

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG ELECTRIC LOGS FILE X WATER SANDS LOCATION INSPECTED SUB REPORT/abd.

DATE FILED **7-10-91**

LAND: FEE & PATENTED STATE LEASE NO. PUBLIC LEASE NO. **U-58070** INDIAN

DRILLING APPROVED: **10-9-91**

SPUDDED IN:

COMPLETED: **4.14.93 LA** PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED: **LA'D Per BLM eff. 4.14.93**

FIELD: **WILDGAT**

UNIT: **NOAB WEST**

COUNTY: **GRAND**

WELL NO. **GREEN RIVER FEDERAL #1-20** API NO. **43-019-31326**

LOCATION **2209' FSL** FT. FROM (N) (S) LINE. **778' FEL** FT. FROM (E) (W) LINE. **NE SE** 1/4 - 1/4 SEC. **20**

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
				25S	18E	20	CHEVRON U.S.A. INC.

NOTICE OF STAKING
(Not to be used in place of
Application for Permit to Drill Form 3160-3)

6. Lease Number

U-58070

1. Oil Well Gas Well Other
(Specify)

7. If Indian, Allottee
or Tribe Name

2. Name of Operator:

8. Unit Agreement Name

Chevron USA Inc

3. Name of Specific Contact Person:

9. Farm or Lease Name

Jan Watson 303-930-3691

Green River Federal

4. Address & Phone No. of Operator or Agent

10. Well No.

P.O. Box 599, Denver, Co. 80201

#1-20

5. Surface Location of Well

11. Field or Wildcat
Name

Attach: a) Sketch showing road entry onto pad,
pad dimensions, and reserve pit.

Wildcat

b) Topographical or other acceptable
map showing location, access road,
and lease boundaries.

12. Sec., T., R., N.,
or Blk. and Survey
or Area

Sec 20, T25S, R18E

13. County, Parish or
Borough

Grand County

14. State

15. Formation Objective(s)

16. Estimated Well
Depth

Paradox

7,000' TVD
9,000 measured

Utah

17. Additional Information (as appropriate; must include surface owner's
name, address, and telephone number)

18. Signed Jan Watson

Title Technical Assistant

Date 5/10/91

Note: Upon receipt of this Notice, the Bureau of Land Management (BLM)
will schedule the date of the onsite predrill inspection and notify
you accordingly. The location must be marked and access road must
be flagged prior to the onsite

Operators must consider the following prior to the onsite:

- a) H₂S Potential
- b) Cultural Resources (Archaeology)
- c) Federal Right-of-way or Special use Permit

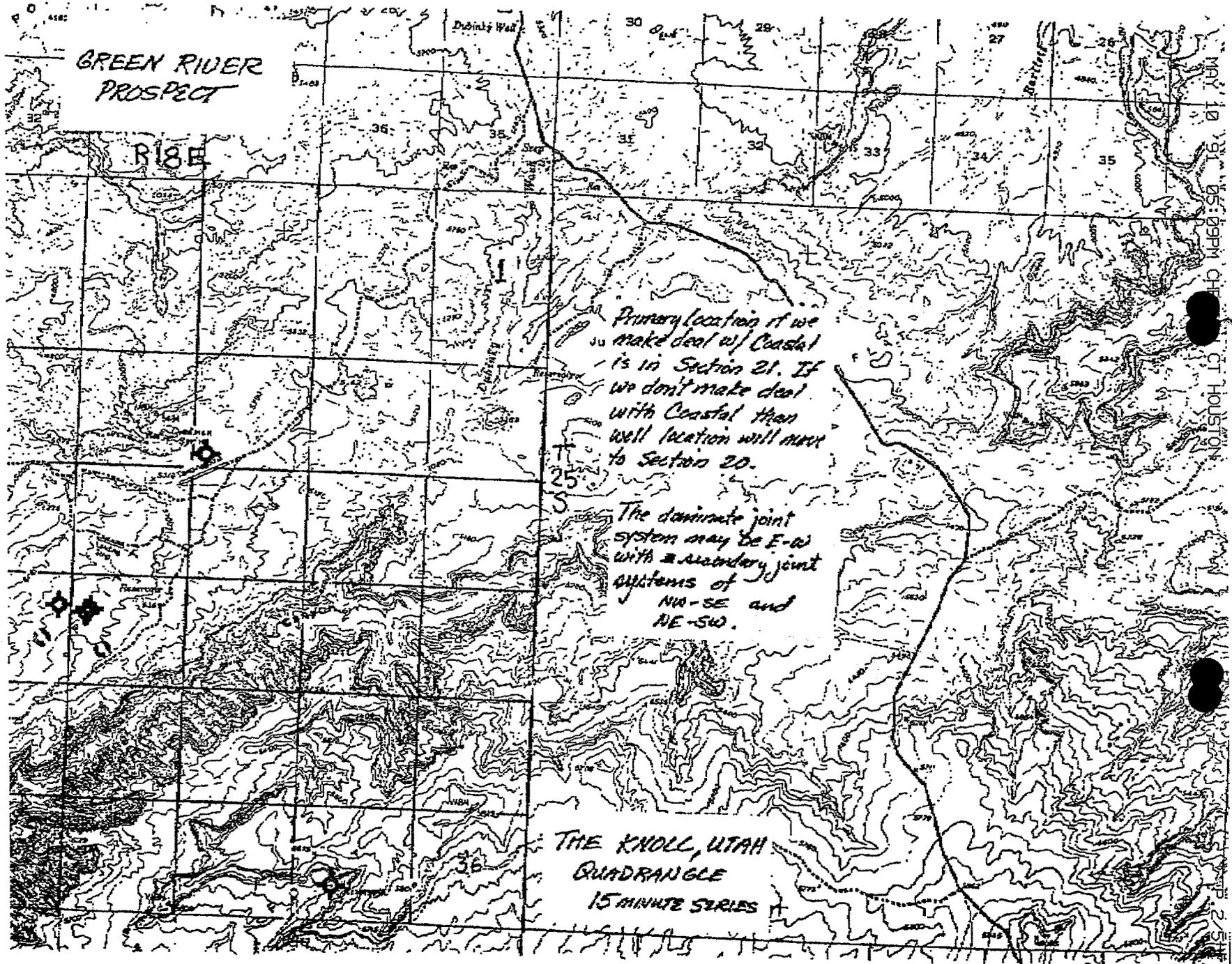
(IMPORTANT: SEE REVERSE SIDE FOR INSTRUCTIONS)

RECEIVED

MAY 13 1991

DIVISION OF
OIL GAS & MINING

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GREEN RIVER
PROSPECT

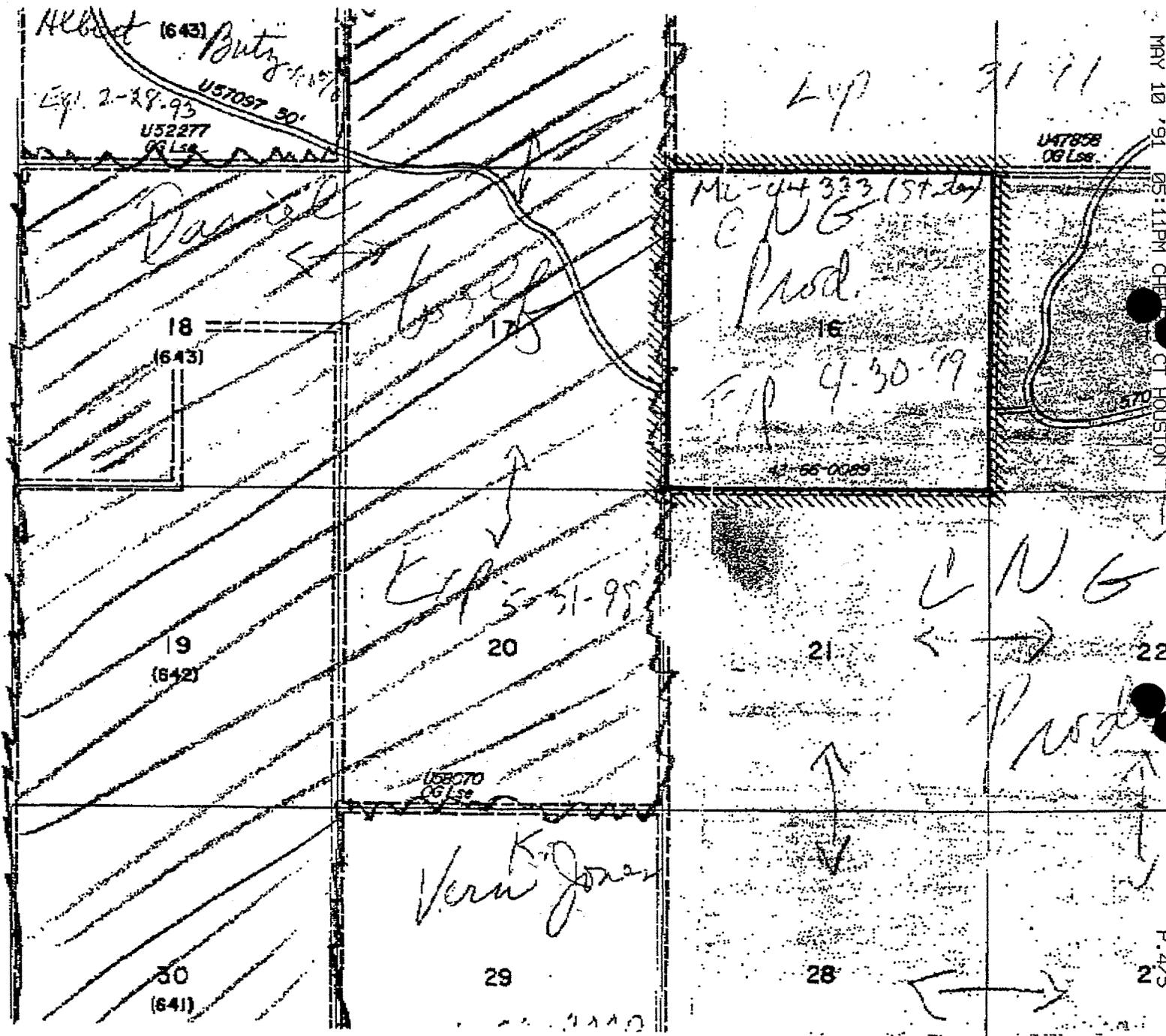
RISE

Primary location if we
make deal w/ Coastal
is in Section 21. If
we don't make deal
with Coastal then
well location will move
to Section 20.

The dominant joint
system may be E-W
with a secondary joint
systems of
NW-SE and
NE-SW.

THE KNOLL, UTAH
QUADRANGLE
15 MINUTE SERIES

MAY 10 9 11 AM '95
CT HOUSTON



MAY 10 '91 05:11PM CHESTER CT HOUSTON

P.4/5

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
 Chevron U.S.A. Inc.

3. ADDRESS OF OPERATOR
 PO Box 599, Denver, CO 80201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)
 At surface: 869' FEL and 1681' FSL *NESE*
 At proposed prod. zone: 2283' FEL and 267' FSL *SWSE*

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14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 +29 miles northwest of Moab, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 869'

16. NO. OF ACRES IN LEASE 2243

17. NO. OF ACRES ASSIGNED TO THIS WELL 640

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
 dry hole +2300'

19. PROPOSED DEPTH *CNCR*
 1) 7550' TVD/MD
 2) 7167' TVD/8877' MD

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5145' GR

22. APPROX. DATE WORK WILL START*
 8/1/91

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
24"	20"	94	80'	Cmt to Sfc
17½"	13-3/8"	68	700'	Cmt to Sfc
12¼"	9-5/8"	47	4245'	Cmt to Sfc
8½"	7"	26	7167' TVD/ 8877' MD	Cmt from top of productive zone to 9-5/8" casing. Slotted liner in lateral section.

NOTE:

Item 19 - Well is to be drilled vertically to 7550' to evaluate the Cane Creek objective. The well will then be plugged back and drilled **horizontally** at 88° into the Cane Creek at approx. 7167' TVD. This will give a horizontal displacement of 2000' from surface at S45°W. The well bore azimuth may be adjusted based on the vertical open hole evaluation to maximize the reservoir potential while drilling the horizontal section.

Item 23 - The 9-5/8" casing is to be set approx. 500' into the top of the salt.

Be advised that Chevron U.S.A. Inc. is considered to be the operator of Green River Federal 1-20 well, Grand County, Utah, Lease No. U-58070 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 Nationwide Bond #U-89-75-81-34 (Standard Oil Co. of California and its wholly owned subsidiary Chevron U.S.A. Inc., as co-principals) via surety consent as provided for in 43 CFR 3104.2.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED J.R. Watson TITLE Technical Assistant DATE 6/27/91

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(This space for Federal or State office use)

PERMIT NO. 43-019-313004

APPROVED BY [Signature] TITLE [Signature]
 APPROVAL DATE _____
 DIVISION OF OIL, GAS, AND MINING

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

DATE: JUL 01 1991 4-13-92
 BY: [Signature]
 DIVISION OF WELL SPACING
 OIL, GAS & MINING 649-3-2

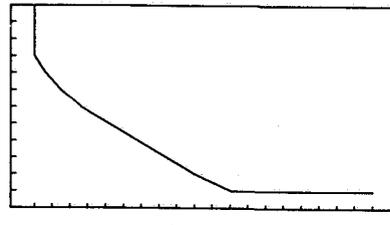
*See Instructions On Reverse Side

CHEVRON U.S.A. Inc.
ROCKY MOUNTAIN PROD. BUSINESS UNIT
DIRECTIONAL PROGRAM

Field	GREEN RIVER - FEDERAL	Rig Type	
Well	CHEVRON 1-20	Rig Name	
Location	SEC.20,T25S,R18E 869 FEL, 1681 FSL	AFE #	

1) DIRECTIONAL/STRAIGHT HOLE

Explor/Devel	EXPLORATOR	GLE	5,145	KBE	5,165
Drill/Deepen	DRILL				
Calculated TVD	7,167				
Calculated MD	8,877				
EOB MD	7,387				
EOB TVD	7,115				
Horizontal Displ.	2000				
KOP	6590				
Build DEG/100'	13				
Initial Angle	0				
Max. Angle	88				
Tangent Length	120				
Angle Before Tang.	45				
Angle After Tang.	88				
Avg. Angle	88				
Target Loc.	2283'FEL,267'FSL				
Bearing f/ Surf.	S45W				



2) 1'st Build Section

Radius	441 ft
Vertical Displacement (V1)	312 ft
Horizontal Displacement (H1)	129 ft
Build Length (L1)	346 ft

3) 2'nd Build Section (Tangent)

Radius	441 ft
Vertical Displacement (V2)	85 ft
Horizontal Displacement (H2)	85 ft
Build Length (L2)	120 ft

4) 3'rd Build Section

Radius	441 ft
Vertical Displacement (V3)	129 ft
Horizontal Displacement (H3)	296 ft
Build Length (L3)	331 ft

ADDITIONAL COMMENTS

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CHEVRON U.S.A. Inc.
ROCKY MOUNTAIN PROD. BUSINESS UNIT
DRILLING PROGRAM

Field	GREEN RIVER - FEDERAL	Rig Type	
Well	CHEVRON 1-20	Rig Name	
Location	SEC.20,T25S,R18E 869 FEL, 1681 FSL	AFE #	

1) DIRECTIONAL/STRAIGHT HOLE

Explor/Devel	EXPLORATORY	GLE	5,145	KBE	5,165
Drill/Deepen	DRILL				
Proposed MD	8,877				
Proposed TVD	7,115				
KOP	6,590				
Build	13/100'				
Max. Angle	88				
Avg. Angle	HORIZONTAL				
Target Loc.	2283'FEL,267'FSL				
Bearing f/ Surf.	S45W				

2) CONDUCTOR HOLE

Hole Size	24"				
Proposed MD	+/-80'				
Proposed TVD	+/-80'				

Mud Program	Type	MW	FV	WL	Other
	N/A	N/A	N/A	N/A	N/A

Csg. Program	Size	Grade	Weight	Thread	Sect Lgth
	20"	PE	94#	-	80'

3) SURFACE HOLE

Hole Size	17 1/2"		Csg. Test (psi)	1,500/30 MIN
Proposed MD	+/-700'		Shoe Test (pp)	10.0
Proposed TVD	+/-700'		BOPE	N/A

	BHA	TO BE DETERMINED
Drill String Design		
	Drill Pipe	TO BE DETERMINED

Mud Program	Type	MW	FV	WL	Other
	AIR / AIR MIST				
IF REQUIRED	FW/GEL	+/-8.5	28-34	N/A	SWEEP AS REQ.

Csg. Program	Size	Grade	Weight	Thread	Sect Lgth
	13 3/8"	K-55	68#	ST&C	+/-700'

Cmt. Program	Lead Slurry	CLASS H W/ 16% GEL, 3% SALT
	Tail Slurry	CLASS H W/ 2% CACL2 @ 16.4 PPG.
	WOC Time (Hr)	500 PSI C.S. TO BE DETERMINED F/ CMT. TESTS

Potential Hazards	NONE
Elec Logging Prog	NONE
Core/DST Program	NONE

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4) INTERMEDIATE HOLE

Hole Size	12 1/4"	Csg. Test (psi)	4,000		
Proposed MD	4,245'	Shoe Test (pp)	16.0		
Proposed TVD	4,245'	BOPE	10M-CLASS IV		
Drill String Design	BHA TO BE DETERMINED				
	Drill Pipe TO BE DETERMINED				
Mud Program	Type	MW	FV	WL	Other
	AIR / AIR MIST				
IF REQUIRED	FW/GEL	8.8 PPG	40	NC	
Csg. Program	Size	Grade	Weight	Thread	Sect Lgth
	9 5/8"	N80	47.0	LTC	4,245'
Cmt. Program	Lead Slurry	CLASS-H W/ 16% GEL & 3% SALT			
	Tail Slurry	CLASS-H W/ ADDITIVES @ 16.4ppg			
	WOC Time (Hr)	12			
<u>Potential Hazards</u>	NA				
<u>Elec Logging Prog</u>	SEE ATTACHED FORMATION EVALUATION PROGRAM				
<u>Core/DST Program</u>	NA				

5) OIL STRING / LINER HOLE

Hole Size	8 1/2"	Csg. Test (psi)	4,000/FOR 30MIN		
Proposed MD	8,877'	Shoe Test (pp)	N/A		
Proposed TVD	7,167'	BOPE	10M-CLASS IV		
Drill String Design	BHA TO BE DETERMINED				
	Drill Pipe TO BE DETERMINED				
Mud Program	Type	MW	FV	WL	Other
	OIL INVERT	10-16ppG	40-60	5-10	CL2-SAT'D
Csg. Program	Size	Grade	Weight	Thread	Sect Lgth
	7"	N80	26#	LT&C	+/-7,386'
	7" SLOTTED LINER IN HORIZONTAL SECTION				+/-1,491'
	TOTAL FTG				8,877
Cmt. Program	Lead Slurry	CLASS H W/ 16% GEL + 3% SALT			
	Tail Slurry	CLASS-H W/ ADDITIVES @ 16.4ppg			
	WOC Time (Hr)	24 (CMT F/ EOC TO 9 5/8" CSG)			
<u>Potential Hazards</u>	HIGH PRESSURE				
<u>Elec Logging Prog</u>	SEE ATTACHED FORMATION EVALUATION PROGRAM				
<u>Core/DST Program</u>	120' CANE CREEK				

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6) AUXILIARY EQUIPMENT

Mud Logging Unit	<u>100' TO T.D.</u>	Rotating Head	@ <u>4,245</u>
Geograph	<u>SPUD</u>	Degasser	@ <u>4,245</u>
Visulogger	<u>SPUD</u>	Desilter	@ <u>SPUD</u>
Adj. Choke	<u>700'</u>	Centrifuge	@ <u>4,245</u>
PVT & Flowmeter	<u>SPUD</u>	Mud Cleaner	@ <u>4,245</u>
Trip Tank	<u>SPUD</u>	H2S Safety Eqpt	@ <u>N/A</u>
Other	<u>UPPER & LOWER KELLY COCK VALVES, IBOP, FULL OPENING DP SAFETY VALVE</u> <u>@ SPUD TO MATCH DP & DC'S.</u>		

7) OTHER INFORMATION

Inspect BHA After +/-200 Rotating Hours.
Inclination Surveys Every +/-500' Feet. (In Straight Holes)
Gyro Surveys @ 4,245' & PRIOR TO KICK-OFF
Ckeck Drig. Breaks Below 4,245 Feet For Flow.
Fill Drill Pipe Every 30 Stds. When Runnung A Float.
Fill Csg Every EVERY Jt/Jts.

8) GENERAL REMARKS

See Attached Information

9) GEOLOGIC PROGRAM

See Attached Information

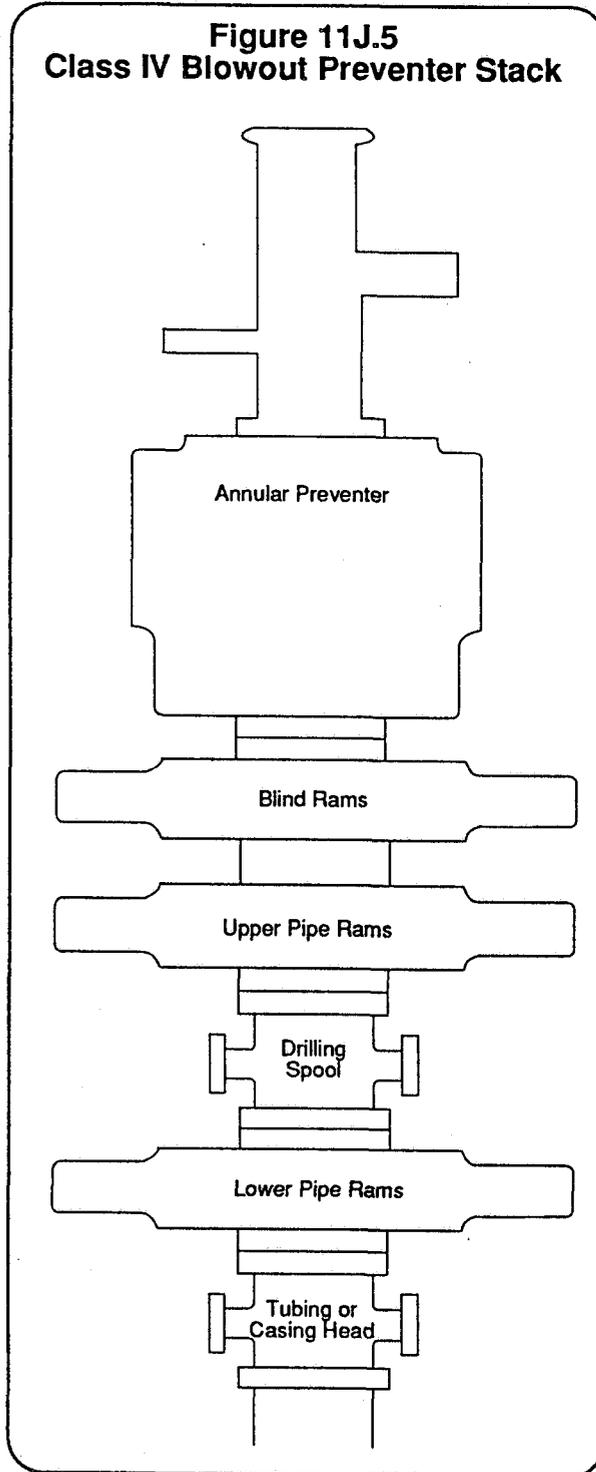
Prepared by:	<u>JRS</u>	Drig. Supt.	<u> </u>
Date	<u>06/17/91</u>	Date	<u> </u>

DHH(91)

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F. CLASS IV BLOWOUT PREVENTER STACK:

Figure 11J.5
Class IV Blowout Preventer Stack



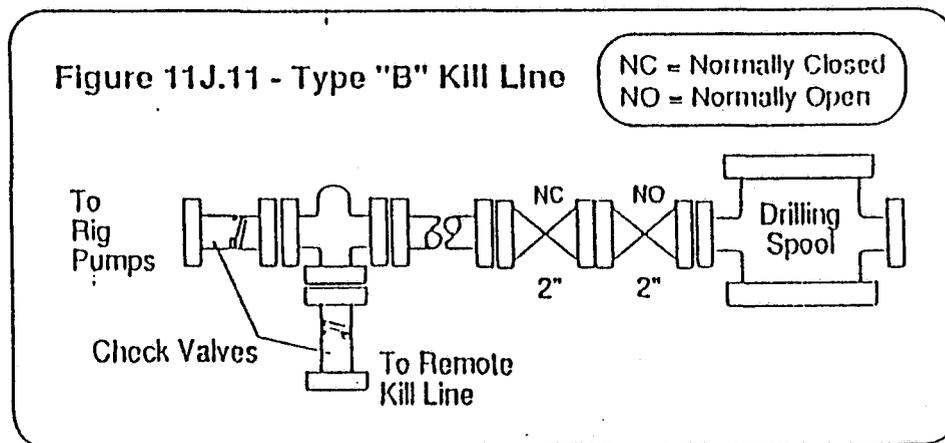
The Class IV preventer stack is designed for drilling or workover operations. It is composed of a single hydraulically operated annular preventer on top, then a blind ram preventer, a single upper pipe ram preventer, a drilling spool, and a single lower pipe ram preventer on bottom. The choke and kill lines are installed onto the drilling spool and must have a minimum internal diameter of 3". All side outlets on the preventers or drilling spool must be flanged, studded, or clamped. An emergency kill line may be installed on the wellhead. A double ram preventer may be used for the blind rams and upper pipe rams in all instances if a drilling spool is being used. If this stack is used in conjunction with a tapered drillstring, a set of variable bore pipe rams should be installed in the upper pipe ram preventer and large pipe rams should be installed in the lower pipe ram preventer. The Class IV blowout preventer stack is shown to the left in Figure 11J.5.

ATTACHMENT E
CHEVRON DRILLING REFERENCE SERIES
VOLUME ELEVEN
WELL CONTROL AND BLOWOUT PREVENTION

D. TYPE "B" KILL LINE — CLASS III, IV, AND V WELLS

The type B kill line described below in Figure 11J.11 is the minimum recommended hookup for installation on all Class III, Class IV and Class V wells. Specific design features of the type B kill line include:

1. The preferred kill line connection to the well is at the drilling spool, however, a preventer side outlet may be used when space restrictions exclude the use of a drilling spool. In all cases, the kill line must be installed below the uppermost blind rams so the well can be pumped into with no pipe in the hole.
2. The arrangement includes two - 2" (nominal) gate valves installed at the drilling spool and an upstream fluid cross. The outside valve may be hydraulically remote controlled.
3. Two pump-in lines should be attached to the fluid cross. The primary kill line should be routed to the rig standpipe where it can be manifolded to the rig pumps. The remote kill line should be run to a safe location away from the rig or to the rig cementing unit. The remote kill line should have a loose end connection for rigging-up a high pressure pumping unit.
4. Both the primary kill line and the remote kill line must include a 2" check valve which is in working condition while drilling. If a check valve is crippled for testing purposes, the flapper or ball must be re-installed and tested before drilling resumes.
5. The primary kill line must include a pressure gauge which can display the pump-in pressure on the rig floor.
6. Any lines which are installed at the wellhead are designated as "emergency kill lines" and should only be used if the primary and remote kill lines are inoperable.



DRILLING PROGRAM ATTACHMENT

GENERAL REMARKS

1. Applicable Federal and State Regulations will be adhered to during the drilling of this well.
2. The drilling rig is to be level and the kelly centered over the hole before drilling operations commence. Check periodically during the drilling of the well to insure the rig stays level.
3. Prior to spud insure all toolpushers, drillers and crews are thoroughly familiar with and understand the Chevron procedure for handling well kicks.

In H₂S environments Chevron's contingency plan for your location is to be read, understood and adhered to. All personnel are to be thoroughly familiar with the use of air packs, the air supply system, locations of air packs and what to do in the event of sour gas to surface.
4. Test BOPE before drilling out and every seven days thereafter. Perform low pressure test (200 psi) and high pressure test. High pressure test should be 70% of BOPE working pressure or 70% of burst of last casing string, whichever is less. Record BOP tests on Tour Reports. Notify applicable Federal and State Regulatory Agencies 24 hours in advance of BOPE tests and record notification and names on Tour Reports.
5. Do not reuse ring gaskets. Replace with new Rx or Bx ring gaskets.
6. Separate full opening safety valves and inside BOP's are required for each size drill pipe in use. Test weekly with BOPE.
7. Run full open valve below kelly that can be run in the hole if necessary. Do not use this valve as a mud saver sub.
8. BOP controls are to remain in the open position during drilling operations.
9. Hold pit drills for each crew at least once every seven days and record on Tour Reports.
10. On trips fill the annulus before hydrostatic pressure drops 75 psi or every 5 stds of drill pipe, whichever is first. Use trip tanks to measure hole fill-up and monitor at all times.
11. Use drill pipe floats at all times unless your supervisor instructs otherwise.
12. Have wear ring installed in wellhead before tripping or rotating. Remember to remove wear ring before running casing or when testing BOPE.

13. Casing rams are to be installed and bonnets tested on last trip out before running casing.
14. Run pilot and thickening time tests with rig mixing water for all cement slurries prior to cementing operations.
15. Casing should be tested to 1,500 psi or 0.2 psi/ft., whichever is greater, prior to drilling out and recorded on Tour Reports. Discuss the test pressure with your supervisor and reference DM-49 before testing.
16. Drill out slick beneath each casing string. Drill deep enough to bury stabilization to be picked up.
17. Do not drill with hardbanded pipe inside of casing.
18. Do not run full gauge stabilizers. Run stabilizers 1/16" to 1/8" undergauge.
19. When necessary to work pipe, keep pipe moving up and down. Rotating alone is not considered sufficient.
20. Install and test full lubricator on all logging runs unless instructed otherwise by supervisor.
21. Fully describe damaged or lost equipment on Tour Reports.

CHEVRON DRILLING REFERENCE SERIES
VOLUME ELEVEN
WELL CONTROL AND BLOWOUT PREVENTION

9. BOP CLOSING EQUIPMENT

A. General Requirements

The accumulator system and pumps must be of adequate capacity for the BOP stack in use. The system must hold pressure without leaks or excessive pumping and should maintain enough pressure capacity reserve to close the preventers with the recharging pumps turned off. These pumps are designed to charge the accumulator within a reasonable time period and maintain this charge during preventer operations.

Chevron's design base for surface accumulator capacity is governed by MMS regulation, Order 30 CFR Part 250.56 (d), which states that all blowout preventer systems shall be equipped with:

Minerals Management Service Sizing Guidelines

"A hydraulic actuating system that provides sufficient accumulator capacity to supply 1.5 times the volume necessary to close and hold closed all BOP equipment units with a minimum (remaining) pressure of 200 psi (1,400 kPa) above the precharge pressure without assistance from the charging system. An accumulator backup system which shall be automatic, supplied by a power source independent from the power source to the primary accumulator charging system, and possess sufficient capacity to close all blowout preventers and hold them closed.

The above stated MMS regulation is equivalent to sizing a 3000 psi accumulator with enough capacity to close the annular and all ram preventers one time, with the pumps out of service, while maintaining a minimum remaining operating pressure of 1500 psi. This equivalence is shown on the next page.

This demanding base using a 50% safety factor is recommended by Chevron because it provides complete replenishment of fluid in "close" lines at the time preventers are activated. The safety factor also allows for loss of fluid capacity due to "interflow" in the four-way valves and possible loss through the packing of the preventer units. A less demanding base is not recommended, but may be used with Class II stacks, provided prior management approval has been obtained. Requirements vary with the size of preventers and are principally controlled by the annular preventer requirements.

Opening/closing volume tables provide the necessary information to calculate individual requirements as to accumulator size needed. Hydraulically operated choke and kill line valves require added fluid capacity. It must be remembered that only one-half to two-thirds of the accumulator bottle is liquid filled when fully charged, depending on the unit.

4. CHOKE MANIFOLDS

A. GENERAL CHOKE MANIFOLD SPECIFICATIONS

The following general specifications apply to all classes of choke manifold.

1. All choke manifold components which may be exposed to well pressure must have a working pressure rating equal to or greater than that of the preventer stack in use.
2. Choke manifolds should be placed outside the rig substructure when possible.
3. Choke lines should be run in a straight line with a minimum of turns. All turns must be targeted in the direction of flow.
4. Choke lines should be securely staked or anchored to reduce vibrations while circulating.
5. Bloop lines must not have restricted internal diameters and should vent well clear of the rig.
6. All valves must be of full-opening gate valve construction. Low torque ball valves should not be installed.
7. All gauges should be rated for drilling service.
8. New metal rings are to be used each time a flange is assembled. Flange grooves are to be well cleaned and dry. API RX or BX rings are required. Use of API R rings will not be permitted.

B. CLASS I CHOKE MANIFOLD

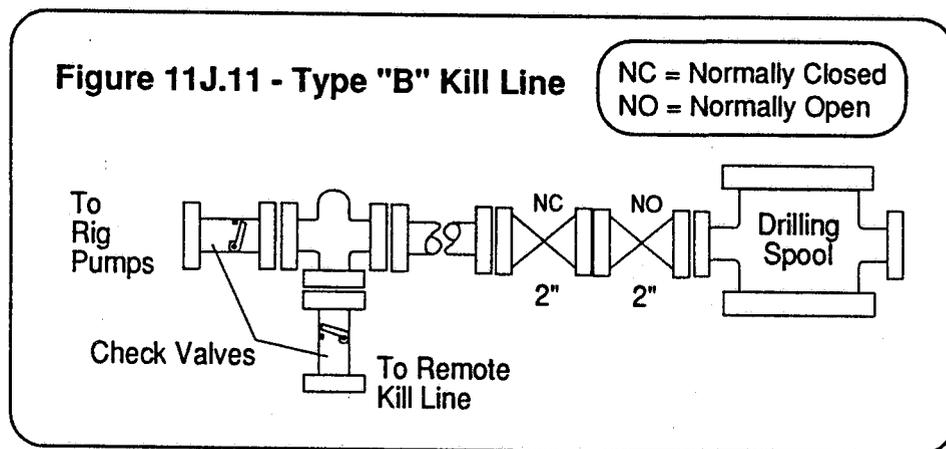
None required

CHEVRON DRILLING REFERENCE SERIES
VOLUME ELEVEN
WELL CONTROL AND BLOWOUT PREVENTION

D. TYPE "B" KILL LINE — CLASS III, IV, AND V WELLS

The type B kill line described below in Figure 11J.11 is the minimum recommended hookup for installation on all Class III, Class IV and Class V wells. Specific design features of the type B kill line include:

1. The preferred kill line connection to the well is at the drilling spool, however, a preventer side outlet may be used when space restrictions exclude the use of a drilling spool. In all cases, the kill line must be installed below the uppermost blind rams so the well can be pumped into with no pipe in the hole.
2. The arrangement includes two - 2" (nominal) gate valves installed at the drilling spool and an upstream fluid cross. The outside valve may be hydraulically remote controlled.
3. Two pump-in lines should be attached to the fluid cross. The **primary kill line** should be routed to the rig standpipe where it can be manifolded to the rig pumps. The **remote kill line** should be run to a safe location away from the rig or to the rig cementing unit. The remote kill line should have a loose end connection for rigging-up a high pressure pumping unit.
4. Both the primary kill line and the remote kill line must include a 2" check valve which is in working condition while drilling. If a check valve is crippled for testing purposes, the flapper or ball must be re-installed and tested before drilling resumes.
5. The primary kill line must include a pressure gauge which can display the pump-in pressure on the rig floor.
6. Any lines which are installed at the wellhead are designated as "**emergency kill lines**" and should only be used if the primary and remote kill lines are inoperable.

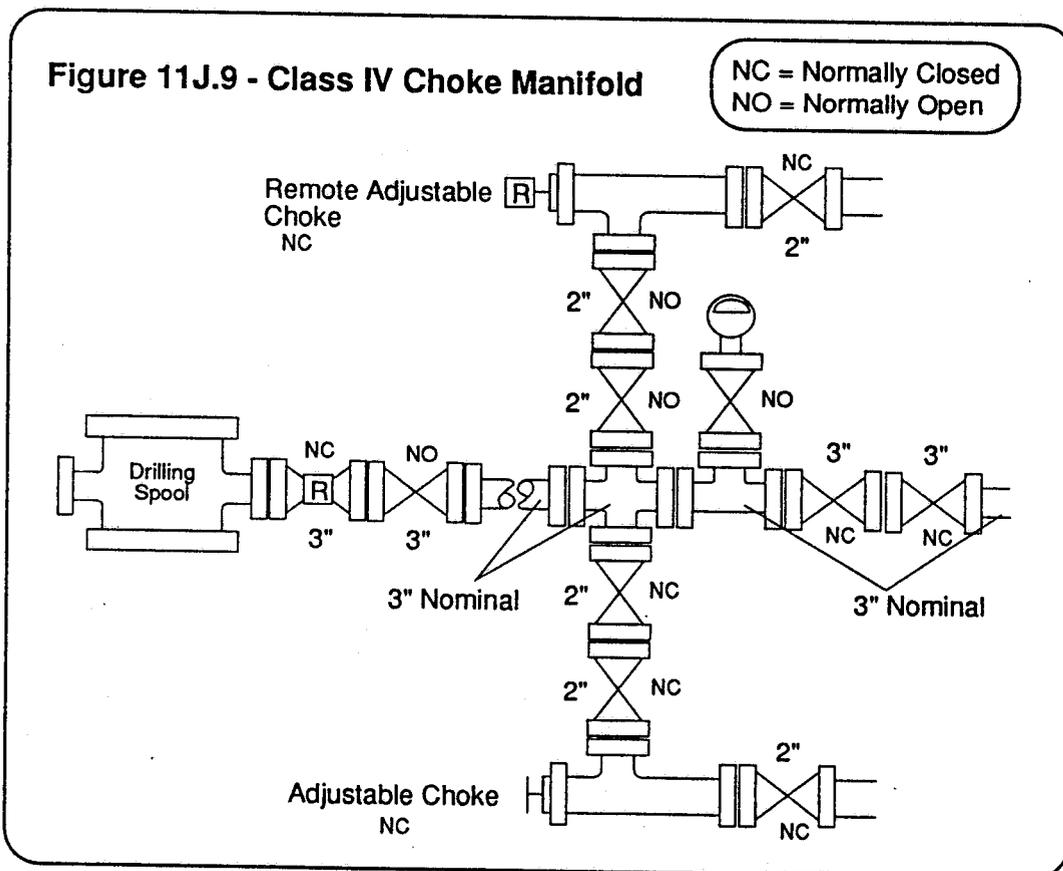


CHEVRON DRILLING REFERENCE SERIES
VOLUME ELEVEN
WELL CONTROL AND BLOWOUT PREVENTION

E. CLASS IV CHOKE MANIFOLD

The Class IV choke manifold is suitable for Class IV and Class V workovers and drilling operations. The standard Class IV choke manifold is shown below in Figure 11J.9. Specific features of the Class IV manifold include:

1. The manifold is attached either to a drilling spool or to the pipe ram side outlet which would be located immediately above the drilling spool if it was in use.
2. The minimum internal diameter is 3" (nominal) for the choke line, choke line valves, manifold cross, and blooey line. The minimum internal diameter is 2" (nominal) for the drilling chokes and for all valves installed within the choke manifold that are not part of the blooey line.
3. Includes two 3" steel gate valves in the choke line located at the drilling spool outlet. The inside choke line valve is remotely controlled (HCR).
4. Includes one manually adjustable choke and one hydraulically operated choke which are installed on either side of the manifold cross. Two 2" steel isolation gate valves are installed between both chokes and the manifold cross.
5. Includes one 3" blooey line running straight through the cross which is isolated by two 3" steel gate valves.



GEOLOGIC PROGRAM

GREEN RIVER PROSPECT

FIELD/AREA: Green River - Hell Roaring Canyon Area
TYPE OF WELL: Exploration
WELL NAME: #1-20 Green River Fed.
LOCATION: Sec. 20-T25S-R18E, 869' FEL, 1681' FSL
Grand County, Utah
SURFACE LOC: 869' FEL, 1681' FSL
BOTTOMHOLE LOC: Approx. 2000' S45°W; 2200' FEL, 500' FSL
GR (Ungraded): 5145'
KB (Est): 5165'
TD (TVD): 7550'
FM AT TD: Mississippian Leadville Ls
PRIMARY OBJECTIVE: Cane Creek
SECONDARY: Shallower Paradox Fm. cycles
WIRELINE LOGGING INTERVALS: DIL-MSFL-GR (Surf to TVD)
Lithodensity)
Long spaced sonic) 4000' to TVD
8 arm dipmeter)
MWD - Horizontal section of hole

CONFIDENTIAL

Geologic Program
Green River Prospect

Formation Tops	Shell #1-20 Fed 20-25S-18E KB 5142'	Est Tops (TVD) Chevron #1-20 Green River Fed 20-25S-18E GR 5145'
J/TR Navajo Ss	Not present	-
TR Kayenta Fm	At surface	At surface
Wingate	204' (+4938)	185'
Chinle Fm	465' (+4677)	445'
Moenkopi Fm	798' (+4344)	780'
Sinbad Ls	1102' (+4040)	1080'
P Kaibab Ls	Not present	Not present
White Rim Ss	1382' (+3760)	1460'
Organ Rock Sh	1610' (+3532)	1590'
Elephant Canyon	2035' (+3107)	2015'
TP Honaker Trail Fm	2526' (+2616)	2500'
Paradox Fm	3765' (+1377)	3745'
Isma (Cycle 2)	4047' (+1095)	4030'
Desert Creek (C4)	4470' (+672)	4450'
Akah (Cycle 6)	4834' (+308)	4815'
Barker Creek (C11)	5637' (-495)	5620'
Alkali Gulch (C19)	6645' (-1503)	6625'
Cane Creek (C22)	7134' (-1992)	7115' Horizontal horizon
Base Salt	7278' (-2136)	7260' is the Cane Creek.
Pinkerton Trail Fm	7368' (-2226)	7350' 2000' horiz. hole
Molas Fm	7444' (-2302)	7425' w/a S45°W azimuth
M Leadville Ls	7485' (-2343)	7465'
		TVD (Est.) = 7550' - (vert. hole TD)
	TD 7856' (M)	

CONFIDENTIAL

Geologic Program
Green River Prospect

MUD LOGGING PROGRAM:

From conductor pipe (~100 ft) to TD

WIRELINE LOGGING PROGRAM:

DIL-MSFL-GR; Long Spaced Sonic-GR-CAL;
Lithodensity-CNL-GR-CAL; 8-Arm Dipmeter;
Check Shot Survey
These logs will be run in the vertical hole.
MWD - will be run in the lower portion of the
vertical hole and the horizontal hole.

CORES/DSTs:

2 - 60 ft. cores in the Cane Creek and DSTs will
be run if we encounter significant shows.

CHEVRON U.S.A. INC.
GREEN RIVER FEDERAL 1-20
SEC. 20, T25S, R18E
GRAND COUNTY, UTAH

MULTIPOINT SURFACE USE PLAN

1. Existing Roads

A. See Map A. We do not plan to change, alter or improve upon any State or County roads.

B. To reach the proposed location travel northwesterly from Moab on Hwy. 163 for 11 miles, turn left on 313 for 8.1 miles to a junction. Turn right, travel 1.6 miles to a junction, keep to the left and travel 7.1 miles on the Dubinky Well Road. Turn left on trail for .7 mile to beginning of proposed access road.

2. Planned Access Roads

See Map B. The beginning of the proposed access is a rehabed access to a dry hole. Upgrading in the form of blading will be required from the turnoff in Section 16 to the well pad (approximately 1.5 miles) for minimum impact.

A. Width: 14' maximum.

B. Maximum grade: 6%.

C. Turnouts: None.

D. Drainage design: Follow existing drainage.

E. Cuts and fills: No major cuts and fills.

F. Surfacing materials: As is.

G. Gates, cattleguards or fencecuts: None.

3. Location of Existing and/or Proposed Facilities

A. See Map A. There are no existing wells within a one-mile radius of the proposed well. There are three dry hole markers in the north 1/2 of Section 20.

B. Installation of production facilities will be addressed at a later date if the well is a producer.

C. A blooie pit 15' x 20' x 10' deep will be constructed approximately 150' from the center hole. A line will be placed on the surface from the center hole to the burn pit. The pit will be fenced on four sides to protect livestock.

5. Location and type of water supply

A. Water needed will be hauled to the drillsite by commercial haulers from the Moab area. The water source will be permitted with the Utah State Engineer.

6. Source of Construction Materials

A. All construction materials needed for this location will come commercially from the Moab area using access roads shown on Map A.

7. Methods for Handling Waste Disposal

A. Cuttings will be settled out in the reserve pit. The reserve pit will be lined with a minimum 12 mil liner. The pit will be fenced with a 32" - 48" woven wire to protect wildlife and domestic animals.

B. Drilling fluids will be retained in reserve tanks utilizing maximum recirculation during drilling operations. Following drilling, the liquid waste will be evaporated or hauled to an approved disposal site and the pit will be backfilled and returned to natural grade.

C. In the event fluids are produced, any oil will be retained until sold in tankage and any water produced will be retained until its quality is determined. The quality and quantity of water produced will then determine the necessary disposal procedure.

D. Sewage will be disposed of in fiber glass insulated holding tanks, which will be placed in the vicinity of the trailers. The sewage will be hauled to an approved disposal site in the Moab area.

E. Trash will be contained in a portable metal container and hauled periodically to an approved landfill in the Moab area.

F. After the rig has moved from the wellsite, all waste material will be removed to an approved disposal site.

8. Ancillary Facilities

A. Four trailers will be placed on the drilling location to house the tool pusher, drilling rep, mud logger, and geologist. They will be placed approximately as shown on the location layout.

9. Wellsite Layout

A. Four to six inches of topsoil will be removed from the location and stockpiled. Location of mud tanks, reserve and

burn pits, pipe racks, living facilities and soil stockpiles are shown on the attachments.

B. Burn pit will not be lined.

C. Access to the well pad will be as indicated on Exhibit C.

D. The pad will be bermed to divert drainage around location.

10. Plans for Restoration of Surface

A. All surface areas not required for producing operations will be graded to as near original condition as possible and contoured to maintain possible erosion to a minimum. Any rock encountered in excavation will be disposed of beneath backfill to return surface to its present appearance and provide soil for seed growth.

B. The topsoil will be evenly distributed over the disturbed areas and reseeded.

C. Pits and any other area that would present a hazard to wildlife or livestock will be fenced off when the rig is released and removed.

D. Any oil accumulation on the pit will be removed or overhead flagged as dictated by then existing conditions.

E. The well will be completed during 1991. Rehabilitation will commence following completion of the well. If the wellsite is to be abandoned, all disturbed areas will be recontoured to the natural contour as is possible.

11. Surface Ownership

A. The wellsite and access road will be constructed on BLM lands. The operator shall contact the BLM office in Moab at (801) 259-2106 between 24 and 48 hours prior to construction activities.

12. Other Information

A. The well is located on Deadman Point Mesa, 3/4 mile from Hell Roaring Canyon to the southeast and the Green River Canyon 2 miles to the southwest. There is no permanent water in the project area.

Vegetation consists of juniper trees with an occasional pinyon, bitterbrush, serviceberry, low sagebrush, rabbitbrush, Mormon tea and Indian ricegrass.

Fauna are more likely to be found near the river areas and would include deer, antelope and Big Horn sheep. Rabbits and various burrowing rodents are found in the area.

B. Surface use activities in the area are primarily recreational although evidence of the uranium boom is found throughout the region.

C. A cultural resource inventory has been performed on the wellsite and access road. The area was recommended for clearance.

13. Company Representative

Ms. J. F. Newville
P. O. Box 599
Denver, Colorado 80201
(303) 930-3439

I hereby certify that I, or persons under my supervision have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operation proposed herein will be performed by Chevron U.S.A. Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

6/20/91

Date

J. B. Watson for J. F. Newville
J. F. Newville
Environment, Safety, Fire and
Health Manager

Attachments:

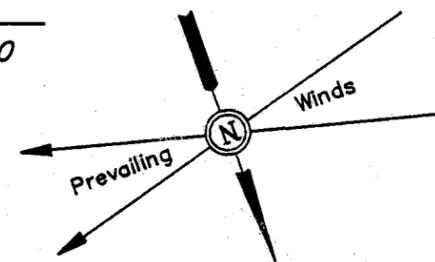
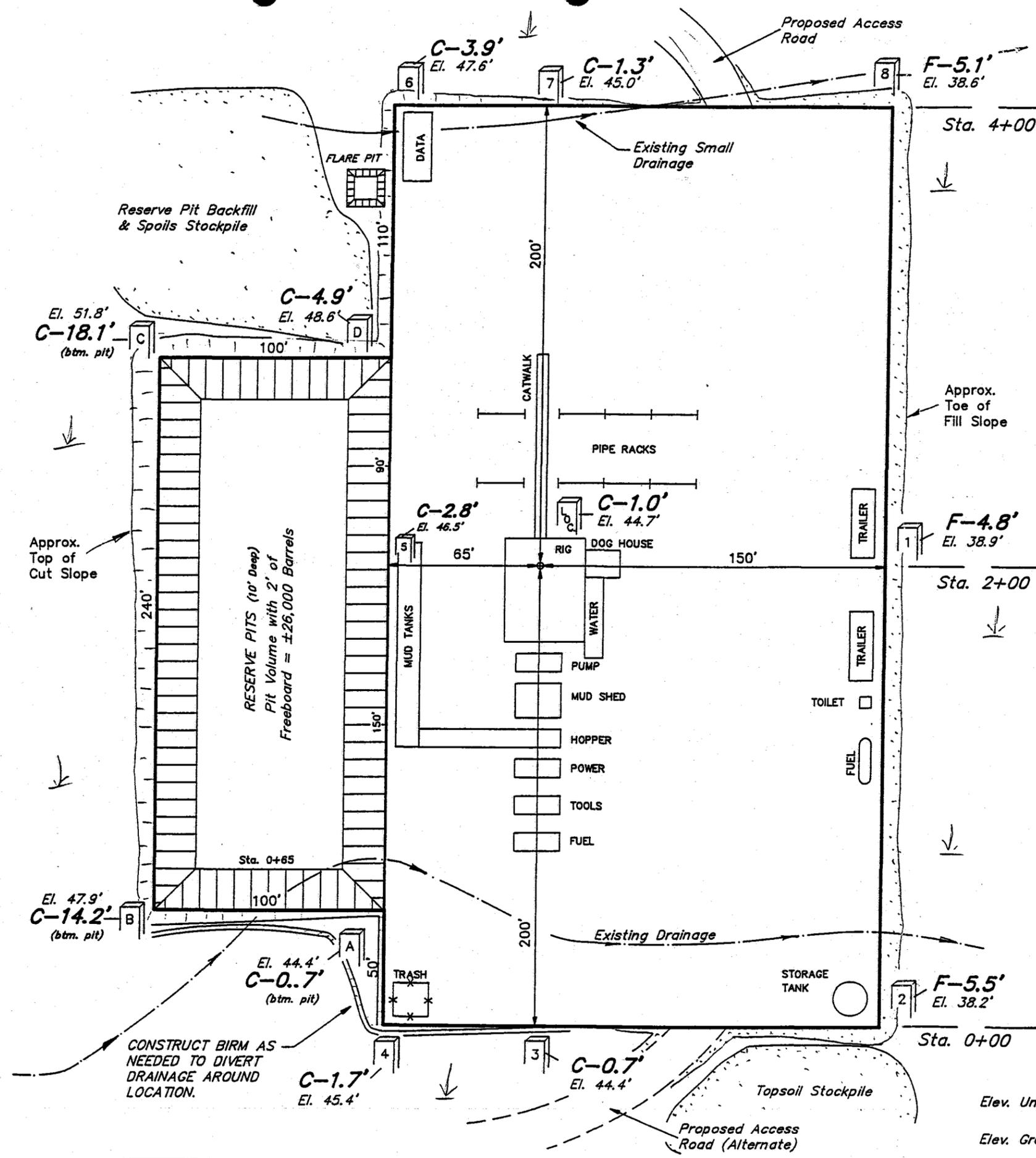
- Map A - Access to proposed location
- Map B - Porposed location and access road
- Exhibit C - Location layout, cut and fill

EXHIBIT 'C'

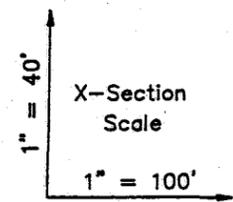
CHEVRON U.S.A., INC.

LOCATION LAYOUT FOR

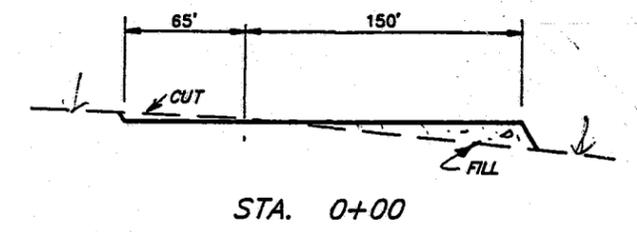
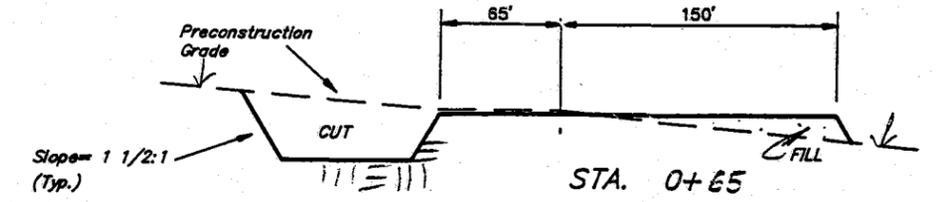
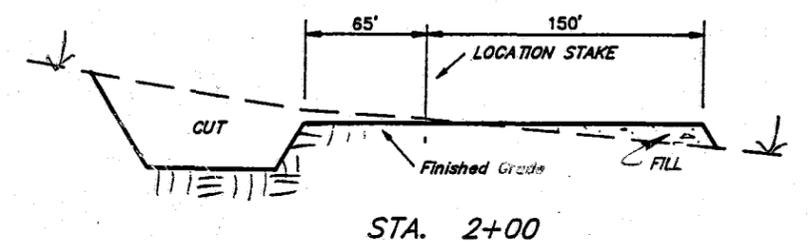
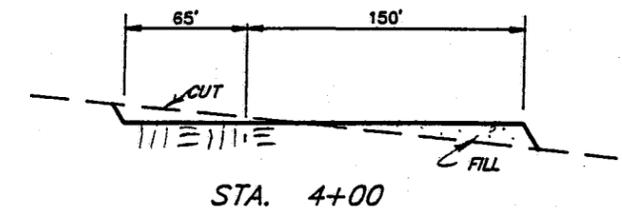
GREEN RIVER FEDERAL #1-20
SECTION 20, T25S, R18E, S.L.B.&M.



SCALE: 1" = 50'
DATE: 6-4-91
Drawn By: J.R.S.



TYP. LOCATION LAYOUT TYP. CROSS SECTIONS



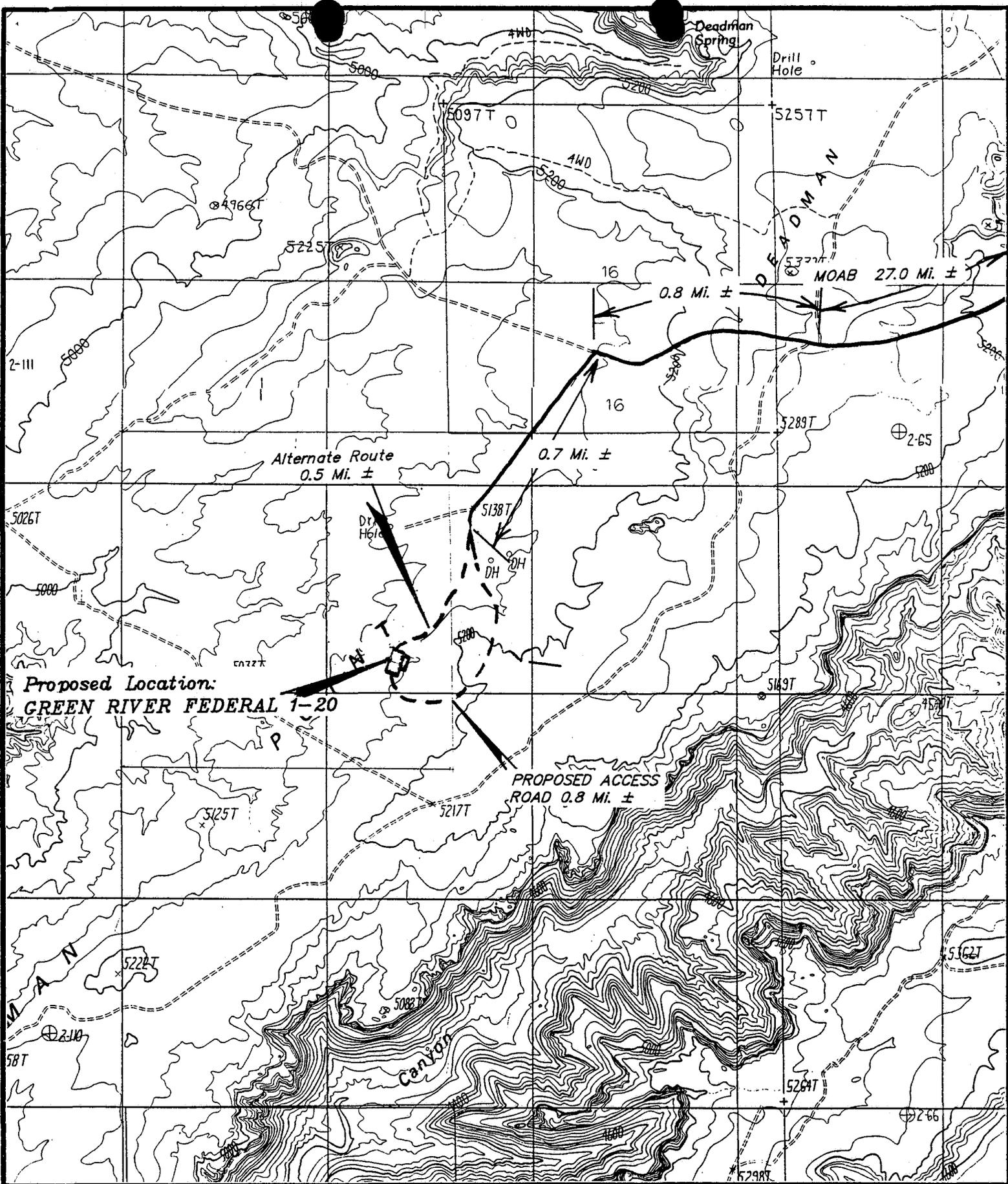
APPROXIMATE YARDAGES

(6") Topsoil Stripping	= 2,050 Cu. Yds.
Remaining Location	= 13,020 Cu. Yds.
TOTAL CUT	= 15,070 CU.YDS.
FILL	= 6,050 CU.YDS.

EXCESS MATERIAL AFTER 5% COMPACTION	= 8,700 Cu. Yds.
Topsoil & Pit Backfill (1/2 Pit Vol.)	= 5,590 Cu. Yds.
EXCESS UNBALANCE (After Rehabilitation)	= 3,110 Cu. Yds.

Elev. Ungraded Ground at Location Stake = 5144.7'

Elev. Graded Ground at Location Stake = 5143.7'



**Proposed Location:
GREEN RIVER FEDERAL 1-20**

**PROPOSED ACCESS
ROAD 0.8 Mi. ±**

**Alternate Route
0.5 Mi. ±**

0.7 Mi. ±

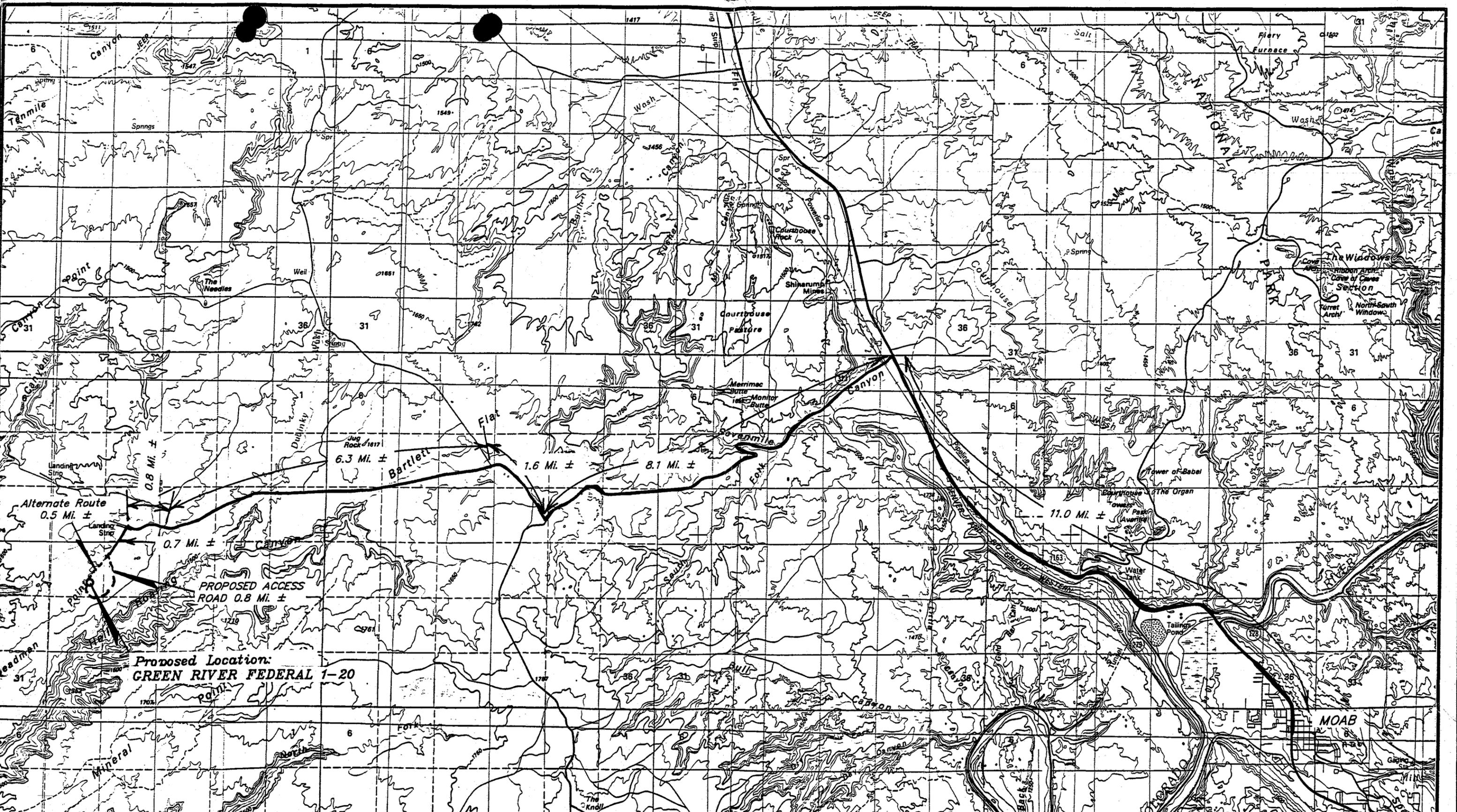
0.8 Mi. ±

MOAB 27.0 Mi. ±

**TOPOGRAPHIC
MAP "B"**
SCALE: 1" = 2000'
DATE: 5-21-91 R.E.H.



CHEVRON U.S.A. INC.
GREEN RIVER FEDERAL 1-20
SECTION 20, T25S, R18E, S.L.B.&M.
REVISED: 6-3-91 R.E.H.



**Proposed Location:
GREEN RIVER FEDERAL 1-20**

TOPOGRAPHIC
MAP "A"

DATE: 5-21-91 R.E.H.



CHEVRON U.S.A. INC.
GREEN RIVER FEDERAL 1-20
SECTION 20, T25S, R18E, S.L.B.&M.
REVISED: 6-3-91 R.E.H.

SOUTHEASTERN UTAH ASSOCIATION OF LOCAL GOVERNMENTS

P. O. Drawer 1106 • Price, Utah 84501 • Telephone 637-5444

WILLIAM D. HOWELL
Executive Director

AREAWIDE CLEARINGHOUSE A-95 REVIEW

1401-07

NOI ___ Preapp ___ App ___ State Plan ___ State Action Subdivision ___ (ASP # 7-716-7)

Other (indicate) _____ SAI Number UT910711-030

Applicant (Address, Phone Number):

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

Federal Funds:

Requested: _____

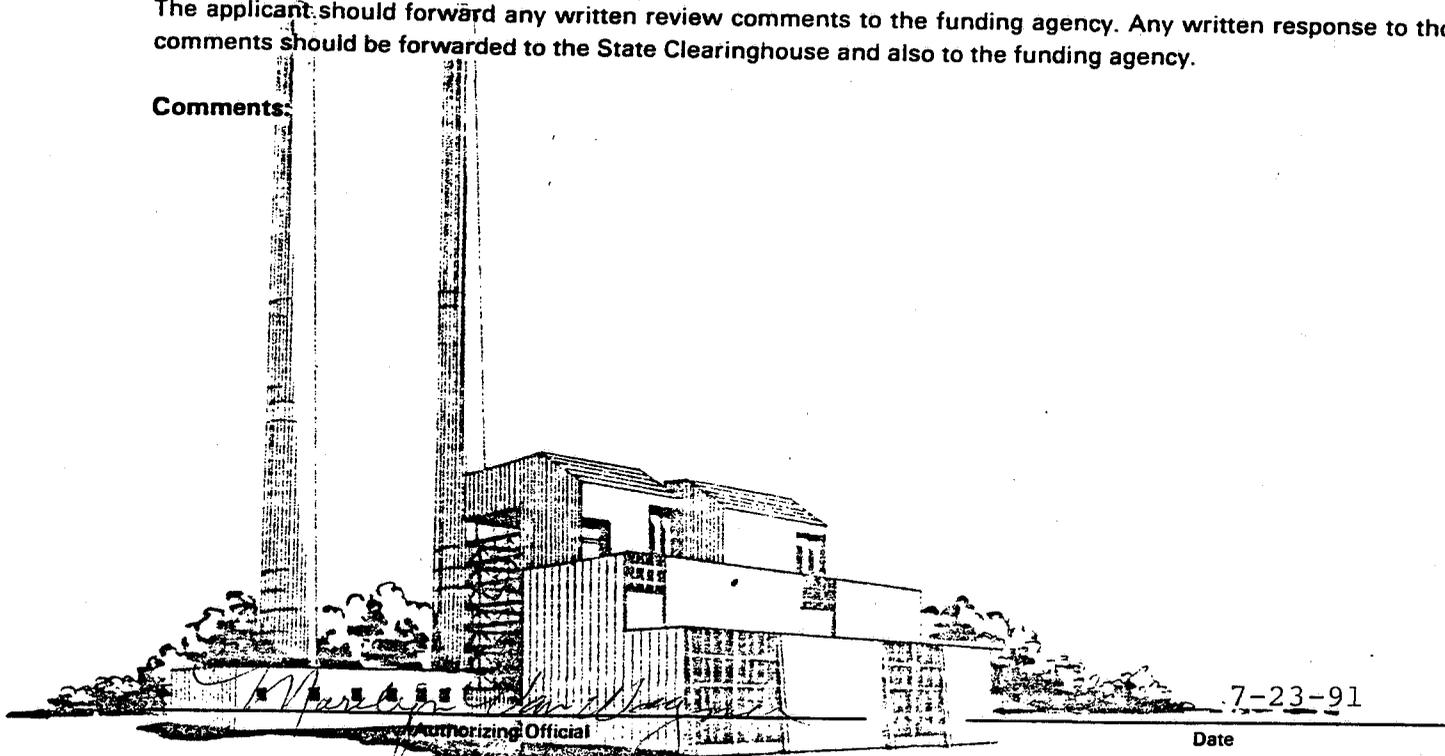
Title:

APPLICATION FOR PERMIT TO DRILL

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

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

Comments:



Authorizing Official

Date

7-23-91

CONFIDENTIAL

OPERATOR Chalton U.S.A. Inc. N. 0010 DATE 7-10-91

WELL NAME Green River #1-00

SEC NESE 00 T 0255 R 18E COUNTY Grand

43-019-31306
API NUMBER

Adual (1)
TYPE OF LEASE

CHECK OFF:

PLAT.

BOND

NEAREST WELL

LEASE

FIELD SLBM

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other producing well within Dec 00-1. PA well from shell water permit.

ROCC 7-11-91

Exception location needed Revised APD plat recorded 10-8-91

APPROVAL LETTER:

SPACING:

R615-2-3

N/A
UNIT

⁶⁶⁶
649-3-2
~~R615-3-2~~

N/A
CAUSE NO. & DATE

R615-3-3

STIPULATIONS:

Water permit needed

Reserve pit should be fenced & flagged.



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

Norman H. Bangerter
Governor
Dee C. Hansen
Executive Director
Timothy H. Provan
Division Director

1596 West North Temple
Salt Lake City, Utah 84116-3195
801-538-4700
801-538-4709 Fax

cc to [unclear]
files as
necessary
Direct to
RF with fast

RECEIVED

AUG 12 1991

DIVISION OF
OIL GAS & MINING

August 5, 1991

Dr. Dianne Nielson, Director
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

U-58070
Chevron 1-20
20-255-18E

Dear Dianne:

I am responding to a drilling permit request on federal leases U-58070 (RDCC item UT910711-030), U-47858 (RDCC item UT910711-020) and U-68232 (RDCC item UT910708-010). The Division of Wildlife Resources has some specific concerns with these projects and their potential impacts to wildlife and wildlife habitat.

Impacts will be associated with short and long-term activities generated by the company. Although the activities associated with just the wildcat well will most likely be for only 30 days, long-term impacts associated with increased access, increased road densities and petroleum products associated with these activities can result in long-term impacts. The species that could potentially be impacted include mule deer, bighorn sheep, reptilian species and birds, which include waterfowl, passerine birds and a variety of raptors.

The waste pits associated with the drilling operation may create a hazard for birds. Waste pits appear as inviting water holes and the petroleum products they contain are fatal for the birds. These pits should be covered by netting to prevent birds from becoming trapped. Causing the death of waterfowl or passerine birds would be a violation of the Migratory Bird Treaty Act. A peregrine falcon eyrie is located just off Dead Horse Point and we believe peregrines, golden eagles and prairie falcons are nesting and foraging in Labyrinth, Hell Roaring and Spring canyons. These birds likely use the project site areas to hunt. White-throated swift, mourning doves, western meadowlarks and other passerine birds are the peregrines' primary prey. Impacts that would reduce these populations will have an effect on the peregrines in this area. Prairie falcons will also prey on these birds as well as small mammals. Another impact to bird populations occurs when eggs are contaminated by petroleum products. A small amount of petroleum on an egg will cause the death of an embryo.

There are a variety of raptor species that may inhabit these sites. Besides the previously discussed impacts to peregrines, their

Dr. Dianne Nielson, Director
August 5, 1991
Page 2

habitat and their prey base, impacts to ground nesting raptors should be considered. The time period of critical concern includes April to the end of July. Site specific surveys should be conducted to determine the presence or absence of ground nesting raptors. If a nest is observed, the nest should be monitored to determine if it is active. The previous date guidelines may be modified depending on the presence or absence of nests and nest activities. These recommendations should also be considered when seismic surveys are conducted for these specific well sites.

Another point of concern is the source of water for these wells. If water is obtained by developing springs or depleting available surface water in the project vicinity, then this will impact the local wildlife species. If water is obtained from the Colorado River, the impacts to threatened and endangered Colorado River species must be considered.

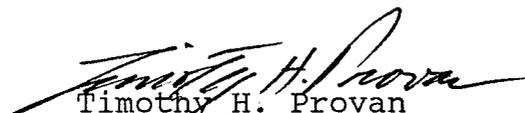
Bighorn sheep use these mesa tops as migratory routes during the fall. These mesa top well locations and their associated facilities may create a disruption for the travel corridor. More information will be needed to evaluate the impact to bighorn sheep travel. We have suggested a one-half mile buffer zone from the rim as a means of mitigating potential impacts to the sheep.

Increasing oil and gas development in southeast Utah continues to concern us. Wildlife impacts associated with these activities can be extremely damaging to many species. Of primary concern are the cumulative impacts these activities will have on wildlife habitat and wildlife directly. As this field is developed, cumulative impacts will become more acute.

We appreciate the opportunity to provide comments. Your personnel should direct any response you have to our concerns to:

Ken Phippen, Habitat Manager
Southeastern Region
455 W. Railroad Avenue
Price, UT 84501
Phone: 637-3310

Sincerely,


Timothy H. Provan
Director

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:
August 1, 1991
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:
Chevron U.S.A., Inc. proposes to drill the Green River-Federal #1-20 well (wildcat) on federal lease U-58070, Grand 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)
NE/4, SE/4, Section 20, Township 25 South, Range 18 East, Grand 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: 7-11-91 Petroleum Engineer

WOI187

11

CHAPTER 1
PROPOSED ACTION AND ALTERNATIVES

1.1 INTRODUCTION

The U.S. Department of the Interior, Bureau of Land Management (BLM), prepared this Environmental Assessment (EA UT-068-91-080) to evaluate and disclose potential environmental impacts from an exploratory oil well proposed by Chevron USA, Inc. (Chevron). On June 27, 1991, Chevron filed an application for a permit to drill (APD) the Green River Federal #1-20 exploratory well on public lands managed by the BLM's Grand Resource Area (Moab District). A copy of the APD is included as Appendix A of this EA. Chevron's proposed action consists of drilling, completing, testing and possibly producing a single exploratory well and upgrading of a 1 mile long existing jeep road. The general area surrounding the well site and access road is referred to as the "project area".

Initially (during drilling), the well pad would disturb 3.1 acres. If the exploratory well is successful, well pad size would be reduced to 0.5 acres for the producing life of the well. If the exploratory well is unsuccessful, the well pad would be reclaimed. Upgrading of the access road and construction of the well pad would begin as soon as the APD is signed. Drilling the well would require approximately 60 days. Estimated time for completion of the well is 14 days.

Chevron's proposed action requires permits and approvals from the BLM and the State of Utah. The proposed exploratory well site is located on BLM-managed lands. The access road is located on State and BLM-managed lands. Minerals are Federally-owned.

This EA was prepared (under third-party contract) pursuant to the National Environmental Policy Act (NEPA) of 1969 and subsequent regulations adopted by the Council on Environmental Quality (40 CFR Part 1500) to address the impacts of Chevron's proposed action. This EA was prepared with the guidance, participation and independent evaluation of the BLM. The BLM, in accordance with 40 CFR Part 1506.5 (a) and (b), is in agreement with the findings of the analysis and approves and takes responsibility for the scope and content of this document.

This EA is intended to be a concise public document which analyzes probable and known impacts from Chevron's proposed action upon components of the human environment and reaches a conclusion as to their significance. The EA is intended to provide sufficient documented evidence and analysis to allow decision makers (the BLM) to determine whether the impacts are significant [thereby requiring preparation of an Environmental Impact Statement (EIS)] or that a Finding of No Significant Impact (FONSI) is warranted.

11

1.2 GENERAL LOCATION

The Green River Federal #1-20 exploratory well would be drilled in the NE, SE of Section 20, T. 25 S., R. 18 E. in Grand County, Utah. The well site is approximately 21 air miles west of Moab and about 25 air miles southeast of the town of Green River. The general location of the project area in relation to area highways and Interstate-70 (I-70) is shown on Figure 1. A more detailed map of the proposed well location, access road and general vicinity is included as Map 1 (located in the back pocket of this EA) which also shows the proximity to the Green River and the Horseshoe Canyon North Wilderness Study Area (WSA).

The proposed well site is located over 2.5 miles from the Green River and the Horseshoe Canyon North WSA. BLM designates the area surrounding the well as multiple use and three exploratory wells have been drilled in the vicinity of the proposed action. The area has been identified by the BLM (1983) as one of "oil and gas potential". The area is open to oil and gas leasing and standard BLM stipulations are incorporated into the leases and approvals necessary for drilling activities.

1.3 SCHEDULE

Upgrading of the access road and construction of the well pad would begin as soon as the APD is signed and would require approximately two weeks to complete. At the end of construction, the drill rig would be moved onto the well pad and drilling would commence. Drilling of the exploratory well would require approximately 60 days. Completion activities (e.g., cleaning the wellbore and installing casing and the liner) would begin at the end of drilling and would require approximately two weeks to complete. After completion, the well would be tested to determine its productive potential. If the well is determined to be successful, the well pad used for drilling would be partially reclaimed (to 0.5 acre) and production equipment installed. If the well is unsuccessful, reclamation procedures would be implemented immediately.

1.4 OVERVIEW OF AREA OIL AND GAS DEVELOPMENT

The project area lies within the Paradox basin which extends from the Moab area south to the Utah-Arizona State line. Most existing oil and gas development within the basin has taken place to the south around the Blanding area (Clem and Brown, 1984). Until recently, most attempts to economically produce oil and gas in this portion of Utah have failed. In a 1984 report, the Utah Geological and Mineral Survey reported oil and gas shows in the surrounding townships but only one show within T. 25 S., R. 18 E. in a now plugged and abandoned well (Clem and Brown, 1984). Chevron's proposed exploratory well would be drilled in the vicinity of the Bartlett Flat Field. As of 1984, the field had no producing wells, one abandoned well, two dry holes and no known proved reserves. At that time, the field had a cumulative production record of 39,393 barrels of oil and 22,051 thousand cubic feet (MCF) of gas. The field was abandoned in 1965 (Clem and Brown, 1984).

Conditions in the Big Flat Field (T. 26 S., R. 19 E.), to the southwest of Chevron's proposed exploratory well, are similar to those found in the Bartlett Flat Field. That field was abandoned in 1968. One well in the Long

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Designation and Serial No.

U-58070

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well Gas Well Other

8. Well Name and No.

Green River Federal 1-2

2. Name of Operator

9. API Well No.

Chevron U.S.A. Inc.

3. Address and Telephone No.

PO Box 599, Denver, CO 80201 (303) 930-3691

10. Field and Pool, or Exploratory Area

Wildcat

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

11. County or Parish, State

See below (#13)

Grand, Utah

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

TYPE OF SUBMISSION

TYPE OF ACTION

Notice of Intent

Subsequent Report

Final Abandonment Notice

Abandonment

Recompletion

Plugging Back

Casing Repair

Altering Casing

Other Revise surface location.

Change of Plans

New Construction

Non-Routine Fracturing

Water Shut-Off

Conversion to Injection

Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Proposed surface location has been revised. New location is 778' FEL, 2209' FSL, as witnessed and approved by BLM.

RECEIVED

OCT 07 1991

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

DATE: 10-8-91
BY: [Signature]

3-BLM
3-State
1-PIC
1-MAH
2-Dr1g
1-JLW

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

Signed [Signature]

Title Permit Specialist

Date 9/30/91

(This space for Federal or State office use)

Approved by _____
Conditions of approval, if any:

Title _____

Date _____

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

*See instruction on Reverse Side

West 1/4 Corner
Section 16.

NOTE:

EXCEPT FOR THE SCHOOL SECTIONS T25S, R18E, S.L.B.&M. IS UNSURVEYED. BEARING & DISTANCE INFORMATION FOR SECTION 20 IS TAKEN FROM THE G.L.O PROTRACTION DIAGRAM OF THIS TOWNSHIP AND THE WELL FOOTAGES WERE COMPUTED ACCORDINGLY.

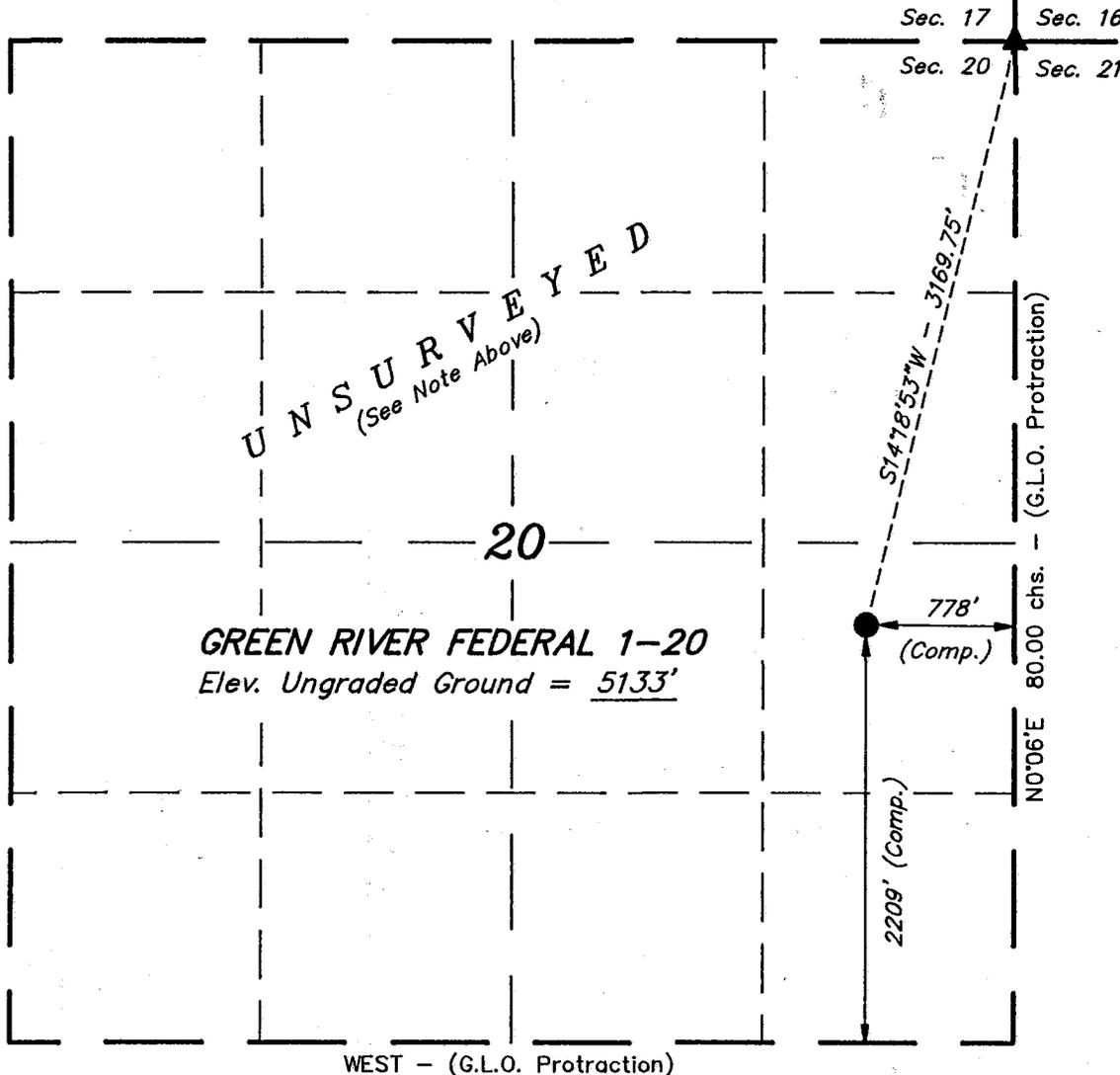
CHEVRON U.S.A., INC.

Well location, GREEN RIVER FEDERAL 1-20, located as shown in the NE 1/4 SE 1/4 of Section 20, T25S, R18E, S.L.B.&M. Grand County, Utah.

T25S, R18E, S.L.B.&M.

BASIS OF ELEVATION

WHITE VABM LOCATED IN THE E 1/2 OF SECTION 9, T25S, R18E, S.L.B.&M. TAKEN FROM THE DUBINKY WASH QUADRANGLE, UTAH, GRAND COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5484 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 J. Kay
REGISTERED LAND SURVEYOR
REGISTRATION NO. 5709
STATE OF UTAH

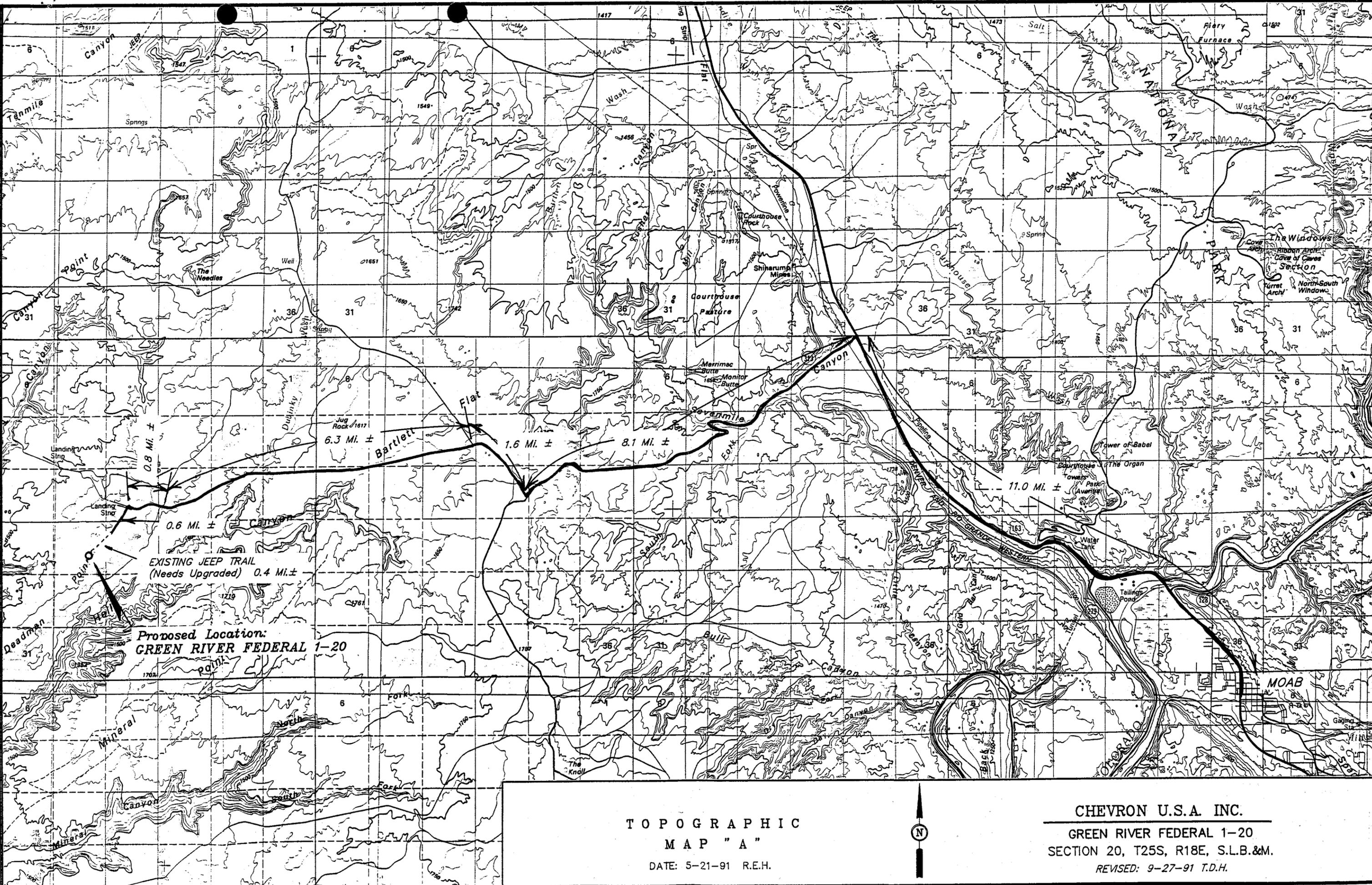
REVISED: 9-27-91 T.D.H.
REVISED: 6-2-91 R.E.H.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(801) 789-1017

SCALE 1" = 1000'	DATE 5-21-91
PARTY D.A. K.L. J.R.S.	REFERENCES G.L.O. PLAT
WEATHER WARM	FILE CHEVRON U.S.A., INC.

▲ = SECTION CORNERS LOCATED. (BRASS CAPS)

WEST - (G.L.O. Protraction)



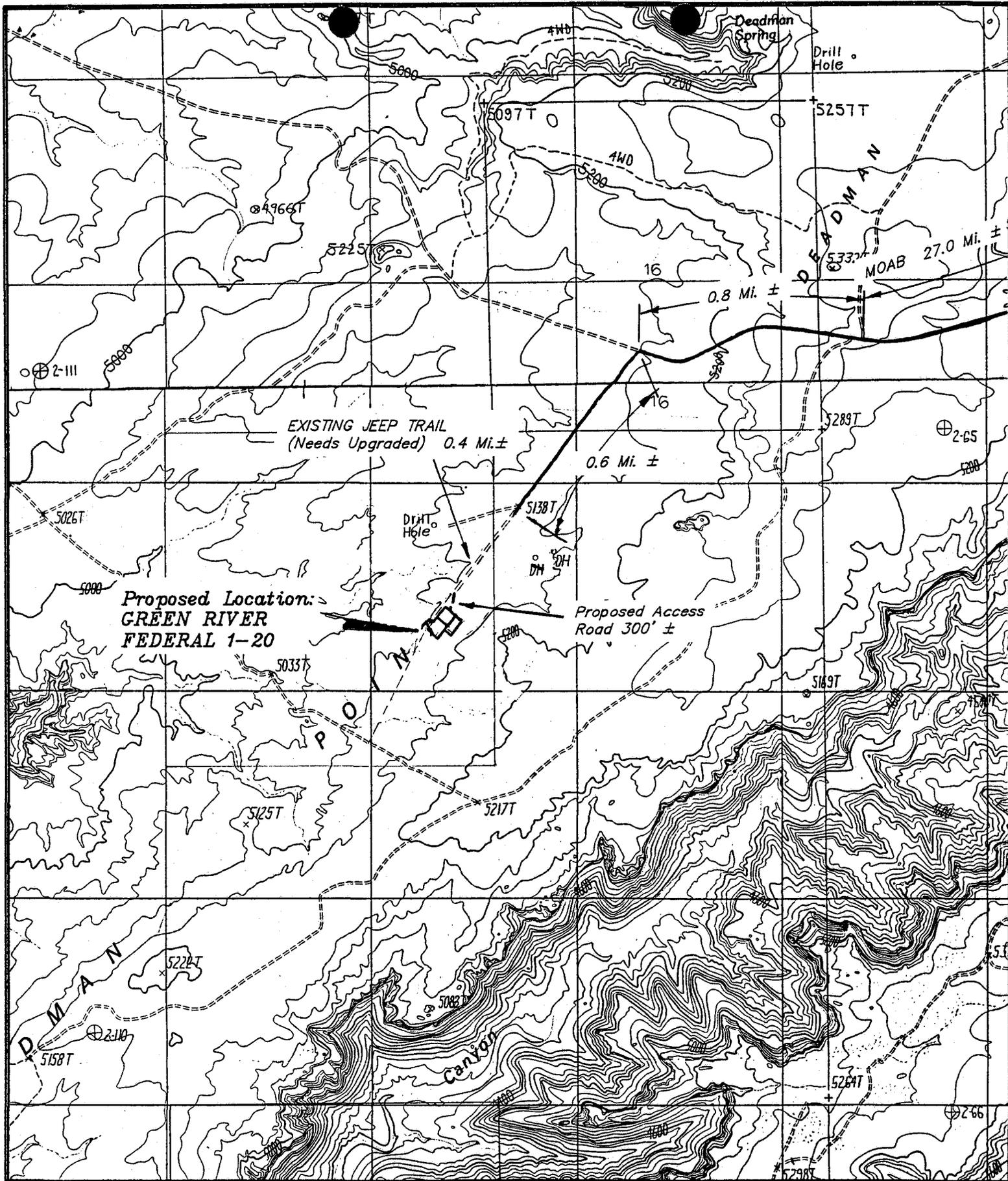
EXISTING JEEP TRAIL
(Needs Upgraded) 0.4 Mi. ±

Proposed Location:
GREEN RIVER FEDERAL 1-20

TOPOGRAPHIC
MAP "A"
DATE: 5-21-91 R.E.H.



CHEVRON U.S.A. INC.
GREEN RIVER FEDERAL 1-20
SECTION 20, T25S, R18E, S.L.B.&M.
REVISED: 9-27-91 T.D.H.



TOPOGRAPHIC
 MAP "B"
 SCALE: 1" = 2000'
 DATE: 5-21-91 R.E.H.



CHEVRON U.S.A. INC.
 GREEN RIVER FEDERAL 1-20
 SECTION 20, T25S, R18E, S.L.B.&M.
 REVISED: 9-27-91 T.D.H.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Designation and Serial No.

U-05870

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

SUBMIT IN TRIPLICATE

RECEIVED

OCT 17 1991

DIVISION OF
OIL GAS & MINING

1. Type of Well

Oil Well Gas Well Other

2. Name of Operator

Chevron U.S.A. Inc.

3. Address and Telephone No.

PO Box 599, Denver, CO 80201 (303) 930-3691

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

778' FEL, 2209' FSL
Sec. 20, T25S, R18E

NE 1/4 SE 1/4

8. Well Name and No.

Green River Fed. 1-20

9. API Well No.

10. Field and Pool, or Exploratory Area

Wildcat

11. County or Parish, State

Grand, Utah

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

TYPE OF SUBMISSION

TYPE OF ACTION

- Notice of Intent
- Subsequent Report
- Final Abandonment Notice

- Abandonment
- Recompletion
- Plugging Back
- Casing Repair
- Altering Casing
- Other

- Change of Plans
- New Construction
- Non-Routine Fracturing
- Water Shut-Off
- Conversion to Injection
- Dispose Water

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The following changes are results of the revised surface location:

1. Change the horizontal well azimuth and displacement from the revised surface location to 2700 feet at S51°W.
2. The True Vertical depth of the well to remain 7167 feet unless revised from open hole evaluation. The Measured depth to be changed to 9628'.
3. The new bottomhole location to be: 510' FSL, 2404' FWL, Sec. 20, T25S, R18E.
4. Change the 9-5/8" casing depth to ±4800' to put the casing shoe into the Desert Creek and therefore give us an adequate shoe test before drilling ahead.

Revised drilling and geologic programs attached

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

DATE: 10-21-91
BY: [Signature]

3-BLM 1-JLW
3-State
2-Dr1g.
1-CRR
1-PTC

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

Signed

[Signature]

Title

Permit Specialist

Date

10/10/91

(This space for Federal or State office use)

Approved by

Conditions of approval, if any:

Title

Date

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

*See Instruction on Reverse Side

DRILLING PROGRAM SUMMARY

WELL NO.: 1-20 LEASE: GREEN RIVER FIELD: PARADOX BASIN

LEGAL DESCRIPTION:

Proposed SL: 2209' FSL, 778' FEL (NE SE) SEC.20 T25S R18E
BHL: 510' FSL, 2404' FWL (SE SW) SEC.20 T25S R18E

COUNTY & STATE: GRAND, UTAH

ELEVATION: GROUND: 5,133' ESTIMATED KB: 5,168'

PROPOSED TOTAL DEPTH:

VERTICAL HOLE SECTION: 7,550' TVD/MD
HORIZONTAL HOLE SECTION: 7,167' TVD, 9,628' MD

OBJECTIVE: DRILL A VERTICAL HOLE BELOW THE PARADOX FORMATION AND EVALUATE THE CANE CREEK BY CUTTING 90 FT. OF ORIENTED CORE AND RUNNING OPEN HOLE LOGS. BASED ON THE INTERPRETATION THE WELL WILL BE PLUGGED BACK TO ABOVE THE CANE CREEK MEMBER AND A HORIZONTAL WELL WILL BE DRILLED INTO THE CANE CREEK AT APPROXIMATELY 7,167 FT-TVD FOR A TOTAL DISPLACEMENT OF 2,700 FT FROM SURFACE.

CASING AND DRILLING FLUID SUMMARY

<u>DEPTH</u>	<u>HOLE SIZE</u>	<u>CASING</u>	<u>MUD WT.</u>	<u>TYPE</u>
80'	24"	PRE-SET 20" BY FACILITIES	N/A	
700'	17-1/2"	13-3/8", 54.5ppf, K55, ST&C	N/A	AIR
4,800'	12-1/4"	9-5/8", 47ppf, L80, LT&C	N/A	AIR/MIST
T.D.	8-1/2"	5-1/2", 17/20ppf, L80, SL-HC 10-16.5 OIL BASE		

OPERATIONS:

- 1] MIRU DRILLING UNIT
- 2] RU RISER, ROTATING HEAD AND BLOW LINE. FUNCTION TEST TO INSURE ALL IS WORKING. INSTALL A WATER MIST SYSTEM TO THE BLOW LINE FOR DUST CONTROL. PICK UP EXTRA DRILL PIPE AND STAND BACK IN DERRICK TO BE USED FOR CEMENT JOB.
- 3] DRILL 17-1/2" HOLE TO +/- 700' W/AIR AND SLICK BHA. DRILL HOLE TO FIT CASING DUE TO INNER STRING CEMENTING PROCEDURE. TAKE SINGLE SHOTS AS REQUIRED. MAINTAIN A VERTICAL HOLE OF LESS THAN 3° HOLE ANGLE.
- 4] SHORT TRIP TO SURFACE, RIH, BLOW HOLE DRY, POOH W/ DRILLING ASSEMBLY

NOTE: IF HOLE WILL NOT STAY OPEN AFTER WIPER TRIP SPOT HI-VIS GEL PILL IN OPEN HOLE.

- 5] RUN AND CEMENT 13-3/8" CSG. TO SURFACE, LEAD SLURRY TO BE CLASS "H" W/ 16% GEL, 3% SALT AND LCM, TAILED WITH CLASS "H"

CHEVRON U.S.A
GREEN RIVER #1-20
PARADOX BASIN HORIZONTAL WELL

CONFIDENTIAL

WITH 2% CaCl_2 .

NOTE: PERFORM TOP JOB AS REQUIRED

- 6] WOC, INSTALL & TEST SECTION "A" WELLHEAD
- 7] NU CLASS IV BOPE, ROTATING HEAD & LINES. PRESSURE TEST BOPE TO 5000 PSI. INSTALL A WATER MIST SYSTEM AND PROPANE PILOT LIGHT SYSTEM FOR DUST AND GAS CONTROL.
- 8] PU 12-1/4" BIT & SLICK BHA ON 5" DRILL PIPE. RIH TO TOC. TEST CSG. TO 1000 PSI FOR 30 MINUTES. DRILL OUT CEMENT & FLOAT EQUIPMENT.
- 9] DRILL 12-1/4" HOLE W/AIR/MIST/FOAM TO +/- 4800', CASING SEAT TO BE ADJUSTED BASED ON LITHOLOGY. TAKE DRIFT SINGLE SHOTS AS REQUIRED. MAINTAIN A VERTICAL HOLE OF LESS THAN 3° HOLE ANGLE.
- 10] SHORT TRIP TO SURFACE, RIH, BLOW HOLE DRY, POOH W/ DRILLING ASSEMBLY.
- 11] RUN OPEN HOLE LOGS.
- 12] IF NECESSARY MAKE A CONDITIONING TRIP.
- 13] RUN AND CEMENT 9-5/8" CSG. TO SURFACE, LEAD SLURRY TO BE CLASS "H" W/ 16% GEL, 3% SALT AND LCM, TAILED WITH CLASS "H" WITH 2% CaCl_2 .
- 14] PU BOPE, DROP SLIPS, INSTALL & TEST SECTION "B" WELLHEAD
- 15] NU & TEST CLASS IV 10,000 PSI BOP & CHOKE MANIFOLD TO 5000 PSI
- 16] RUN RATE GYRO SURVEY FROM TOC TO SURFACE IN 100 FT INCREMENTS WHILE NU
- 17] PU 8-1/2" BIT AND PENDULUM BHA & RIH W/SAME .
- 18] TEST CSG. TO 3,500 PSI.
- 19] DRILL OUT FLOAT COLLAR, CEMENT AND FLOAT SHOE WITH WATER.
- 20] DRILL +/-10' NEW 8-1/2" HOLE. PERFORM A FORMATION INTEGRITY TEST TO 17 PPG. DO NOT BREAKDOWN FORMATION.

NOTE: IF 17 PPG TEST IS NOT ACHIEVED BE PREPARED TO SQUEEZE.
- 21] CHANGE HOLE AND ACTIVE PIT SYSTEM OVER TO OIL BASE MUD.
- 22] DRILL FROM 4800' TO TOP OF CANE CREEK.
- 23] CUT +/- 90' OF ORIENTED CORE IN THE CANE CREEK.

CHEVRON U.S.A
GREEN RIVER #1-20
PARADOX BASIN HORIZONTAL WELL

CONFIDENTIAL

- 24] CONTINUE DRILLING 8-1/2" HOLE TO TD +/- 7550'TVD/MD
- 25] CONDITION HOLE FOR LOGS, POH W/ DRILLING ASSEMBLY
- 26] RU WIRELINE UNIT RUN OPEN HOLE LOGS.
- 27] SET CEMENT PLUGS AS NEEDED TO 100 FT ABOVE KOP. PLACEMENT OF CEMENT PLUGS IS TO BE DETERMINED FROM OPEN HOLE AND MUD LOGS. WAIT ON CEMENT 24 HOURS. WHILE WAITING ON CEMENT PERFORM GENERAL RIG MAINTENANCE, PICK UP HWDP, TEST BOPE'S ETC.
- 29] DRESS OFF TO KOP AS NEEDED.
- 30] PU & RIH W/ DOUBLE BEND BUILDING BHA, KICK OFF WELL AND DRILL BUILD SECTION. POOH W/ BHA.
- 31] RIH W/ STEERABLE BHA & DRILL TO CORE POINT. POOH W/ SAME
- 32] CUT A 30' ORIENTED CORE IN THE HORIZONTAL SECTION.
- 33] DRILL LATERAL SECTION TO TOTAL DEPTH.
- 34] CONDITION HOLE FOR LOGS.
- 35] RUN DRILL PIPE CONVEYED OPEN HOLE LOGS IF HOLE CONDITIONS ARE STABLE.
- 36] CONDITION HOLE FOR CASING.
- 37] LAY DOWN DRILL PIPE.
- 38] PU AND RIH WITH PRODUCTION CASING.
- 39] CCM, CEMENT CASING TO INSIDE THE 9-5/8" CASING.
- 40] SET CASING SLIPS, ND BOPE, INSTALL AND TEST TUBING HEAD.
- 41] SECURE WELL AND RELEASE RIG

OUTLINE OF MUD PROGRAM

<u>Interval (Feet)</u>	<u>Mud Weight (lbs/gal.)</u>	<u>Viscosity (sec/qt.)</u>	<u>Fluid Loss (ml/30min.)</u>	<u>Mud Type</u>
0 - 700	----- Air/Air Mist -----			
	Set 13-3/8" surface casing at 700'			
700 - 4800	----- Air/Air Mist -----			
	Set 9-5/8" intermediate casing at 4800'			
Vertical Hole Section (MD/TVD)				
4800 - 7550	10.0-16.0	42 - 48	20 cc's HTHP	VersaDril Oil Base
Horizontal Hole Section (MD/TVD)				
Kick Off Point at 6652				
6652 - 9628	MD 10.0-16.0 (7167 TVD)	42 - 48	20 cc's HTHP	VersaDril Oil Base

Note: The above fluid properties are meant only as a guide, and should be adjusted to meet actual wellsite conditions.

MUD PROGRAM BY DEPTH INTERVAL

Interval 1: Surface to 700'

Mud Type: Air Hole Size (in.): 17-1/2"

Drill this interval utilizing air. If water becomes a problem drill with air/mist to clean the hole. If water entry is enough to impede drilling then consideration should be given to drill with mud.

Estimated Product Usage if Mud is Required

<u>Product</u>	<u>Concentration (ppb)</u>
Bentonite	12 - 15
Caustic Soda	0.15
Poly Plus	0.25
Barite (if needed)	0.25
Lost Circulation Material	as needed

Interval 2: Intermediate to 4800'

Mud Type: Air Hole Size (in.): 12-1/4"

Continue drilling with air. Follow guidelines in Interval 1 if water becomes a problem drill with air/mist to clean the hole. If water entry is enough to impede drilling then consideration should be given to drill with mud.

Estimated Product Usage if Mud is Required

<u>Product</u>	<u>Concentration (ppb)</u>
Bentonite	12 - 15
Caustic Soda	0.15
Poly Plus	0.25
Barite (if needed)	0.25
Lost Circulation Material	as needed

Interval 3: Production from 4800' to Total Depth

Mud Type: Relaxed VersaDril Hole Size (in.): 8-1/2"

Mud Properties:

Mud Weight: 10.0-16.5 ppg
Fluid Loss: 20 cc HTHP
Oil:Water Ratio: 85:15
Calcium Chloride: 30% by weight
Electrical Stability: 1200-1400 volts

Drill out the 9-5/8" casing with water. Drill 10 to 20 feet of new hole and perform a formation integrity test to 17 ppg. If successful displace the water with the oil base mud.

The initial make up should have an 85:15 oil:water ratio and a mud weight of 10.0 ppg. The suggested calcium chloride content of 30% by weight will keep 96% of the Paradox salt from solubilizing into the internal water phase. The electrical stability of the mud should be maintained at 1200-1400 volts, however, a lower value can be tolerated if the other mud properties are in line.

Displacement:

Displace the water in the casing in one continuous phase. Approximately 1200 bbls of oil mud will be necessary to displace the hole and allow sufficient surface volume. The following factors should be considered:

1. Density; The heavier oil mud will tend to "float" out of the lighter water in the annulus.
2. Gelled spacer; A cleaner displacement, without channeling can be obtained by having the initial gel strength of the displacing fluid higher than that being displaced. A 30-35 bbl diesel spacer, gelled with 6-8 ppb organophilic clay.
3. Pipe movement; The pipe should be rotated to eliminate channeling caused by decentralized pipe.
4. Velocity; A clean displacement is accomplished by pumping at a rate that will result in a flattened velocity profile. The circulation rate should be based on wellbore conditions and rig capabilities.
5. Dump all of the displaced water into the reserve pit along with any contaminated fluid. Close the system when the electrical stability of the return fluid is 250-300 volts.

Concerns and Treatments

1. To prevent washing out of the salt and obtain a relatively gauged hole, adjust the fluids rheology to maintain a N_x number between 1500-1700.
2. Maintain sufficient wetting agent daily to maintain a preferential oil wet condition.

3. Maintain sufficient excess lime to provide adequate alkalinity to the mud system.
4. Potential high mud weight may be encountered throughout the Paradox Salt formation. Be prepared for flows at all times.

**Estimated Product Usage
for 10.0 ppg 85:15 oil:water ratio Mud**

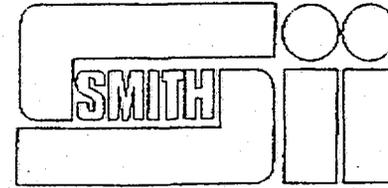
<u>Product</u>	<u>Concentration (ppb)</u>
VG-69	5.0
VersaCoat	2.5
VersaWet	1.5
Lime	1.5
Calcium Chloride	17.4
Barite	105.0

**Estimated Product Usage
for 16.5 ppg 90:10 oil:water ratio Mud**

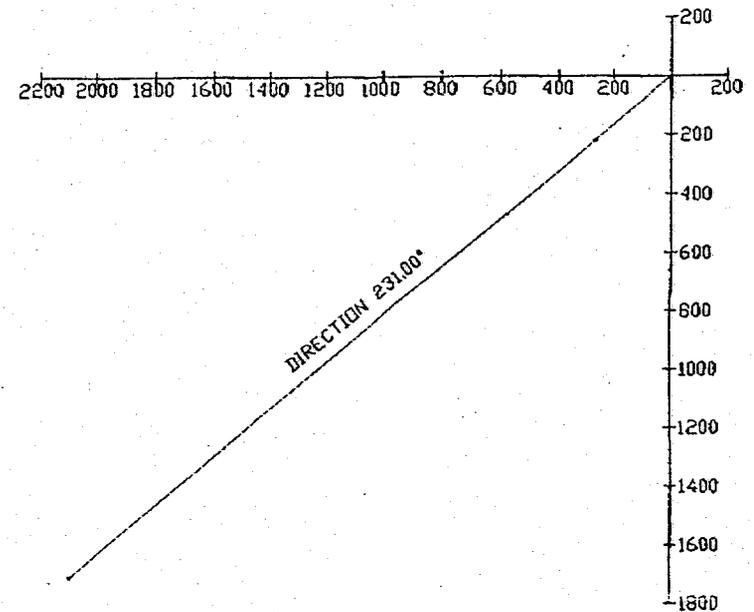
<u>Product</u>	<u>Concentration (ppb)</u>
VG-69	6.0
VersaCoat	5.0
VersaWet	5.0
VersaHRP	1.0
Lime	1.5
Calcium Chloride	12.5
Barite	476.0

Other materials to have on location: Lost circulation material, calcium carbonate.

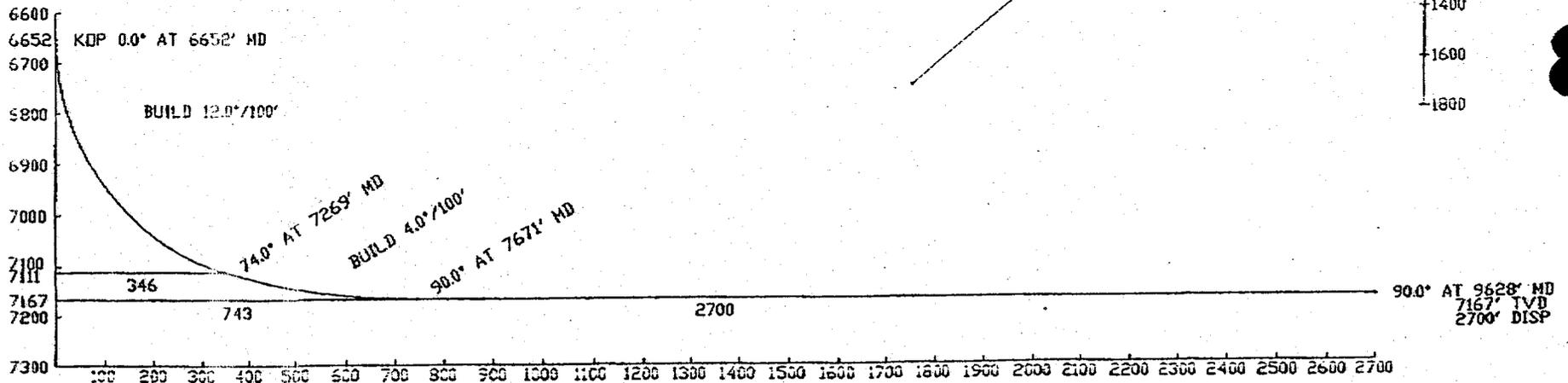
CHEVRON U.S.A.
 WELL: #1-20
 GREEN RIVER
 PRELIMINARY WELL PLAN



HORIZONTAL PLAN
 SCALE: 200 FEET/DIVISION



VERTICAL SECTION
 SCALE: 100 FEET/DIVISION



VERTICAL SECTION PLANE: 231.00 DEG.

West 1/4 Corner
Section 16.

NOTE:

EXCEPT FOR THE SCHOOL SECTIONS T25S, R18E, S.L.B.&M. IS UNSURVEYED. BEARING & DISTANCE INFORMATION FOR SECTION 20 IS TAKEN FROM THE G.L.O. PROTRACTION DIAGRAM OF THIS TOWNSHIP AND THE WELL FOOTAGES WERE COMPUTED ACCORDINGLY.

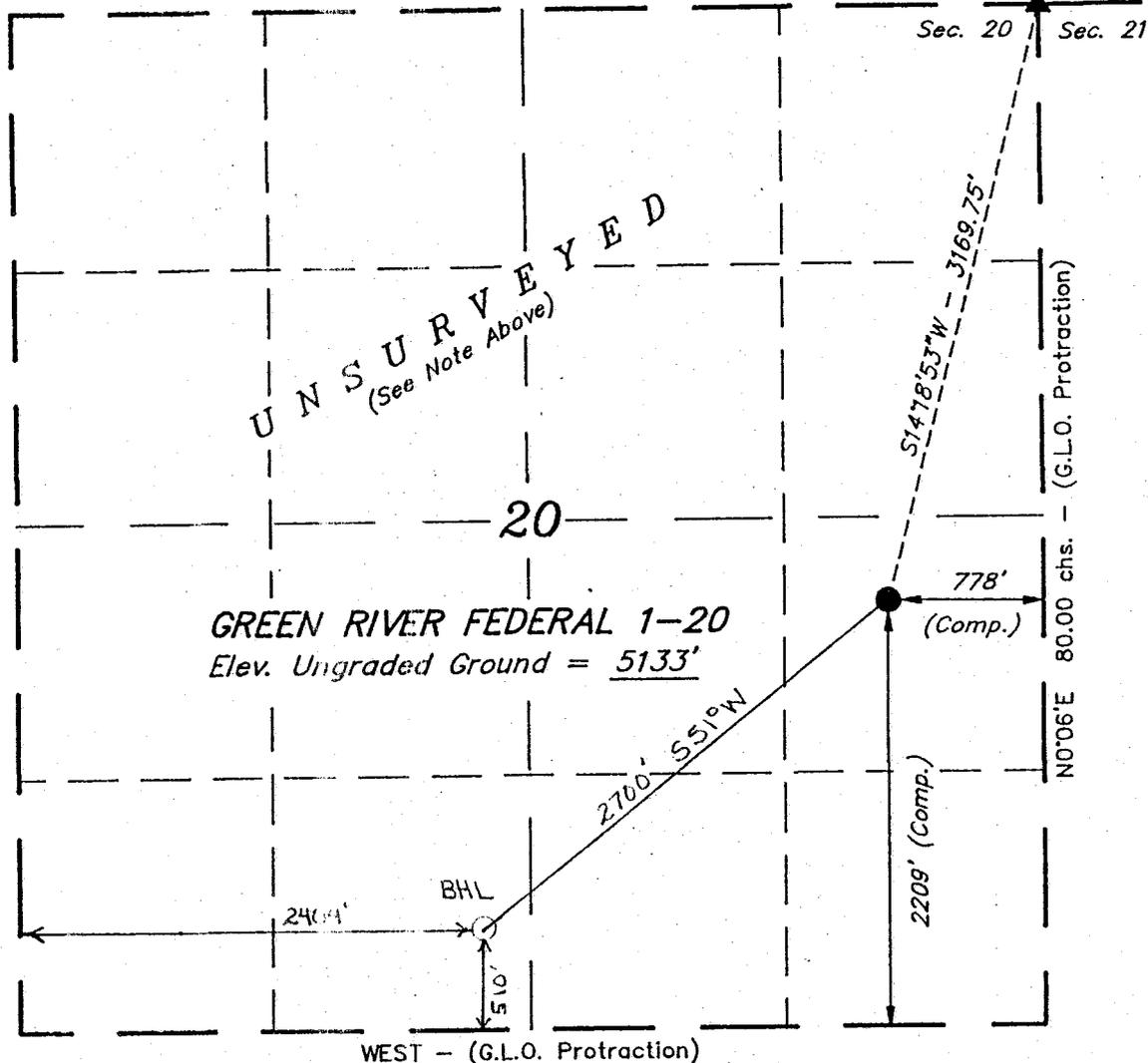
CHEVRON U.S.A., INC.

Well location, GREEN RIVER FEDERAL 1-20, located as shown in the NE 1/4 SE 1/4 of Section 20, T25S, R18E, S.L.B.&M. Grand County, Utah.

T25S, R18E, S.L.B.&M.

BASIS OF ELEVATION

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CERTIFICATE

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Robert J. Kay
REGISTERED LAND SURVEYOR
REGISTRATION NO. 5709
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REVISED: 9-27-91 T.D.H.

REVISED: 6-2-91 R.E.H.

UINTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(801) 789-1017

SCALE 1" = 1000'	DATE 5-21-91
PARTY D.A. K.L. J.R.S.	REFERENCES G.L.O. PLAT
WEATHER WARM	FILE CHEVRON U.S.A., INC.

▲ = SECTION CORNERS LOCATED. (BRASS CAPS)

GREEN RIVER CASING DESIGN

10/8/91

9-5/8 inch INTERMEDIATE CASING

SETTING DEPTH 4800 FT.

CASING DESIGN

SIZE (IN)	WEIGHT (PPF)	GRADE	THREAD	BURST (PSI)	COLLAPSE (PSI)	JT STR. (KLBS)	P.E. YIELD (KLBS)	SAFETY FACTOR			
								BURST	COLLAPSE	JT STR.	P.E. YIELD
9-5/8"	47	L80	LT&C	6870	4760	893	1086	1.39	2.29	4.57	5.56

WELL PARAMETERS

HOLE SIZE	DEPTH (FT)	P.P. (PPG)	P.P.n (PPG)	FG (PPG)	FGn (PPG)	MW (PPG)	NEXT CSG DEPTH (FT-TVD)
12.25	4800	8.33	15.5	17.3	17.3	8.8	7167

COLLAPSE

AT 4800 FT

$$P_{cl} = P.P. \times 0.052 \times TVD$$

$$= 2079 \text{ PSI}$$

SAFETY FACTOR COLL

$$P_{csf} = P_c / P_{cl} = 2.29$$

BURST

$$MASP = TVD \times ((-0.161 \times SG) + (0.0488 \times PP_n)) + 260$$

$$4931 \text{ PSI}$$

$$AVG. \text{ GAS GRADIENT} = (0.0032 \times PP_n) + (0.161 \times SG) - (260/TVD)$$

$$= 0.1179726$$

AT SURFACE

$$P_{bl} = 4931 \text{ PSI}$$

$$P_{bd} = 5917 \text{ PSI}$$

Sf @ 1.2

$$P_{bsf} = P_b / P_{bl} = 1.39$$

AT TOTAL DEPTH

$$P_{bl} = MASP + AGG \times TVD - PP \times TVD \times 0.052$$

$$3418 \text{ PSI}$$

$$P_{bd} = 4102 \text{ PSI}$$

Sf @ 1.2

$$P_{bsf} = P_b / P_{bl} = 2.01$$

$$BF = (65.4 - MW) / 65.4 = 0.8654434$$

TENSILE

$$T_{tl} = PF \times TVD \times BF$$

$$195,244 \text{ LBS}$$

$$195.24 \text{ KLBS.}$$

$$T_{td} = T_t / T_{tl} = 4.57$$

LEGEND

P.P. PORE PRESSURE AT CASING SETTING DEPTH
 P.P.n PORE PRESSURE AT NEXT CASING SETTING DEPTH
 FG FRACTURE GRADIENT AT CASING SHOE
 FGn FRACTURE GRADIENT AT NEXT CASING SHOE
 MW MUD WEIGHT CASING WILL BE SET IN
 SG SPECIFIC GRAVITY OF GAS
 P_{cl} COLLAPSE LOAD
 P_{cd} COLLAPSE DESIGN LOAD REQUIRED
 P_{csf} COLLAPSE SAFETY FACTOR

TVD TRUE VERTICAL DEPTH
 AGG AVERAGE GAS GRADIENT
 P_{bl} BURST LOAD
 P_{bd} BURST DESIGN LOAD REQUIRED
 P_{bsf} BURST SAFETY FACTOR
 T_{tl} TENSILE LOAD
 T_{td} TENSILE DESIGN
 SF BUOYANCY FACTOR
 MASP MAX. ANTICIPATED SURFACE PRESSURE

GREEN RIVER CASING DESIGN

10/8/91

5-1/2 inch PRODUCTION CASING

SETTING DEPTH 7167 FT.-TVD
9628 FT.-MD

CASING DESIGN

SIZE (IN)	WEIGHT (PPF)	GRADE	THREAD	BURST (PSI) Pb	COLLAPSE (PSI) Pc	JT STR. (KLBS)	P.E. YIELD (KLBS)	SAFETY FACTOR			
								BURST	COLLAPSE	TENSILE JT STR.	TENSILE P.E. YIELD
5-1/2"	17	L80	SL-HC	7740	6280	471	397	1.57	1.70	4.93	4.15
5-1/2"	20	L80	SL-HC	9190	8830	466	466	1.73	1.53	11.37	11.37

THE 17 PPF CASING WILL BE RUN TO 4300 FT AND THE 20 PPF WILL BE RUN FROM 4300 FT. TO TD.

WELL PARAMETERS

HOLE SIZE	DEPTH (FT-TVD)	P.P. (PPG)	P.P.n (PPG)	FG (PPG)	FGn (PPG)	MW (PPG)	NEXT CSG DEPTH (FT-TVD)
8.5	7167	15.5	15.5	17.3	17.3	16.5	7167

COLLAPSE
AT 7167 FT-TVD

$$P_{cl} = P.P. \times 0.052 \times TVD$$

$$= 5777 \text{ PSI}$$

SAFETY FACTOR COLLAPSE

$$P_{csf} = P_c / P_{cl}$$

$$1.53$$

BURST

$$MASP = TVD * ((-0.161 * SG) + (0.0488 * P_{Pn})) + 260$$

$$4931 \text{ PSI}$$

$$AVG. GAS GRADIENT = (0.0032 * P_{Pn}) + (0.161 * SG) - (260 / TVD)$$

$$= 0.1179726$$

AT SURFACE	AT TOTAL DEPTH
Pbl = 4931 PSI	Pbl = MASP + MW*0.052*TVD - PP*TVD*0.052
Pbd = 5917 PSI	5304 PSI
Sf @ 1.2	Pbd = 6365 PSI
	Sf @ 1.2
Pbsf = Pb / Pbl = 1.57	Pbsf = Pb / Pbl = 1.73

TENSILE

$$T_{tl} = PPF * TVD * BF$$

$$95,632 \text{ LBS}$$

$$95.63 \text{ KLBS.}$$

$$T_{td} = T_t / T_{tl}$$

$$4.93$$

BF = (65.4 - MW) / 65.4 = 0.7477064

TENSILE LOADS:

1). 17 PPF = 4300 ft x 17 x BF = 54657 LBS

2). 20 PPF = (7167 - 4300) x 20 x BF = 40974 LBS

TOTAL 95632 LBS

LEGEND

- | | | | |
|-------|--|------|----------------------------------|
| P.P. | PORE PRESSURE AT CASING SETTING DEPTH | MASP | MAX.ANTICIPATED SURFACE PRESSURE |
| P.P.n | PORE PRESSURE AT NEXT CASING SETTING DEPTH | TVD | TRUE VERTICAL DEPTH |
| FG | FRACTURE GRADIENT AT CASING SHOE | AGG | AVERAGE GAS GRADIENT |
| FGn | FRACTURE GRADIENT AT NEXT CASING SHOE | Pbl | BURST LOAD |
| MW | MUD WEIGHT OR COMPLETION FLUID WEIGHT | Pbd | BURST DESIGN LOAD REQUIRED |
| SG | SPECIFIC GRAVITY OF GAS | Pbsf | BURST SAFETY FACTOR |
| Pcl | COLLAPSE LOAD | Ttl | TENSILE LOAD |
| Pcd | COLLAPSE DESIGN LOAD REQUIRED | Ttd | TENSILE DESIGN |
| Pcsf | COLLAPSE SAFETY FACTOR | BF | BUOYANCY FACTOR |

October 10, 1991

**UPDATE CORING AND LOGGING PROGRAMS
#1-20 GREEN RIVER-FED.
SEC. 20, T25S, R18E
GRAND COUNTY, UTAH**

CORING PROGRAM:

Three 30' oriented cores in the vertical pilot hole through the Cane Creek interval of the Paradox Fm.

One 30' oriented core in the Cane Creek horizontal hole.

These cores will be contingent on hole conditions. Evaluations will be the same as on the #1-36 Cane Creek-St.

LOGGING PROGRAM:

Vertical Hole

DIL-GR-CAL	(Surf. Csg.) 700' to TVD
Long-Spaced Sonic/Waveform-GR-CAL	(Surf. Csg.) 700' to TVD
(The Sonic Log will be run only if there is fluid in the hole.)	
Lithodensity/CNL-GR-CAL	(Interm. Csg.) 4600' to TVD
6-Arm Dipmeter	(Interm. Csg.) 4600' to TVD
Checkshot - Same as #1-36 Cane Creek	at TVD

(Sonic and DIL Logs should be played back at 2" and 5" scales)

Horizontal Hole

MWD-GR-Resistivity	Kickoff Pt. to TMD
*Lithodensity-GR	Kickoff Pt. to TMD
*Cast	Kickoff Pt. to TMD

*These logs will be contingent on hole conditions.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. Lease Designation and Serial No.
U-58070

6. If Indian, Allottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.
Green River Fed 1-20

9. API Well No.

10. Field and Pool, or Exploratory Area
Wildcat

11. County or Parish, State
Grand, Utah

SUBMIT IN TRIPLICATE

RECEIVED

NOV 29 1991

DIVISION OF
OIL GAS & MINING

1. Type of Well
Oil Gas
 Well Well Other

2. Name of Operator
Chevron U.S.A. Inc.

3. Address and Telephone No.
P.O. Box 599, Denver, CO 80201 (303) 930-3691

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

Sec. 20, T25S, R18E
778' FEL, 2209' FSL

NESE

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

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

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

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Amend item 7.B of the Surface Use Plan as follows:

Following drilling, liquids in the reserve pit will be evaporated and the remaining contents solidified in place with a cement mix and covered with a bentonite cap. The pit liner will be left in place to contain pit solids and isolate them from the underlying soil.

The size of the pit will be reduced to 70' x 240'.

3-BLM
3-State
2-Dr1g
1-JLW
1-UFD

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

Signed J. S. Watson

Title Permit Specialist

Date November 27, 1991

(This space for Federal or State office use)

Approved by: _____ Title _____

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

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

*See instruction on Reverse Side

DATE: 12-4-91
BY: J. S. Watson

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
 Chevron U.S.A. Inc.

3. ADDRESS OF OPERATOR
 PO Box 599, Denver, CO 80201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
 At surface
 869' FEL and 1681' FSL
 At proposed prod. zone
 2283' FEL and 267' FSL

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 +29 miles northwest of Moab, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 869'

16. NO. OF ACRES IN LEASE 2243

17. NO. OF ACRES ASSIGNED TO THIS WELL 640

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. dry hole +2300'

19. PROPOSED DEPTH
 1) 7550' TVD/MD
 2) 7167' TVD/8877' MD

20. ROTARY OR CABLE TOOLS Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 5145' GR

22. APPROX. DATE WORK WILL START*
 8/1/91

5. LEASE DESIGNATION AND SERIAL NO.
 U-58070

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 Green River-Federal

9. WELL NO.
 #1-20

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 20, T25S, R18E

12. COUNTY OR PARISH 13. STATE
 Grand Utah

23. PROPOSED CASING AND CEMENTING PROGRAM

RECEIVED
 APR 06 1992
 DIVISION OF
 OIL GAS & MINING

Be advised that Chevron U.S.A. Inc. is considered to be the operator of Green River Federal 1-20 well, Grand County, Utah, Lease No. U-58070 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 Nationwide Bond #U-89-75-81-34 (Standard Oil Co. of California and its wholly owned subsidiary Chevron U.S.A. Inc., as co-principals) via surety consent as provided for in 43 CFR 3104.2.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED J.P. Watson TITLE Technical Assistant DATE 6/27/91

(This space for Federal or State office use)

PERMIT NO. /S/ WILLIAM C. STRINGER Assistant District Manager for Minerals DATE APR 2 1992

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:
 FLARING OR VENTING OF GAS IS SUBJECT TO NTL 4-A CONDITIONS OF APPROVAL ATTACHED
 Dated 1/1/80

*See Instructions On Reverse Side

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

Chevron U.S.A., Inc.
Green River Fed. No. 20-1
NESE Sec. 20, T. 25 S., R. 18 E.
Grand County, Utah
Lease U-58070

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 Chevron U.S.A, 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 ES0022(Principal - Chevron U.S.A., Inc.) 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. A one-time, 90 day extension of this period may be granted. 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. The BLM shall be kept apprised of all fluids entering or leaving the pit, through either weekly drilling reports or a final status report, submitted with the completion report. Either of which shall be submitted prior to reclamation of the pits.

4. No trivalent or hexavalent chromate additives shall be used in the mud system. Due to potential for contamination of usable quality water aquifers, chromates are banned from Federal leases.

5. BOP systems shall be consistent with API RP 53 and Onshore Oil and Gas Order No. 2. Pressure tests of the surface casing and all BOP equipment potentially subject to pressure will be conducted before drilling the surface casing shoe. Blowout preventer controls will be installed prior to drilling the surface casing plug and will remain in use until the well is completed or abandoned. Ram preventers shall be inspected and operated each trip (no more than once a day is necessary), and annular preventers shall be inspected and operated weekly to ensure good mechanical working order. These inspections shall be recorded on the daily drilling report.

6. 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.

7. When the completion program is determined, a sundry notice describing the completion shall be submitted to this office for approval.

8. Should the well become productive, the BLM, District Office must be notified no later than five business days after production begins. Notification shall be by letter or sundry notice, or orally to be followed by a letter or sundry notice.

9. Gas produced from this well may not be vented or flared beyond an initial authorized test period of 30 days or 50 Mmcf following its completion, whichever comes first, without prior written approval of the Authorized Officer. Surface casing shall have centralizer on each of the bottom three joints.

10. Surface casing shall be set 50 feet into the Chinle Formation regardless of the depth the Chinle is encountered.

11. Intermediate casing shall be set 50 ft into the second clastic zone within the Paradox Formation regardless of the depth this zone is encountered.

12. Prior to the use of oil base mud, the operator shall disclose to the Moab District Office, BLM components used in the mud system.

13. To determine cement top and bond quality, a cement bond log (CBL) or cement evaluation tool (CET) shall be run after the 5½" casing is run and cemented in place.

14. As proposed, the horizontal portion of the well is to be drilled from a KOP at ⁶³⁹⁰ ft MD in a direction of ~~S 45.0° W~~ ^{S 51° W}. The bearing of the hole shall not deviate more than ± 10 degrees without prior approval from the authorized officer.

CONDITIONS OF APPROVAL

EA Log No. UT-068-91-080 Lease or Serial NO. U-58070
Project Application for Permit to Drill - Fed. 1-20
Applicant Chevron, U.S.A., Inc. Address Denver, CO
Project Location Sec. 20, T25S, R18E, SLM County Grand
BLM Office Grand Resource Area Phone No. (801) 259-8193

CONSTRUCTION

1. The operator/contractor will contact the Grand Resource Area Office in Moab, Utah (801-259-8193) 48 hours prior to beginning work on public lands.
2. The dirt contractor will be furnished an approved copy of the surface use plan and BLM stipulations prior to starting any work.
3. Surface disturbance and vehicular travel will be limited to the approved location and access route. Any additional area needed will require BLM approval in advance of use.
4. Access (ingress and egress) will be controlled by appropriate signs as needed along the road.
5. The access road and well pad will be sprinkled with water as needed to control dust.
6. Neither construction material nor equipment will be stored on the access road or location without prior BLM approval.
7. Approximately 0.7 miles of road will be upgraded on BLM land to gain access to the well location. Travel surface will be 18 feet wide, and include appropriate water control structures. The access will be to the design of a Class III road.
8. The drill rig will be transported to the location during a period when traffic is light.
9. The reserve pit will be lined with an impermeable 12-mil liner.
10. The reserve pit as shown in the APD, Exhibit C, (100' wide X 240' long X 10' deep) will be reduced in size to 70' wide X 240' long X 8 to 10' deep.
11. Every necessary step will be taken to reduce noise and lighting associated with the construction activity.

DRILLING

1. The preferred drilling medium for the first 4185 feet is air or air mist. The remainder of the well to a total vertical depth will be drilled with a diesel base mud.
2. Solids control equipment will be used to reduce liquid portion of cuttings, discharged into the reserve pit.
3. In order to reduce fugitive dust, the operator/contractor will be required to periodically water down the access road and drill pad.
4. The reserve pit will be fenced on three sides with a 32" - 48" woven wire to protect wildlife and domestic animals. Sufficient overhead flagging will be installed over the pit to ward off raptors and other birds.
5. Every needed step will be taken to reduce noise (mufflers, etc.) and lighting (screening where possible) associated with the drilling activity.
6. If production occurs, the Resource Area will be notified as soon as possible so that an on-site can be scheduled to discuss permanent placement and orientation of production facilities.

POST-DRILLING

1. Immediately upon completion of drilling, the location and surrounding area will be cleared of all debris resulting from the operation. All trash will be disposed of in the trash pit/cage. Non-burnable debris will be hauled to a local dump site.
2. The operator/contractor will contact the Grand Resource Area BLM office in Moab, Utah (801-259-8193) 48 hours prior to starting rehabilitation work that involves earthmoving equipment and completion of restoration measures.
3. All disturbed areas will be recontoured to blend as nearly as possible with the surrounding area.
4. The stockpiled topsoil will be evenly distributed over the disturbed area.
5. All disturbed areas will be scarified with the contour to a depth of 4 inches. Do not smooth pads out, leave a roughened surface.
6. Seed will be drilled at a time to be specified by the BLM with the seed mixture specified by the BLM.
7. The re-seeded location will be fenced for two years to allow for successful rehabilitation.
8. A seed mixture specified by the BLM will be drilled at a time specified by BLM. Seeding will be determined to be successful when a vegetative trend has been established on the location comparable to the surrounding area.

9. A seed mixture will be used as prescribed below:

<u>SPECIES</u>	<u>LBS/ACRE</u>
Indian ricegrass	2
Curly grass	2
Green needle & thread grass	2
Yellow sweet clover	0.5
Scarlett globe mallow	0.5
Bitterbrush	1
Mormon tea	1
Blackbrush	1
Shadscale	1
Winterfat	1

Broadcast seed will be double the above prescribed rate.

10. All of the above ground permanent facilities associated with the production of this well (facilities that will remain on location longer than 6 months) will be painted a non-reflective color(s). This color(s) will be determined at the on-site inspection for the placement of production facilities.
11. In addition to procedures identified in the APD submittal, the following requirements will be followed in constructing and reclaiming the reserve pit:
- The pit liner will be installed in such a manner to assure it will not be punctured during installation or drilling operations.
 - Upon completion of drilling operations the reserve pit will be de-watered. This waste water will be disposed of off-site at an approved disposal facility, 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 allowed to evaporate depending on conditions at that time.
 - 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.
 - The reserve pit contents will then be solidified with a proper mixture of fly ash and kiln dust to stabilize the salt adhered to the cuttings. Quantities of solidifying agent will be sufficient to assure the physical properties of the stabilized pit are similar to the physical properties of the native subsoils.
 - The solidified contents will then be sampled and tested for leachability of salts and heavy metals. There will be a minimum of 5 samples taken from the solidified 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. The remaining liner material will then be folded over the edges of the solidified contents of the pit.
- g. The solidified pit contents will then be covered by a minimum of one foot of native subsoils. 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 then be applied to the top of the pit. The bentonite will be a commercial grade and will be mixed with the native subsoils 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 disced 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.

Environmental Assessment
for Chevron USA, Inc. Green River Fed. #1-20
UT-068-91-080

ERRATA

The following language is hereby incorporated into the EA at the bottom of page 1-13:

Liquids in the reserve pit would be reduced by evaporation. A spray mist sprinkler system would not be used. The remaining contents would then be solidified in place with a cement mix and covered with a bentonite cap. Pit liners would be kept in place to contain pit solids and isolate them from the underlying soil. Waterfowl use of the pit would be adequately discouraged by flagging, especially since the project area is not on a migratory bird flyway and waterfowl are more likely to seek out habitat along the Colorado River. Fencing would keep other wildlife out of the pit.

B. SURFACE USE PLAN

1. The dirt contractor will be provided with an approved copy of the surface use plan of operations before initiating construction.

2. All wells, whether drilling, producing, suspended, or abandoned, will be identified in accordance with 43 CFR 3162.6.

3. A cultural resource clearance will be required before any construction begins. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized officer (AO). Within five (5) working days, the AO will inform the operator as to:

- 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 AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation costs. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

4. The reserve pit shall be located in cut material, with at least 50% of the pit volume being below original ground level. Three sides of the reserve pit will be fenced before drilling starts. The fourth side will be fenced as soon as drilling is completed, and shall remain until the pit is dry. As soon as the reserve pit has dried or within 18 months of completion of drilling whichever is least, all areas not needed for production will be rehabilitated.

As proposed, an oil base mud (diesel) will be utilized to drill the hole from 4245-8877'. This drilling fluid shall be contained in the mud storage facilities during all phase of drilling operations. Following drilling operations the fluid shall be properly disposed of or efforts shall be made to recycle the mud for future use.

5. Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed must be approved by the Area Manager in advance.

6. Trash must be contained in a trash cage and hauled away to an approved disposal site as necessary but no later than at the completion of drilling operations.

7. If the well is productive, cattle guards will be installed on the access road at fence crossings. The access road will be rehabilitated or brought to Resource (Class III) Road Standards within sixty (60) days of dismantling the drilling rig. If this time frame cannot be met, the Area Manager will be notified so that temporary drainage control can be installed along the access road.

8. If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 150% of the storage capacity of the largest tank in the battery. All loading lines and valves will be placed inside the berm surrounding the tank battery.

9. All permanent (on-site for six (6) months or longer) structures constructed or installed (including oil well pumping units) shall be painted a flat, nonreflective, earth tone color to blend with the local environment, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities shall be painted within six (6) months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded. Colors shall be coordinated with the Price River Resource Area office prior to initiating painting.

10. All off-lease storage, off-lease measurement, or commingling (on-lease or off-lease) shall have prior written approval from the Assistant District Manager.

11. Pipeline construction activity is not authorized under this permit.

12. Copies of all water analysis required by the State of Utah in relation to surface discharge of produced water will be submitted to the Moab District Office, Bureau of Land Management.

13. Produced waste water will be confined to an unlined pit for a period not to exceed ninety (90) days after initial production. During the ninety (90) day period, an application for approval of a permanent disposal method and location, along with the required water analysis, will be submitted for the Assistant District Manager's approval pursuant to Onshore Oil and Gas Order No. 7 (NTL-2B).

14. If at any time the facilities located on public land authorized by the terms of the lease are no longer included in the lease (due to contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer (AO).B.

C. REQUIRED NOTIFICATIONS AND APPROVALS

Required verbal notifications are summarized in Table 1,

attached.

Spud- Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the District office within twenty-four (24) hours after spudding (regardless of whether spud was made with a dry hole digger or big rig). If the spudding occurs on a weekend or holiday, the written report will be submitted on the following work day.

Undesirable Events/Immediate Reports- 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 within fifteen (15) days after receipt of the first production report. The Resource Area Office will coordinate the field conference.

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, fluids, and /or gas) will be submitted when requested by the Assistant District Manager.

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.

The top of the marker will be closed or capped.

The following minimum information will be permanently placed on the marker with a plate, cap, or beaded-on with a welding torch:

"Fed" or "Ind", as applicable. "Well number, location by 1/4 1/4 section, township and range". "Lease number".

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.

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.

NOTIFICATIONS

Notify Elmer Duncan of the Grand Resource Area, at
(801) 259-8193 for the following:

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

1 day prior to spudding;

50 feet prior to reaching surface and intermediate casing depths;

3 hours prior to testing BOP's;

12 hours prior to reaching kickoff point depth.

If the person at the above number cannot be reached, then notify Fred
Oneyear in the Moab District Office at (801) 259-6111 or at home (801)
259-5937 (If unsuccessful, then notify one of the following people
listed below).

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

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

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

Home Phone: (801) 259-6239

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

Home Phone: (801) 259-2214

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

Lynn Jackson, Office Phone: (801) 259-6111

Chief, Branch of Fluid Minerals

Home Phone: (801) 259-7990

24 HOURS ADVANCE NOTICE IS REQUIRED FOR ALL ABANDONMENTS



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Norman H. Bangert
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

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

April 13, 1992

Chevron U.S.A. Inc.
P.O. Box 599
Denver, Colorado 80201

Gentlemen:

Re: Green River-Federal #1-20 Well, 2209 feet from the south line, 778 feet from the east line, NE 1/4 SE 1/4, Section 20, Township 25 South, Range 18 East, Grand County, Utah

Pursuant to Utah Admin. R. 649-3-2 (formerly R. 615-3-2) and Utah Admin. R. 649-3-4 (formerly R. 615-3-4), 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. Fencing and flagging of the reserve pit is required to prevent access by persons, wildlife, birds, or livestock.
3. Compliance with the requirements of Utah Admin. R. 649-1 et seq. (formerly R. 615-1 et seq.), Oil and Gas Conservation General Rules.
4. Notification within 24 hours after drilling operations commence.
5. 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.
6. Submittal of the Report of Water Encountered During Drilling, Form 7.

Page 2
Chevron U.S.A. Inc.
Green River-Federal #1-20 Well
April 13, 1992

7. 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.
8. Compliance with the requirements of Utah Admin. R. 649-3-20 (formerly R. 615-3-20), Gas Flaring or Venting, if the well is completed for production.

Prior to commencement of the proposed drilling operations, plans for facilities for disposal of sanitary wastes at the drill site should be submitted to the local health department. These drilling operations and any subsequent well operations should be conducted in accordance with applicable state and local health department regulations. A list of local health departments and copies of applicable regulations are available from the Department of Environmental Quality, Division of Drinking Water/Sanitation, telephone (801)538-6159.

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 43-019-30326.

Sincerely,



R.J. Firth
Associate Director, Oil and Gas

ldc
Enclosures
cc: Bureau of Land Management
J.L. Thompson
WOH



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING -

Norman H. Bangertter

Governor

Dee C. Hansen

Executive Director

Dianne R. Nielson, Ph.D.

Division Director

355 West North Temple

3 Triad Center, Suite 350

Salt Lake City, Utah 84180-1203

801-538-5340

April 27, 1992

Chevron U.S.A. Inc.
P.O. Box 599
Denver, Colorado 80201

Amended Approval

Gentlemen:

Re: Green River-Federal #1-20 Well, 2209 feet from the south line, 778 feet from the east line, NE 1/4 SE 1/4, Section 20, Township 25 South, Range 18 East, Grand County, Utah

Pursuant to Utah Admin. R. 649-3-2 (formerly R. 615-3-2) and Utah Admin. R. 649-3-4 (formerly R. 615-3-4), 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. Fencing and flagging of the reserve pit is required to prevent access by persons, wildlife, birds, or livestock.
3. Compliance with the requirements of Utah Admin. R. 649-1 et seq. (formerly R. 615-1 et seq.), Oil and Gas Conservation General Rules.
4. Notification within 24 hours after drilling operations commence.
5. 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.
6. Submittal of the Report of Water Encountered During Drilling, Form 7.

Page 2
Chevron U.S.A. Inc.
Green River-Federal #1-20 Well
April 27, 1992

7. 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.
8. Compliance with the requirements of Utah Admin. R. 649-3-20 (formerly R. 615-3-20), Gas Flaring or Venting, if the well is completed for production.

Prior to commencement of the proposed drilling operations, plans for facilities for disposal of sanitary wastes at the drill site should be submitted to the local health department. These drilling operations and any subsequent well operations should be conducted in accordance with applicable state and local health department regulations. A list of local health departments and copies of applicable regulations are available from the Department of Environmental Quality, Division of Drinking Water/Sanitation, telephone (801)538-6159.

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 43-019-31326.

Sincerely,



R.J. Firth
Associate Director, Oil and Gas

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

RECEIVED

APR 12 1993

DIVISION OF
OIL GAS & MINING

Moab District
P. O. Box 970
Moab, Utah 84532

3162 (UT-065)
(U-58070)

APR - 8 1993

Ms. Jan Watson
Chevron U.S.A. Inc.
P. O. Box 599
Denver, Colorado 80201

Re: Rescinding Application for Permit to Drill
Well No. Green River Federal 1-20 43-019-31226
NESE Sec. 20, T. 25 S., R. 18 E.
Grand County, Utah
Lease U-58070

Dear Ms. Watson:

The Application for Permit to Drill (APD) the referenced well was approved on April 2, 1992. Since that date, no known activity has transpired.

This approval was valid for a period of one year from the date of approval. In view of the foregoing, this office is rescinding the approval of the referenced application.

Should you intend to drill at this location at a future date, a new APD must be submitted.

If you have any questions, please contact Marie Ramstetter at (801) 259-6111.

Sincerely,

/S/ WILLIAM G. STRINGER

Assistant District Manager
Mineral Resources

Enclosure
Application for Permit to Drill

cc: UT-068, Grand Resource Area (wo/Enclosure)
State of Utah, Division of Oil, Gas and Mining (wo/Enclosure)✓
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

MRamstetter:mr:4/7/93



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

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
James W. Carter
Division Director

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

April 14, 1993

Ms. Jan Watson
Chevron U.S.A. Inc.
P.O. Box 599
Denver, Colorado 80201

Dear Ms. Watson:

Re: Well No. Green River Fed. 1-20, Sec. 20, T. 25S, R. 18E, Grand County, Utah
API No. 43-019-31326

In concert with action taken by the U.S. Bureau of Land Management, approval to drill the above referenced well is hereby **rescinded**. A new Application for Permit to Drill must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division of Oil, Gas and Mining immediately.

Sincerely,

Don Staley
Administrative Manager
Oil and Gas

DME/lde
cc: R.J. Firth
Bureau of Land Management - Moab
Well file
WOI196

