Cut Slope

RESERVE PITS (10' Deep)
Pit Volume with 2' of Freeboard = ±18,090 Barrels

Ste 0+15

A El. 6203.0'
C-18.2' El. 6198.2' (blm. pit)

4 C-3.3' El. 6198.1'

3 C-0.6' El. 6195.4'

2 F-6.0 El. 618.0

Proposed Access Road

Sta. 6

F-6.0 El. 618.0

Sta. 6

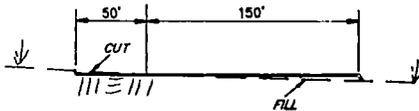
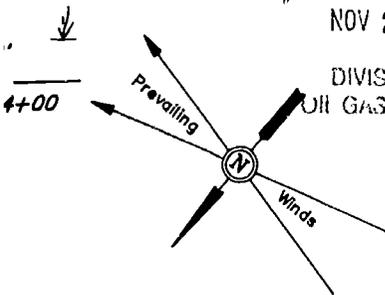
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NOV 2 1 1991

DOUBLE EAGLE PETROLEUM AND MINING CO.

LOCATION LAYOUT FOR

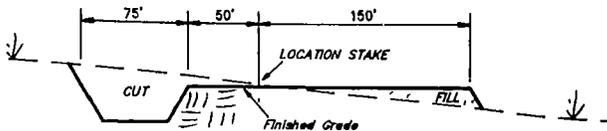
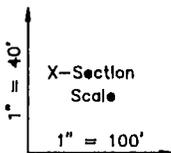
KANE SRINGS CANYON FED. #1-6 SECTION 6, T29S, R22E, S.L.B.&M.



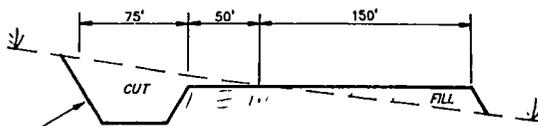
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SCALE: 1" = 50'
DATE: 9-26-91
Drawn By: MDA

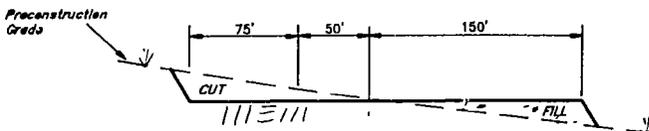
Approx. Toe of Fill Slope



STA. 2+00



STA. 0+15



STA. 0+00

5.3'
89.5'
2+00

TYP. LOCATION LAYOUT

TYP. CROSS SECTIONS

APPROXIMATE YARDAGES

(6") Topsoil Stripping	= 1,820 Cu Yds
Remaining Location	= 9,150 Cu. Yds
TOTAL CUT	= 10,970 CU.YDS.
FILL	= 6,320 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION	= 4,320 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 4,320 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	= 0 Cu. Yds.

Elev Ungraded Ground at Location Stake = **6195.5'**

Elev Graded Ground at Location Stake = **6194.8'**

UINTAH ENGINEERING & LAND SURVEYING
85 So 200 East Vernal, Utah

N-1670

OPERATOR Double Eagle Petroleum Company DATE 11-04-91

WELL NAME Kara Springs Canyon 1:6

SEC C-14 T 6 R 0195 COUNTY San Juan

43 037-31691
API NUMBER

Individual (L)
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other producing well within Sec 14.
Water Permit

Process 11-04-91

Horizontal hole - well located approx 3 miles

NNE $\frac{1}{2}$ Hatch Pt #1 well (8 Mile Rock)

APPROVAL LETTER:

SPACING:

R615-2-3

N/A
UNIT

R615-3-2

N/A
CAUSE NO. & DATE

R615-3-3

STIPULATIONS:

1. Water Permit needed

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, Utah 84180-1203
2. STATE APPLICATION IDENTIFIER NUMBER:
(assigned by State Clearinghouse)
3. APPROXIMATE DATE PROJECT WILL START:
January 1, 1992
4. AREAWIDE CLEARING HOUSE(S) RECEIVING STATE ACTIONS:
(to be sent out by agency in block 1)
Southeastern Utah Association of Governments
5. TYPE OF ACTION: Lease Permit License Land Acquisition
 Land Sale Land Exchange Other _____
6. TITLE OF PROPOSED ACTION:
Application for Permit to Drill
7. DESCRIPTION:
Double Eagle Petroleum and Mining Company proposes to drill the Kane Springs Canyon Federal 1-6 well (wildcat) on federal lease UTU-49979, 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 action and must issue approval before operations commence.
8. LAND AFFECTED (site location map required) (indicate county)
NW/4 NE/4, Section 6, Township 29 South, Range 22 East, San Juan County, Utah
9. HAS THE LOCAL GOVERNMENT(S) BEEN CONTACTED?
10. POSSIBLE SIGNIFICANT IMPACTS LIKELY TO OCCUR:
See Attachment
11. NAME AND PHONE NUMBER OF DISTRICT REPRESENTATIVE FROM YOUR AGENCY NEAR PROJECT SITE, IF APPLICABLE:
12. FOR FURTHER INFORMATION, CONTACT: Frank R. Matthews
PHONE: 538-5340
13. SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL

DATE: 11/25/91 Petroleum Engineer

WO1187



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

3100
(UTU 419979)
(U-065)

Moab District
P.O. Box 370
Moab, Utah 84532

NOV 29 1991

Mr. Richard B. Laudon, President
Double Eagle Petroleum and Mining Company
P.O. Box 766
Casper, Wyoming 82602

Re: SUSPENSION OF OPERATIONS AND PRODUCTION
Kane Springs Canyon Federal No. 1-6
Federal Lease UTU-49979
C NW, Section 8, T. 29 S., R. 22 E
San Juan County, Utah

Dear Mr. Laudon:

We are in receipt of your request for a suspension of operation of the referenced lease and associated well. Pursuant to the provisions of 43 CFR 3103.4-2 approval of the application for suspension of operations and production for Federal Lease UTU-49979 is hereby granted. Your application is approved because of the delays caused by the cumulative number of applications for permit to drill (APD), and the subsequent backlog of Environmental Assessments required to process those APDs by the Bureau of Land Management, Grand Resource Area office. Because of the current number of NEPA reviews ahead of Grand Resource Area office, it is our estimation that the NEPA review for the referenced lease and associated well cannot be completed by the end of February 1992.

The significant features of this suspension are as follows.

1. Tolls the running of the term of the lease and adds the period of suspension to the terms of the leases.
2. Activities designed to benefit the leases may not be commenced or continued on the leases during the suspension. This requirement applies to federal oil and gas leases regardless of the surface ownership.
3. All applications for permit to drill previously approved for proposed wells are suspended while the lease-wide suspension is in force.

The suspension is effective November 1, 1991 and shall remain in effect for an indefinite term. The suspension terminates on the first day of the month in which the APD is approved.

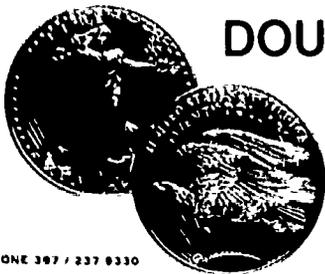
If you have any questions regarding this matter, please contact Dale MacKenzie, in the above District Office, at (307) 257-1111.

Sincerely yours,

William C. Stinger

Assistant District Manager,
Mineral Resources

26
J-42, CLM State Office
C-521, BLM State Office
1-000, Grand Resource Area



DOUBLE EAGLE

PETROLEUM AND MINING COMPANY

P O BOX 766

777 OVERLAND TRAIL

CASPER WYOMING 82602

PHONE 307 / 237 0330

December 17, 1991

State of Utah
Division of Oil, Gas & Mining
Attn: Tammy Searing
355 W. North Temple
Salt Lake City, UT 84180-1203

Dear Ms. Searing:

This is to request approval of an exception location for an oil and gas well to be drilled at the center of the NW $\frac{1}{4}$ Section 6, T-29-S, R-22-E, San Juan County, Utah. Double Eagle is the lessee of all of Section 6. I enclose copies of the pertinent parts of the APD and lease. Purpose of the exception location is to insure that the horizontal segment of the well shall stay within its legal window, while hitting the geological target.

Yours truly,

Richard B. Laudon, President

RBL/co
encls:



DEC 20 1991

DIVISION OF
OIL, GAS & MINING

**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
 Double Eagle Petroleum & Mining Company

3 ADDRESS OF OPERATOR
 P. O. Box 766, Casper, Wyoming 82602-0766

4 LOCATION OF WELL (Report location clearly and in accordance with any state requirements *)
 At surface: 1325' FNL, 1247' FWL (C NW₄) Section 6, T29S, R22E
 At proposed prod. zone: 1320' FNL, 1320' FEL (C NE₄) Section 6, T29S, R22E

14 DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approximately 25 Miles Southwest of Moab, Utah

15 DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT (Also to nearest drilg unit line, if any): 1247'

16 NO OF ACRES IN LEASE: 2225.12

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: 10,940' MD

20 ROTARY OR CABLE TOOLS: Rotary

21 ELEVATIONS (Show whether DF, RT, GR, etc.)
 6196' GR

22 APPROX DATE WORK WILL START*
 January 1, 1992

5 LEASE DESIGNATION AND SERIAL NO
 UTU-49979

6 IF INDIAN, ALLOTTEE OR TRIBE NAME
 Not Applicable

7 UNIT AGREEMENT NAME
 Not Applicable

8 FARM OR LEASE NAME
 Kane Springs Canyon Fed.

9 WELL NO
 1-6

10 FIELD AND POOL, OR WILDCAT
 Wildcat

11 SEC, T, R, M, OR BLEK, AND SURVEY OR AREA
 Section 6, T29S, R22E

12 COUNTY OR PARISH 13 STATE
 San Juan Utah

(ALL NEW) PROPOSED CASING AND CEMENTING PROGRAM - Measured Depth

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" K-55	36.0#	0-2500'	927 sx Circ. to Surface *
8-3/4"	5-1/2" J-55	15.5#	0-5500'	267 sx Class 4G
	N-80	20.0#	5500-8100'	
	J-55	17.0#	8100-T.D.	

Richard B. Laudon

DEC 20 1991

DIVISION OF
OIL GAS & MINING

* Cement volumes may change due to hole size.
Calculate from Caliper log.

EIGHT-POINT RESOURCE PROTECTION PLAN ATTACHED.

I hereby certify that Double Eagle Petroleum & Mining Company is authorized by the proper Lease Interest Owners to conduct lease operations associated with this Application for Permit to Drill the Kane Springs Canyon Federal #1-6, Federal Lease # UTU-49979. Bond coverage pursuant to 43 CFR 3104 for lease activities will be provided by Double Eagle Petroleum & Mining Company, who will be responsible for compliance with all the terms and conditions of that portion of the lease associated with this Application for Permit to Drill.

14 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

54
 SIGNED Richard B. Laudon TITLE President DATE Nov. 19, 1991
 Richard B. Laudon
 (This space for Federal or State office use)

PERMIT NO _____ APPROVAL DATE _____

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

*See Instructions On Reverse Side

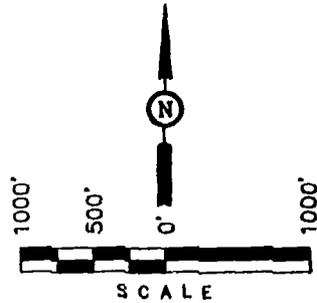
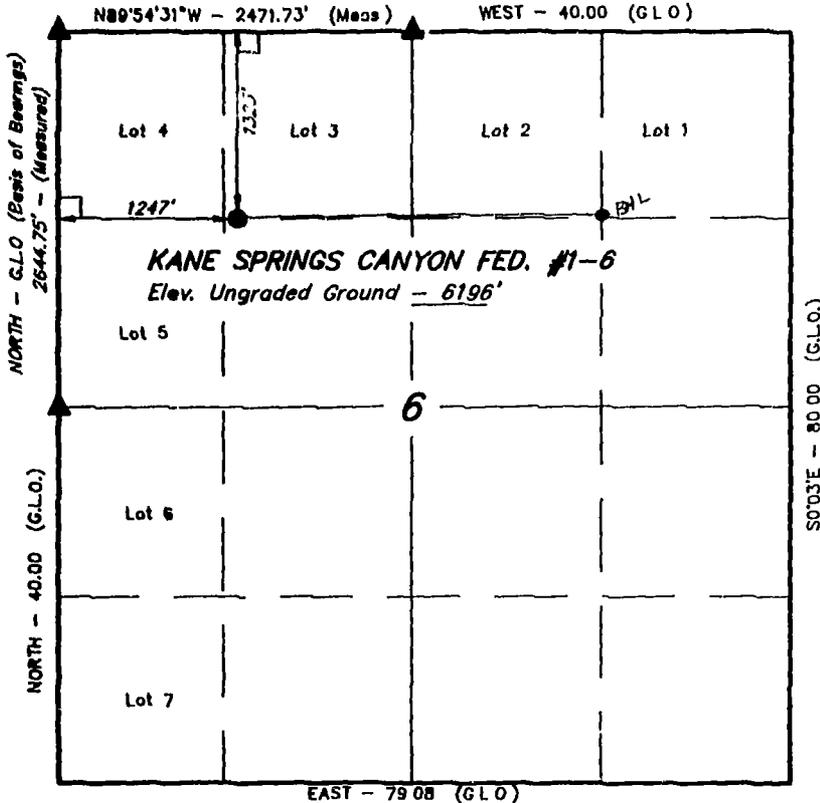
T29S, R22E, S.L.B.&M.

**DOUBLE EAGLE PETROLEUM
& MINING CO.**

Well Location, KANE SPRINGS CANYON FED.
#1-6, located as shown in the NW 1/4 of
Section 6, T29S, R22E, S.L.B.&M. San Juan
County, Utah.

BASIS OF ELEVATION

CANE TRIANGULATION, LOCATED IN THE NW 1/4 OF
SECTION 6, T29S, R22E, S.L.B.&M. TAKEN FROM THE
EIGHTMILE ROCK QUADRANGLE, UTAH, 7.5 MINUTE
SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE
UNITED STATES DEPARTMENT OF THE INTERIOR,
GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS
BEING 6224 FEET.



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

Robert L. Kari
REGISTERED LAND SURVEYOR
REGISTRATION NO. 5788
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING	
86 SOUTH - 200 EAST	
VERNAL, UTAH - 84078	
SCALE 1" = 1000'	DATE 9-27-91
PARTY D.A. KL MDA	REFERENCES G.L.O. PLAT
WEATHER WARM WINDY	FILE DOUBLE EAGLE PETROLEUM & MINING CO

▲ = SECTION CORNERS LOCATED. (Brass Caps)

DOUBLE EAGLE PETROLEUM & MINING COMPANY
Lease #UTU-49979, Kane Springs Canyon Federal #1-6
C NW $\frac{1}{4}$, Section 6, T29S, R22E
San Juan County, Utah

Drilling Prognosis

1. Estimated Tops of Important Geologic Markers: (TVD)

Quaternary Silt	Surface	Paradox "A"	5,411'
Navajo SS	+/- 10'	Paradox "B"	5,620'
Shinarump	2,154'	Salt	5,674'
Moenkopi	2,304'	Cane Creek	8,049'
Cutler	2,369'	Total Depth	8,300'
Hermosa	3,930'		

2. Estimated Depths of Anticipated Water, Oil, Gas or Mineral Formations:

Paradox "A"	5,411'	Oil/Gas (Possible)
Paradox "B"	5,620'	Oil/Gas (Possible)
Salt	5,674'	Salt Section
Cane Creek	8,049'	Oil/Gas (Primary Objective)

Any shallow water zones encountered will be adequately protected and reported. All potentially productive hydrocarbon zones will be cemented off.

3. Pressure Control Equipment: (Schematic Attached)

A. Type: 11" Double Gate Hydraulic with 11" Annular Preventer (Hydril).

The Blow-Out Preventer will be equipped as follows:

1. One (1) blind ram (above).
2. One (1) pipe ram (below).
3. Drilling spool with two (2) side outlets (choke side 3-inch minimum, kill side 2-inch minimum).
4. Kill line (2-inch minimum).
5. Two (2) kill line valves, one of which will be a check valve (2-inch minimum).
6. 3-inch (minimum) choke line.
7. Two (2) choke line valves (minimum).
8. Two (2) adjustable chokes.
9. Pressure gauge on choke manifold.
10. Upper kelly cock valve with handle available.
11. Safety valve & subs to fit all drill strings in use.
12. Fill-up line above the uppermost preventer.

B. Pressure Rating: 3,000 psi

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

LEASE FOR OIL AND GAS
(Sec 17 Noncompetitive Public Domain Lease)
Act of February 25, 1920 (41 Stat 437) as amended (30 U S C 181-263)

Name
Street
City
State
Zip Code

Double Eagle Petroleum and
Mining Company
P. O. Box 766
Casper, WY 82602

U-49979

(Serial Number)

This oil and gas lease is issued for a period of ten (10) years to the above named lessee pursuant and subject to the provisions of the Mineral Leasing Act and subject to all rules and regulations of the Secretary of the Interior now or hereafter in force, when not inconsistent with any express and specific provisions herein, which are made a part hereof

Lands included in the lease State Utah County San Juan

T. 29 S., R. 22 E., 5LM, Utah
Secs. 6, and 7, all;
Sec. 13, NE $\frac{1}{4}$ SE $\frac{1}{4}$,
Sec. 14, N $\frac{1}{2}$ N $\frac{1}{2}$;
Sec. 15, NE $\frac{1}{4}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$;
Sec. 17, N $\frac{1}{2}$;
Sec. 20, all;
Sec. 23, E $\frac{1}{2}$, E $\frac{1}{2}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$;
Sec. 24, SE $\frac{1}{4}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$;
Sec. 25, N $\frac{1}{2}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$;
Secs. 26, and 27, all.

RELEASED BY US

Containing a total of 4,905.12 acres Annual Rental \$4,906.00

This lease is issued to the successful drawee pursuant to his "Simultaneous Oil and Gas Entry Card" application filed under 43 CFR 3112, and is subject to the provisions of that application and those specified on the reverse side hereof

MAR 1 1982

Effective date of lease _____

THE UNITED STATES OF AFRICA

By [Signature]
(Signature of Signing Official)
Chief, Minerals Section
(Title)

Richard B. Fowler
(Signature of Offeror/Lessee)

2-2-1982
(Date)

FEB 13 1982
(Date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO 1004-0034
Expires August 31, 1989

ASSIGNMENT OF RECORD TITLE INTEREST IN A
LEASE FOR OIL AND GAS OR GEOTHERMAL RESOURCES

Mineral Leasing Act of 1920 (30 U S C 181 et seq)
Act for Acquired Lands of 1947 (30 U S C. 351-359)
Geothermal Steam Act of 1970 (30 U S C 1001-1025)
Department of the Interior Appropriations Act, Fiscal Year 1981 (42 U S C 6508)

Lease Serial No.
USA U-49979
Lease Effective Date
(Anniversary Date)
03/01/82
New Serial No

Type or print plainly in ink and sign in ink.

DEC 20 1991

PART A. ASSIGNMENT

1 Assignee* Double Eagle Petroleum And Mining Company
Street P. O. Box 766
City, State, ZIP Code Casper, WY 82602

DIVISION OF
OIL, GAS & MINING

*If more than one assignee, check here and list the name(s) and address(es) of all additional assignees on the reverse of this form or on a separate attached sheet of paper

This record title assignment is for. (Check one) Oil and Gas Lease, or Geothermal Lease

Interest conveyed (Check one or both, as appropriate) Record Title, Overriding Royalty, payment out of production or other similar interests or payments

2 This assignment conveys the following interest

Land Description Additional space on reverse, if needed Do not submit documents or agreements other than this form, such documents or agreements shall only be referenced herein	Percent of Interest			Percent of Overriding Royalty or Similar Interests	
	Owned	Conveyed	Retained	Reserved	Previously reserved or conveyed
				e	f
a	b	c	d	e	f
TOWNSHIP 29 SOUTH, RANGE 22 EAST, SLM Section 6: All Section 7: All Section 17: N/2 Section 20: All Containing 2,225.12 acres, more or less, located in San Juan County, Utah	100%	100%	0	0	0

FOR BLM USE ONLY—DO NOT WRITE BELOW THIS LINE
UNITED STATES OF AMERICA

This assignment is approved solely for administrative purposes. Approval does not warrant that either party to this assignment holds legal or equitable title to this lease

- Assignment approved for above described lands. Assignment approved for attached land description
- Assignment approved effective _____ Assignment approved for land description indicated on reverse of this form

By _____ (Authorized Officer) _____ (Title) _____ (Date)

PART B: CERTIFICATION AND REQUEST FOR APPROVAL

- 1 The assignor certifies as owner of an interest in the above designated lease that he/she hereby assigns to the above assignee(s) the rights specified above
- 2 Assignee certifies as follows: (a) Assignee is a citizen of the United States, an association of such citizens, a municipality, or a corporation organized under the laws of the United States or of any State or territory thereof. For the assignment of NPR A leases, assignee is a citizen, national, or resident alien of the United States or association of such citizens, nationals, resident aliens or private, public or municipal corporations, (b) Assignee is not considered a minor under the laws of the State in which the lands covered by this assignment are located, (c) Assignee's chargeable interests direct and indirect, in either public domain or acquired lands, do not exceed 200,000 acres in oil and gas options or 246,080 in oil and gas leases in the same State, or 300,000 acres in leases and 200,000 acres in options in each leasing District in Alaska, if this is an oil and gas lease issued in accordance with the Mineral Leasing Act of 1920 or 51,200 acres in any one State if this is a geothermal lease, (d) All parties holding an interest in the assignment are otherwise in compliance with the regulations (43 CFR Group 3100 or 3200) and the authorizing Acts, (e) Assignee is in compliance with reclamation requirements for all Federal oil and gas lease holdings as required by sec. 17(g) of the Mineral Leasing Act, and (f) Assignee is not in violation of sec. 41 of the Mineral Leasing Act
- 3 Assignee's signature to this assignment constitutes acceptance of all applicable terms, conditions, stipulations and restrictions pertaining to the lease described herein

For geothermal assignments, an overriding royalty may not be less than one fourth (1/4) of one percent of the value of output, nor greater than 50 percent of the rate of royalty due to the United States when this assignment is added to all previously created overriding royalties (43 CFR 3241)

I certify that the statements made herein by me are true, complete and correct to the best of my knowledge and belief and are made in good faith

Executed this 9th day of June, 19 91

Executed this 17th day of July, 1991

APACHE CORPORATION, The Sole General Partner of APC OPERATING PARTNERSHIP L.P., Assignor

DOUBLE EAGLE PETROLEUM AND MINING COMPANY, Assignee

By: Jerrold N. Mayer
JERROLD N. MAYER, Attorney-In-Fact

By: Richard B. London
ATTEST:

Assignor's Address: 1700 Lincoln Street
Suite 1900
Denver, CO 80203-4519

By: Carol A. Osborne
Carol A. Osborne, Asst. Secretary

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
 Double Eagle Petroleum & Mining Company

3 ADDRESS OF OPERATOR
 P. O. Box 766, Casper, Wyoming 82602-0766

4 LOCATION OF WELL (Report location clearly and in accordance with any State requirements *)
 At surface
 1325' FNL, 1247' FWL (C NW¼) Section 6, T29S, R22E
 At proposed prod zone
 1320' FNL, 1320' FEL (C NE¼) Section 6, T29S, R22E

14 DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approximately 25 Miles Southwest of Moab, Utah

10 DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT (Also to nearest 40ac Unit Hdc. if any) 1247'

16 NO. OF ACRES IN LEASE 2225 12

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 10,940' MD

20 ROTARY OR CABLE TOOLS Rotary

21 ELEVATIONS (Show whether DF, RT, GR, etc) 6196' GR

22 APPROX DATE WORK WILL START* January 1, 1992

5 LEASE DESIGNATION AND SERIAL NO.
 UTU-49979

6 IF INDIAN, ALLOTTEE OR TRIBE NAME
 Not Applicable

7 UNIT AGREEMENT NAME
 Not Applicable

8 FARM OR LEASE NAME
 Kane Springs Canyon Fed.

9 WELL NO
 1-6

10 FIRM AND POOL, OR WILDCAT
 Wildcat

11 SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Section 6, T29S, R22E

12 COUNTY OR PARISH
 San Juan

13 STATE
 Utah

23 (ALL NEW) PROPOSED CASING AND CEMENTING PROGRAM - Measured Depth

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" K-55	36.0#	0-2500'	927 sx Circ. to Surface *
8-3/4"	5-1/2" J-55	15.5#	0-5500'	267 sx Class "G"
	N-80	20.0#	5500-8100'	
	J-55	17 0#	8100-T.D.	

24

SIGNED Richard B. Laudon TITLE President DATE Nov. 19, 1991
 (This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE OCT 8 1992
/S/ WILLIAM C. STRINGER Assistant District Manager
 APPROVED BY _____ TITLE for Minerals DATE _____
 CONDITIONS OF APPROVAL IF ANY _____

RECEIVED
 OCT 13 1992
 DIVISION OF
 OIL, GAS & MINING

FLARING OR VENTING OF
 GAS IS SUBJECT TO NTL 4-A

CONDITIONS OF LEASE

*See Instructions On Reverse Side

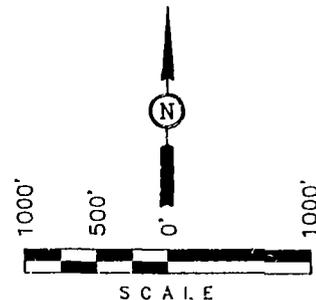
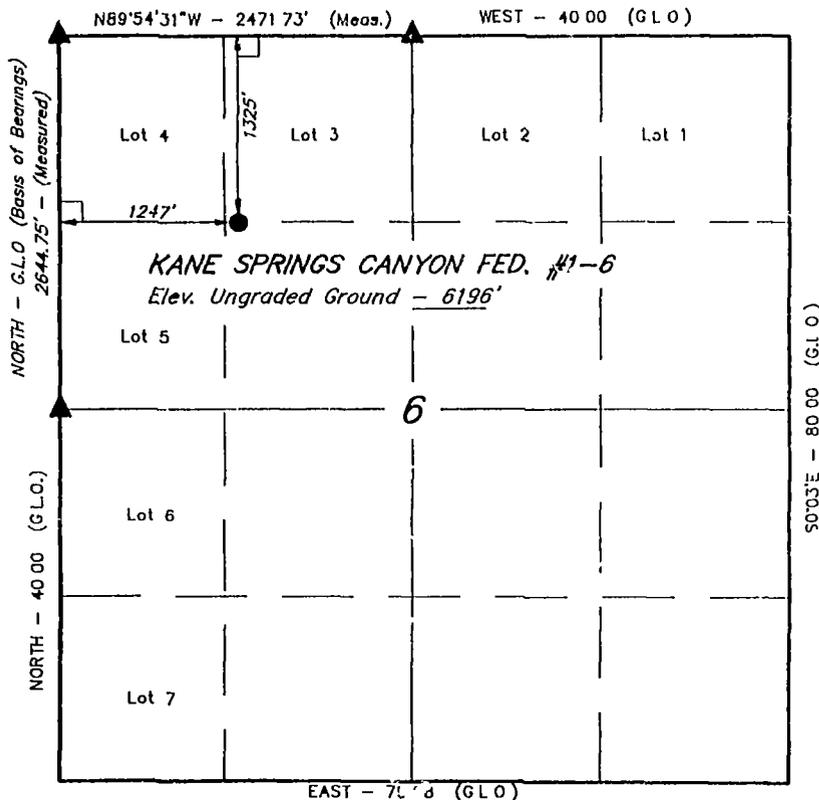
**DOUBLE EAGLE PETROLEUM
& MINING CO.**

T29S, R22E, S.L.B.&M.

Well Location, KANE SPRINGS CANYON FED. #1-6, located as shown in the NW 1/4 of Section 6, T29S, R22E, S.L.B.&M. San Juan County, Utah.

BASIS OF ELEVATION

CANE TRIANGULATION, LOCATED IN THE NW 1/4 OF SECTION 6, T29S, R22E, S.L.B.&M TAKEN FROM THE EIGHTMILE ROCK QUADRANGLE, UTAH, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 6224 FEET



CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Robert L. Kay
REGISTERED LAND SURVEYOR
REGISTRATION NO. 5703
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH - 200 EAST
VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 9-27-91
PARTY D A K L MDA	REFERENCES G.L.O PLAT
WEATHER WARM WINDY	FILE DOUBLE EAGLE PETROLEUM & MINING CO

▲ = SECTION CORNERS LOCATED (Brass Caps)

Double Eagle Petroleum & Mining Company
Kane Springs Canyon Federal No. 1-6
Lease U-49979
NWNW Section 6, T.29S, R.22E.
San Juan 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 Meridian Oil, 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 UT 0870 (Principal - Double Eagle Petroleum & Mining Company) 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. There will be no deviation from the proposed drilling and/or workover program without prior approval from the Assistant District Manager. "Sundry Notice and Report 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.*
2. Daily drilling and completion progress reports shall be submitted to the District office on a weekly basis.
3. Surface casing (13-3/8") shall be cemented to surface. The intermediate casing (9-5/8") shall be cemented to at least 200 feet above any usable quality water flows.
4. *Cement volumes will have to be adjusted to compensate for modifications to the surface and intermediate casing designs.*
5. Centralizers shall be placed, at a minimum, on the bottom three joints of each casing string
6. Initial opening of drill stem test tools will be restricted to daylight hours
7. The actual bottom-hole location must be within 10 degrees of the proposed bottom-hole location.
8. A cement bond log (CBL) or cement evaluation tool (CET) shall be run on the 7" casing to insure it is adequately set
9. Please be aware that substantial water flows have been encountered in the Cutler Formation in the area

B. SURFACE USE PLAN

1. In order to avoid displacing pronghorn watering at the nearby catchment and to help protect pronghorn antelope during the fawning season, *no drilling will be allowed from March 1 through September 30. The limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation may be specified in writing by the authorized officer.*
2. The access road and well pad will be sprinkled with water as needed to control dust.
3. During night-time drilling, all lights that can be modified within safety standards should be shielded from major viewsheds and their intensity minimized.
4. All wells, whether drilling, producing, suspended, or abandoned, will be identified in accordance with 43 CFR 3162.6. When the well is plugged and abandoned, a plate with the information required in 43 CFR 3162.6 will be installed over the wellbore to lie horizontal approximately 1-2 feet below the ground surface.
5. In addition to procedures identified in the APD, these requirements will be followed during construction and reclamation of the reserve pit:
 - a. The reserve pit will be lined with bentonite unless specifications for an alternate method of lining are approved by the authorized officer.

Bentonite will be spread to a uniform depth over the reserve pit at an application rate of not less than 5 pounds per square foot. No bulk bentonite will be distributed when winds exceed 10 mph, and no sacked bentonite will be spread when winds exceed 20 mph unless approved in writing by the authorized officer.

After bentonite has been uniformly applied over the reserve pit, the bentonite will be thoroughly mixed with the underlying soil to a depth of 4 inches. Disking, rototilling, or a similar technique will be used to mix the bentonite with the soil. A minimum of two passes at right angles to each other will be made at the full depth of mixing.

If a synthetic liner is used, liner will be designed and installed in such a manner to assure it will not be punctured during installation or drilling operations.

- b. Upon completion of drilling operations, the reserve pit will be de-watered. Depending on the conditions at the time of disposal, the waste water will be (a) disposed of off-site at an approved disposal facility, (b) reinjected with the appropriate Underground Injection Control Permit from the State Division of Oil, Gas and Mining with concurrent approval by the Bureau of Land Management, Moab District Office, or (c) allowed to evaporate.
 - c. The remaining reserve pit solids will be tested prior to stabilization. At least three samples will be taken from different areas of the pit. These samples will be analyzed by an independent laboratory for salt properties (electrical conductivity, sodium adsorption ratio and exchangeable sodium percentage), heavy metal content and oil and grease content. The results of these tests will be provided to the Moab District Office within 30 days of analysis.

- d The reserve pit contents will then be mixed with fly ash, kiln dust, or bentonite to stabilize the salt adhered to the cuttings. Quantities of the mixing agent will be sufficient to assure the physical properties of the stabilized pit are similar to the physical properties of the native subsuils.
 - e. The mixed contents will be sampled and tested for leachability of salts and heavy metals. There will be a minimum of 5 samples taken from the mixed pit remains. The samples will come from each corner section of the pit and from the middle. These samples will also be analyzed by an independent laboratory. The results of this testing will be provided to the Moab District Office within 30 days of analysis.
 - f. If a synthetic liner is used, the remaining liner material will be folded over the edges of the mixed contents of the pit.
 - g. The mixed pit contents will be covered by a minimum of one foot of native subsuils. If required, a thicker application may be allowed to bring the top of this cap nearly up to grade. The pit will then be allowed to set up for a minimum of 5 days prior to additional work on the pit involving the bentonite cap.
 - h. A bentonite cap will be applied to the top of the pit. The bentonite will be a commercial grade and will be mixed with the native subsuils at the rate of 2-4 pounds per square foot of coverage. The cap will be at least 1 foot thick in the middle and grade to no less than 6 inches on the sides. The bentonite and subsoil mixture will be disked in to assure maximum effectiveness of the impervious cap. The cap will be crowned at the middle to allow proper drainage. The cap will extend at least 10 feet beyond the original pit boundaries to allow drainage away from the pit and prevent leaching of salts and heavy metals.
 - i. The bentonite cap will then be covered with approximately 2 feet of subsoil and topsoil. The intent is to bring the topsoil and subsoil mixture including the cap slightly above grade with enough soil to allow for revegetation and compensate for settling.
 - j. The Grand Resource Area Office will be kept informed of the timetables for all operations described above so that they can be witnessed.
6. At the end of drilling operations and prior to reclamation of the reserve pit, the fourth side of the pit will be fenced and the top of the pit will be covered with netting of one inch or less to prevent access by birds.
 7. All site security guidelines identified in 43 CFR 3162.7-5 regulations will be followed.
 8. All off-lease storage, off-lease measurement or commingling (on lease or off-lease) shall have prior written approval from the Assistant District Manager.
 9. If the well becomes a producing oil well and the pronghorn abandon the existing water catchment, the operator will construct a wildlife water catchment at a new location to mitigate the impacts on the catchment that is within 1/2 mile of the well.

C. REQUIRED APPROVALS, REPORTS AND NOTIFICATIONS

Required verbal notifications are summarized in Table 1, attached

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

Spud- The spud date will be reported to the Resource Area Office 24 hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District 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 District 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 from the Assistant District Manager "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 Authorized Officer. 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 Resource Area 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 Area Manager is to be notified.

First Production- Should the well be successfully completed for production, the Assistant District Manager, Minerals Division 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 on production.

A first production conference will be scheduled as soon as production testing begins and hydrocarbons reach the surface. This conference should be coordinated through the Resource Area Office.

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 District 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. Samples (cuttings and /or samples) will be submitted when requested by the Assistant District Manager.

Venting/Flaring of Gas- NTL-4A allows venting/flaring of gas during the initial well evaluation period not to exceed 30 days or 50 MMcf. Venting/flaring beyond the initial test period threshold must be approved by the District Office.

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 Assistant District Manager for approval pursuant to NTL-2B.

Off-Lease Measurement, Storage, Commingling- Prior approval must be obtained from the Assistant District Manager for off-lease measurement, off-lease storage 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 BLM, Moab District Office prior to initiating plugging operations. Table 1 of this document provides the after-hours phone numbers of personnel who are authorized to give plugging instructions.

A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the Assistant District Manager, Minerals Division 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 Area Manager or his representative, or the appropriate surface managing agency.

TABLE 1

NOTIFICATIONS

Notify Jack Johnson, Rich McClure or Elmer Duncan of the Grand Resource Area in Moab, Utah, at (801) 259-8193 for the following:

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

1 day prior to spudding;

50 feet prior to reaching surface and intermediate casing depths;

3 hours prior to testing BOPE;

If the person at the above number cannot be reached, notify the Moab District Office at (801) 259-6111. If unsuccessful, notify 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 District Office, Branch of Fluid Minerals at (801) 259-6111. If approval is needed after work hours, you may contact the following

Eric Jones, Petroleum Engineer	Office: (801) 259-6111 Home: (801) 259-2214
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If unable to reach the above individual, please call:

Lynn Jackson, Chief, Branch of Fluid Minerals	Office: (801) 259-6111 Home: (801) 259-7990
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Norman H. Bangerter

Governor

Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center Suite 350
Salt Lake City Utah 84103 1203
801 538 5340

October 15, 1992

Double Eagle Petroleum & Mining Company
P.O. Box 766
Casper, Wyoming 82602-0766

Gentlemen:

Re: Kane Springs Canyon Federal 1-6 Well, 1325 feet from the north line, 1247 feet from the west line, C-NW C-NE, Section 6, Township 29 South, Range 22 East, San Juan County, Utah

Pursuant to Utah Admin. R. 649-3-3, Exception to Location and Siting of Wells and Utah Admin. R. 649-3-4, Permitting of Wells to be Drilled, Deepened or Plugged-Back, approval to drill the referenced well is hereby granted

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

1. *Submittal to the division of evidence providing assurance of an adequate and approved supply of water as required by Utah Code Ann § 73-3, Appropriations, prior to commencing drilling operations.*
2. Compliance with the requirements of Utah Admin. R. 649-1 et seq, Oil and Gas Conservation General Rules
3. Notification within 24 hours after drilling operations commence.
4. Submittal of Entity Action Form, Form 6, within five working days following commencement of drilling operations and whenever a change in operations or interests necessitates an entity status change
5. Submittal of the Report of Water Encountered During Drilling, Form 7.

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Double Eagle Petroleum & Mining Company
Kane Springs Canyon Federal 1-6 Well
October 15, 1992

6. Prompt notification prior to commencing operations, if necessary, to plug and abandon the well. Notify Frank R. Matthews, Petroleum Engineer, (Office) (801)538-5340, (Home) (801)476-8613, or R J Firth, Associate Director, (Home) (801)571-6068
7. Compliance with the requirements of Utah Admin. R. 649-3-20, Gas Flaring or Venting, if the well is completed for production.

Trash and sanitary waste should be properly contained and transported to approved disposal locations, not retained in or disposed of in pits on location or downhole. Prior to the commencement of drilling operations, the operator should consult the local/county sanitarian and/or the Department of Environmental Quality, Division of Drinking Water/Sanitation, regarding appropriate disposal of sanitary waste.

This approval shall expire one year after date of issuance unless substantial and continuous operation is underway or a request for an extension is made prior to the approval expiration date. The API number assigned to this well is 43-037-31691.

Sincerely,



R. J. Firth
Associate Director, Oil and Gas

ldc
Enclosures
cc: Bureau of Land Management
J L Thompson
WO11

FEBRUARY 8, 1994

TO: WELL FILE

FROM: K. M. HEBERTSON

RE: Status, Kane Springs Fed 1-6 43-037-31691 6-29S-22E

Per telephone conversation with the operator concerning the status of this well, it was determined that the well will not be drilled and the operator has acknowledged that the APD has expired. The operator has been informed that the APD will need to be refiled in order to drill this well at a future date.

As of the above date the APD has been rescinded and the file sent to the LA archives.

KMH