

FILE NOTATIONS

Entered in NID File
Location Map Pinned
Card Indexed

Checked by Chief
Approval Letter
Disapproval Letter

COMPLETION DATA:

.....
.....
..... OS..... EA.....

Location Inspected
.....
State or rec

LOGS FILED

Driller's Log.....
Electric Logs (No.)
E..... I..... Dual I Lat..... GR-N..... Micro.....
BRC Sonic GR..... Lat..... MI-L..... Sonic.....
CLog..... CLog..... Others.....

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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
 Columbia Gas Development Corporation

3. ADDRESS OF OPERATOR
 c/o T P Engineering Inc.
 1201 Security Life Building, Denver, Colo. 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
 At surface
 SESW (660' FSL, 1980' FWL) Sec. 23
 At proposed prod. zone
 Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approx. 30 mi. NE of Hanksville, Utah

5. LEASE DESIGNATION AND SERIAL NO.
 U31428

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 Paradox

9. WELL NO.
 1-23

10. FIELD AND POOL, OR WILDCAT
 Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 23, T24S, R13E

12. COUNTY OR PARISH
 Emery

13. STATE
 Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 660'

16. NO. OF ACRES IN LEASE 2360

17. NO. OF ACRES ASSIGNED TO THIS WELL 40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. N.A. 2750'

19. PROPOSED DEPTH

20. ROTARY OR CABLE TOOLS
 Rotary

21. ELEVATIONS (Show whether DF, ET, GR, etc.)
 4760' Ground

22. APPROX. DATE WORK WILL START*
 June 20, 1979

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
15"	10 3/4"	40.5	400'	400 sacks
8 3/4"	4 1/2"	9.5	2750'	100 sacks

Set 18" or 20" pipe for conductor string @ 30' w/ dry hole digger. Cement to surface.
 Drill 15" hole to approx. 400' w/ air.
 Set 10 3/4" surface casing @ approx. 400'. Circulate cement to surface.
 Drill 8 3/4" hole to total depth w/ air.
 Test all shows while drilling.
 Run Induction-Gammaray and Neutron Density Logs.
 Set 4 1/2" production casing or plug and abandon as indicated.

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. T P Engineering Inc.
 SIGNED [Signature] TITLE Agent DATE 5-14-79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____
 APPROVED BY [Signature] TITLE ACTING DISTRICT ENGINEER DATE JUL 24 1979
 CONDITIONS OF APPROVAL, IF ANY:

NOTICE OF APPROVAL

Utah O&G

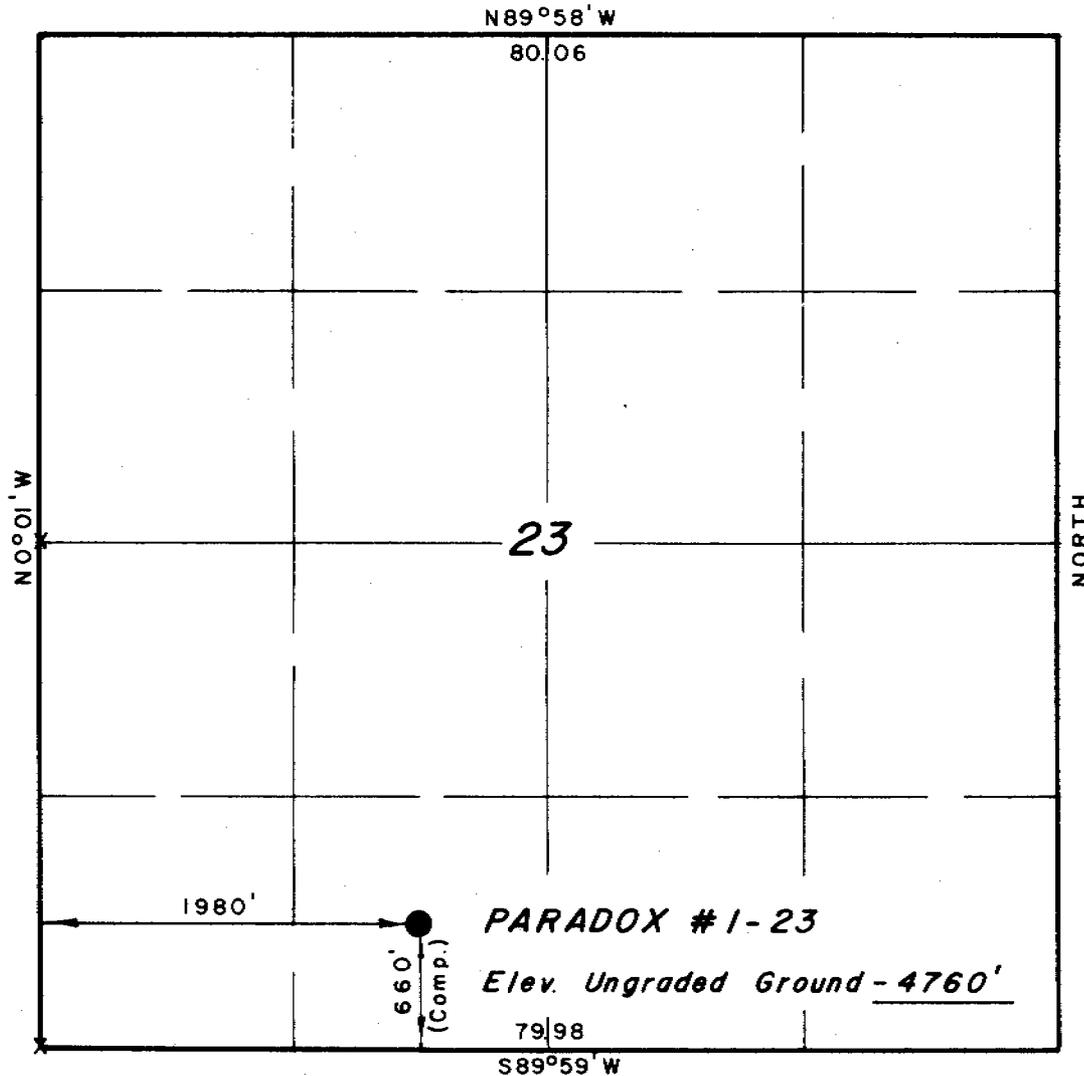
DEPARTMENT OF AGRICULTURE
 TO OPERATOR COPY

NECESSARY FLARING OF GAS DURING DRILLING AND COMPLETION APPROVED SUBJECT TO ROYALTY (NPL-4)

T 24 S, R 13 E, S.L.B. & M.

COLUMBIA GAS DEV. CORP.

Well location, *PARADOX #1-23*
located as shown in the SE 1/4
SW 1/4 Section 23, T24 S, R13E,
S.L.B. & M. Emery County, Utah.



X = Section Corners Located



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.

REGISTERED LAND SURVEYOR
REGISTRATION NO. 3154
STATE OF UTAH

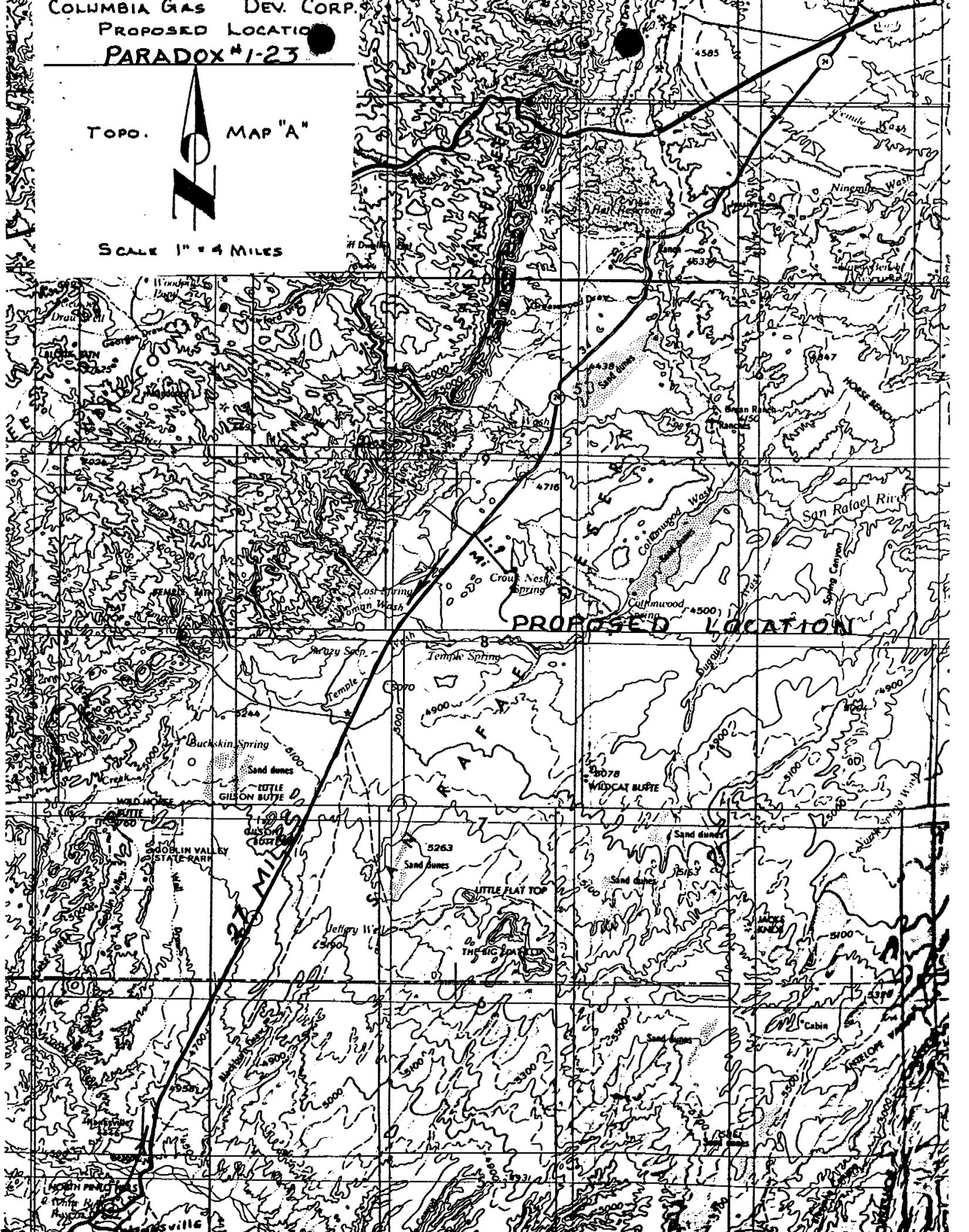
UINTAH ENGINEERING & LAND SURVEYING
P.O. BOX Q - 110 EAST - FIRST SOUTH
VERNAL, UTAH - 84078

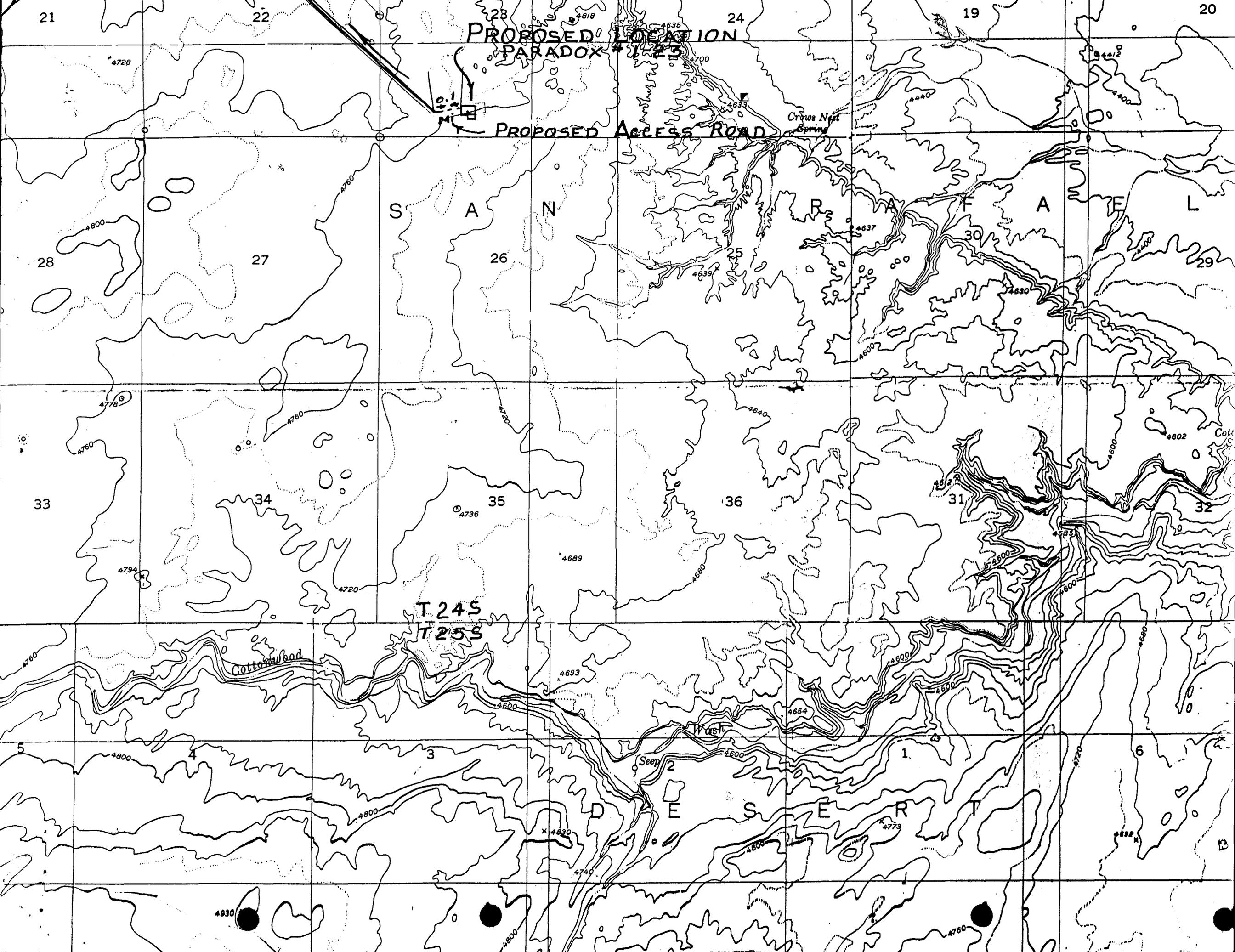
SCALE 1" = 1000'	DATE 5/4/79
PARTY M.S. K.H.	REFERENCES GLO Plat
WEATHER Cloudy - Cool	FILE COLUMBIA GAS DEV.

COLUMBIA GAS DEV. CORP.
PROPOSED LOCATION
PARADOX #1-23



SCALE 1" = 4 MILES





PROPOSED LOCATION
PARADOX #123

PROPOSED ACCESS ROAD

T 24 S
T 25 S

Cottonwood

Wash

Seep

X 4630

* 4773

4830

4800

4760

4692

B

Cott

S

32

4602

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

4600

20

19

24

28

22

21

29

30

25

26

27

28

32

31

36

35

34

33

6

1

2

3

4

5

6

1

2

3

4

5

6

1

2

3

4

5

COLUMBIA GAS DEV. CORP.
PROPOSED LOCATION
PARADOX # 1-23

TOPO. MAP "B"

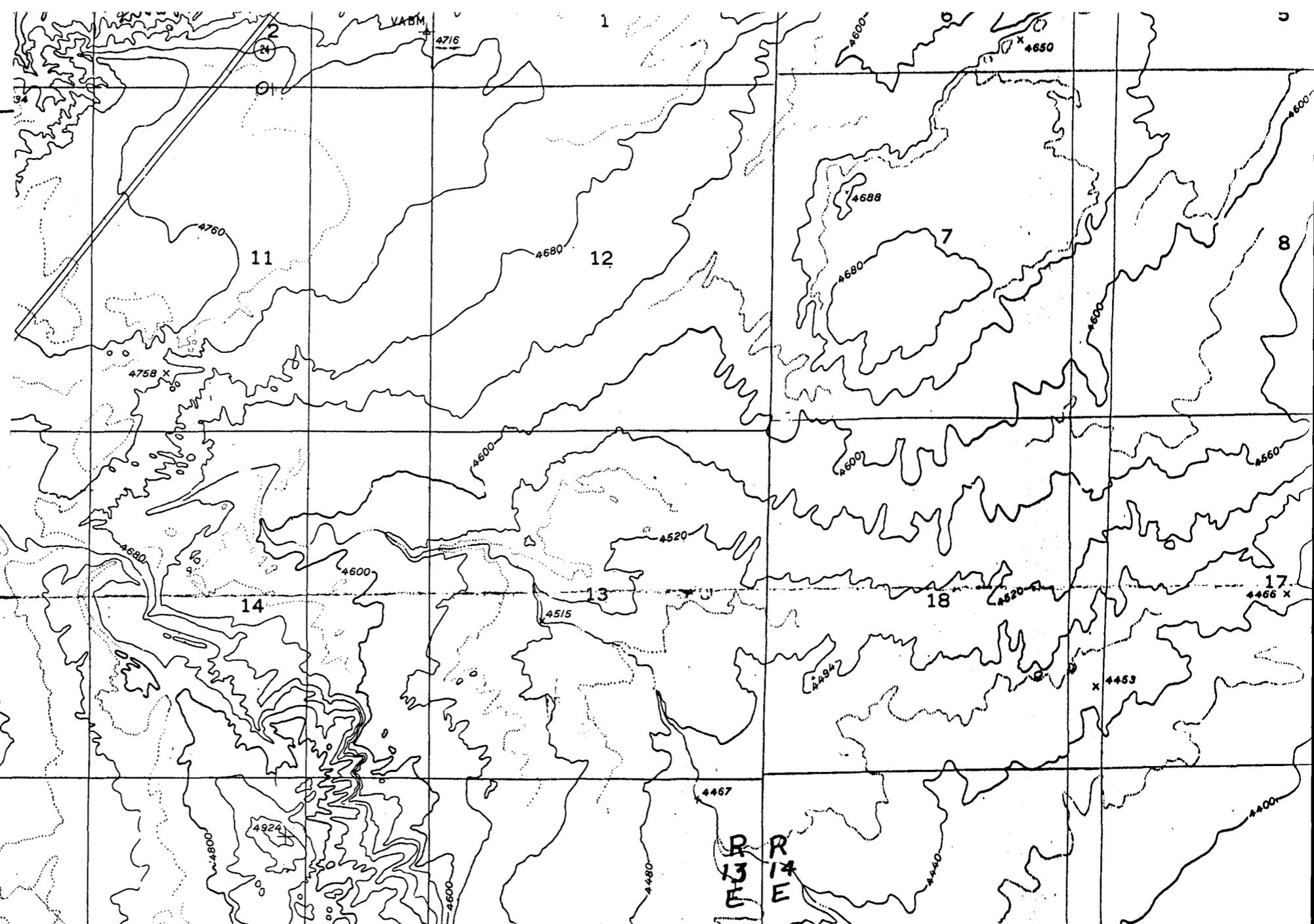
SCALE - 1" = 2000'

ROAD CLASSIFICATION
Medium-duty ——— Light-duty ———
Unimproved dirt
○ State Route



QUADRANGLE LOCATION

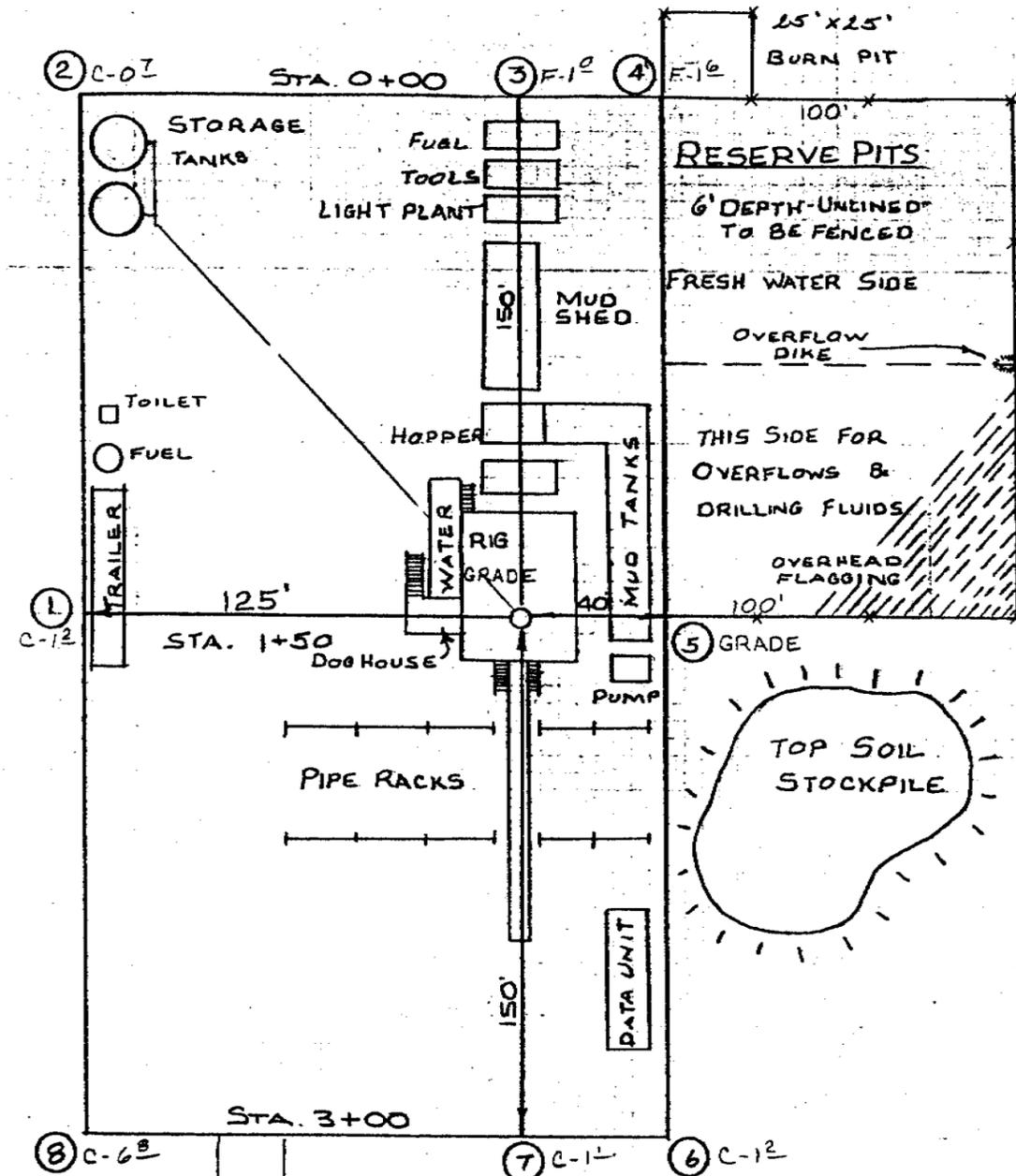
HANKSVILLE
27 MILES
1.8 MILES



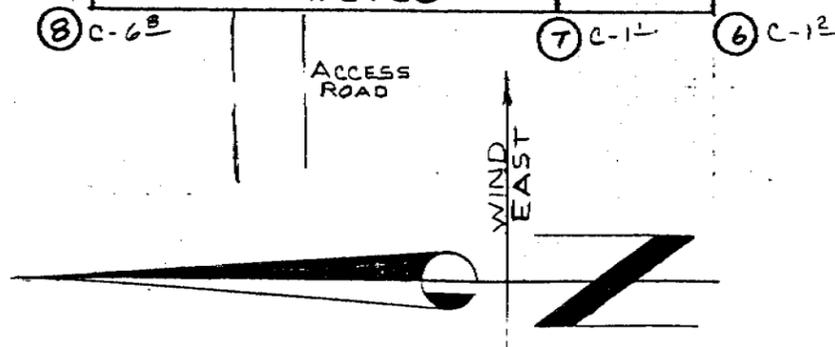
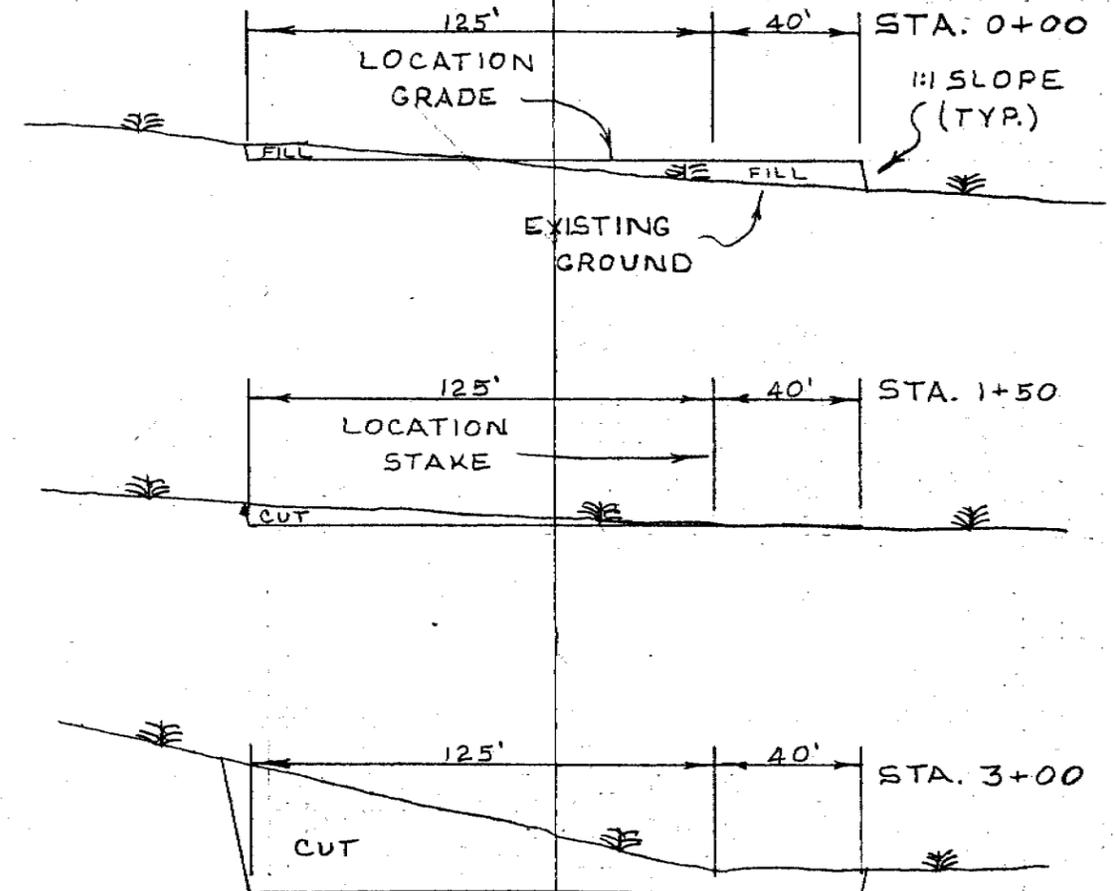
COLUMBIA GAS & DEV. CORP.

PARADOX # 1-23

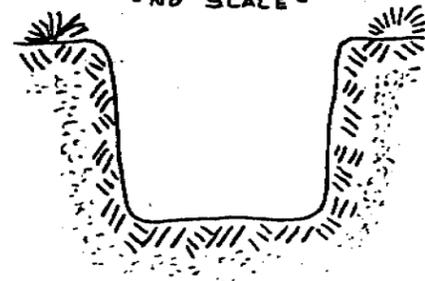
LOCATION LAYOUT & CUT SHEET
SEC. 23, T.24S, R.13E, S.L.B.#M.



C
R
O
S
S
S
E
C
T
I
O
N
S



SOILS LITHOLOGY
- NO SCALE -



LIGHT BROWN SANDY CLAY

APPROX. YARDAGES

CUT - 2023 CU. YDS.
FILL - 278 CU. YDS.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

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
Columbia Gas Development Corporation

3. ADDRESS OF OPERATOR
c/o T P Engineering Inc.
1201 Security Life Building, Denver, Colo. 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*
At surface
SESW (660' FSL, 1980' FWL) Sec. 23
At proposed prod. zone
Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
Approx. 30 mi. NE of Hanksville, Utah

10. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drig. unit line, if any) 660'

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

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
4760' Ground

5. LEASE DESIGNATION AND SERIAL NO.
U31428

6. FEDERAL ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. NAME OF LEASE NAME
Paradox

9. WELL NO.
1-23

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 23, T24S, R13E

12. COUNTY OR PARISH 13. STATE
Emery Utah

16. NO. OF ACRES IN LEASE
2360

17. NO. OF ACRES ASSIGNED TO THIS WELL
40

19. PROPOSED DEPTH
2750' *Column*

20. ROTARY OR CABLE TOOLS
Rotary

22. APPROX. DATE WORK WILL START*
June 20, 1979

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
15"	10 3/4"	40.5	400'	400 sacks
8 3/4"	4 1/2"	9.5	2750'	100 sacks

Set 18" or 20" pipe for conductor string @ 30' w/ dry hole digger. Cement to surface.
Drill 15" hole to approx. 400' w/ air.
Set 10 3/4" surface casing @ approx. 400'. Circulate cement to surface.
Drill 8 3/4" hole to total depth w/ air.
Test all shows while drilling.
Run Induction-Gammaray and Neutron Density Logs.
Set 4 1/2" production casing or plug and abandon as indicated.



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. T P Engineering, Inc.
SIGNED [Signature] TITLE Agent DATE 5-14-79

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

Proposed Action:

On May 21, 1979, Colombia Gas Development filed an Application for Permit to Drill the No. 1-23 exploratory well, a 2750-foot gas test of the Kiabab and Sinbad Formations; located at an elevation of 4760 ft. in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 23, T 24 S., R 13 E on Federal mineral lands and public surface; lease no U 31528. There was no objection raised to the wellsite nor to the access road.

A rotary rig would be used for the drilling. An adequate casing and cementing program is proposed. Fresh-water sands and other mineral-bearing formations would be protected. A Blowout Preventor would be used during the drilling of the well. The proposed pressure rating should be adequate. Details of the operator's NTL-6 10-Point Subsurface Plan are on file in the U.S.G.S. District Office in Salt Lake City, Utah and the U.S.G.S. Northern Rocky Mountain Area Office in Casper, Wyoming. The 13-Point Surface Protection Plan is on file in the District Office in Salt Lake City.

A working agreement has been reached with the B.L.M., the controlling surface agency. Rehabilitation plans would be decided upon as the well neared completion; the Surface Management Agency would be consulted for technical expertise on those arrangements.

The operator proposes to construct a drill pad 165 ft. wide x 300 ft long and a reserve pit 100 ft x 150 ft. A new access road would be constructed 18 ft wide x .1 mile long and an existing trail would be upgraded to 18 ft wide by 1.8 miles long from a maintained road. The operator proposes to construct production facilities on disturbed area of the proposed drill pad. If production is established, plans for a gas flow line would be submitted to the appropriate agencies for approval. The anticipated starting date is June 20 and duration of drilling activities would be about 30 days.

Location and Natural Setting:

The proposed drillsite is approximately 30 miles NE of Hanksville, Utah, the nearest town. A good road runs to within 1.9 miles of the location. This well is a Wildcat field.

Topography:

The location exists in the San Rafael desert which is formed by the San Rafael swell to the west and mesas of Summerville Formations to the east. The area consists of large non-perennial washes which dissect the desert landscape. Large migrating sand dunes exist around the location, which is an eroded deposit of the Entrada Sandstone.

Geology:

The surface geology is Entrada Sandstone. The soil is sandy to sandy clay with large quartz sand dunes and deposits. No geologic hazards are known near the drillsite.

Seismic risk for the area is minor. Anticipated geologic tops are filed with the 10-Point Subsurface Protection Plan.

Approval of the proposed action would be conditioned that adequate and sufficient radioactive and density logging surveys would be made to locate and identify any potential mineral resources. Production casing and cementing would be adjusted to assure no influence of the hydrocarbon zones through the well bore on these minerals. In the event the well is abandoned, cement plugs would be placed with drilling fluid in the hole to assure protection of any mineral resources.

A geologic review of the proposed action has been furnished by the Area Geologist, U. S. Geological Survey, Salt Lake City, Utah.

The operator's drilling, cementing, casing and blowout prevention programs have been reviewed by the Geological Survey engineers and determined to be adequate.

Soils:

No detailed soil survey has been made of the project area. The top soils in the area range from a sandy quartz to a sandy clay type soil. The soil is subject to runoff from rainfall and has a high runoff potential and sediment production would be high. The soils are mildly to moderately alkaline and support the salt-desert shrub community.

Top soil would be removed from the surface and stockpiled. The soil would be spread over the surface of disturbed areas when abandoned to aid in rehabilitation of the surface. Rehabilitation is necessary to prevent erosion and encroachment of undesired species on the disturbed area. The operator proposes to rehabilitate the location and access road per the recommendations of the Bureau of Land Management.

Approximately 1.5 acres of land would be stripped of vegetation. This would increase the erosional potential. Proper construction practice, construction of water bars, reseeding of slope-cut area would minimize this impact.

Air:

No specific data on air quality is available at the proposed location. There would be a minor increase in air pollution due to emissions from rig and support traffic engines. Particulate matter would increase due to dust from travel over unpaved dirt roads. The potential for increased air pollution due to leaks, spills, and fire would be possible.

Relatively heavy traffic would be anticipated during the drilling-operations phase, increasing dust levels and exhaust pollutants in the area. If the well was to be completed for production, traffic would be reduced

substantially to a maintenance schedule with a corresponding decrease of dust levels and exhaust pollutants to minor levels. If the project results in a dry hole, all operations and impact from vehicular traffic would cease after abandonment. Due to the limited number of service vehicles and limited time span of their operation, the air quality would not be substantially reduced.

Toxic or noxious gases would not be anticipated.

Precipitation:

Annual rain fall should range from about 6" to 8" at the proposed location. The majority of the numerous drainages in the surrounding area are of a non-perennial nature flowing only during early spring runoff and during extremely heavy rain storms. This type of storm is rather uncommon as the normal annual precipitation is around 7".

Winds are medium and gusty, occurring predominately from west to east. Air mass inversions are rare. The climate is semi-arid with abundant sunshine, hot summers and cold winters with temperature variations on a daily and seasonal basis.

Surface Water Hydrology:

The well location sits on a flat area north of Cottonwood Wash which drains northeast into the San Rafael River.

All the washes and drainages of the area are of dendritic drainage patterns and non-perennial in nature.

Some additional erosion would be expected in the area since surface vegetation would be removed. If erosion became serious, drainage systems such as water bars and dikes would be installed to minimize the problem. The proposed project should have minor impact on the surface water systems. The potentials for pollution would be present from leaks or spills. The operator is required to report and clean up all spills and leaks.

Ground Water Hydrology:

Some minor pollution of ground water systems would occur with the introduction of drilling fluids (filtrate) into the aquifer. This is normal and unavoidable during rotary drilling operations. The potential for communication, contamination and comingling of formations via the well bore would be possible. The drilling program is designed to prevent this.

There is need for more data on hydrologic systems in the area and the drilling of this well may provide some basis information as all shows of fresh water would be reported. Water production with the gas would require disposal of produced water per the requirements of NTL-2B. The depths of fresh water formations are listed in the 10-Point Subsurface Protection Plan. The pits would be unlined. If fresh water should be available from the well, the owner or surface agency may request completion as a water well if given approval.

Vegetation:

Sagebrush, Indian paintbrush, astragalus, desert lillies, cactus, yucca, and small amounts of native grasses exist on the location.

Plants in the area are of the salt-desert-shrub types.

Proposed action would remove about 1.5 acres of vegetation. Removal of vegetation would increase the erosional potential and there would be a minor decrease in the amount of vegetation available for grazing.

The Operator proposes to rehabilitate the surface upon completion of operations.

Wildlife:

The fauna of the area consists predominately of mule deer, antelope, coyotes, rabbits, foxes, and varieties of small ground squirrels and other types of rodents and various types of reptiles. The area is used by man for the primary purpose of grazing domestic livestock and sheep. The birds of the area are raptors, finches, ground sparrows, magpies, crows, and jays.

An animal and plant inventory has been made by the B.L.M. No endangered plants or animals are known to inhabit the project area.

Social-Economic Effect:

An on the ground surface archaeological reconnaissance would be required prior to approval of the proposed action. Appropriate clearances would then be obtained from the surface managing agency. If a historic artifact, an archaeological feature or site is discovered during construction operations, activity would cease until the extent, the scientific importance, and the method of mitigating the adverse effects could be determined by a qualified cultural resource specialist.

There are no occupied dwellings or other facilities of this nature in the general area. Minor distractions from aesthetics would occur over the

lifetime of the project and is judged to be minor. All permanent facilities placed on the location would be painted a color to blend in with the natural environment. Present use of the area is grazing, recreation, and oil and gas activities.

Noise from the drilling operation may temporarily disturb wildlife and people in the area. Noise levels would be moderately high during drilling and completion operations. Upon completion, noise levels would be infrequent and significantly less. If the area is abandoned, noise levels should return to pre-drilling levels.

The site is visible from a major road. After drilling operations, completion equipment would be visible to passersby of the area but would not present a major intrusion.

The economic effect of one well would be difficult to determine. The overall effect of oil and gas drilling and production activity are significant in Emery County.

But should this well discover a significant new hydrocarbon source, local, state and possibly national economics might be improved. In this instance, other development wells would be anticipated, with substantially greater environmental and economic impacts.

Should the wellsite be abandoned, surface rehabilitation would be done according to the surface agency's requirements and to U.S.G.S.'s satisfaction. This would involve leveling, contouring, reseeding, etc., of the location and possibly the access road. If the well should produce hydrocarbons, measures would be undertaken to protect wildlife and domestic stock from the production equipment.

There are no national, state, or local parks, forest, wildlife refuges or ranges, grasslands, monuments, trails or other formally designated recreational facilities near the proposed location.

The proposed location is within the San Rafael Planning Unit 06-0. This Environmental Assessment Record was compiled by the Bureau of Land Management, the surface managing agency of the Federal surface in the area. The study includes additional information on the environmental impact of oil and gas operations in this area and gives land use recommendations. The E.A.R. is on file in the agency's State offices and is incorporated herein by reference.

Waste Disposal:

The mud and reserves pits would contain all fluids used during the drilling operations. A trash pit would be utilized for any solid wastes generated at the site and would be buried at the completion of the operations. Sewage would be handled according to State sanitary codes. For further information, see the 13-Point Surface Plan.

Alternative to the Proposed Action:

(1) Not Approving The Proposed Permit--The Oil and Gas Lease Grants The Lessee Exclusive Right to Drill for, Mine, Extract, Remove and Dispose of All Oil and Gas Deposits.

Under leasing provisions, the Geological Survey has an obligation to allow mineral development if the environmental consequences are not too severe or irreversible. Upon rehabilitation of the site, the environmental effects of this action would be substantially mitigated, if not totally annulled. Permanent damage to the surface and subsurface would be prevented as much as possible under U.S.G.S. and other controlling agencies supervision with rehabilitation planning reversing almost all effects. Additionally, the growing scarcity of oil and gas should be taken into consideration. Therefore, the alternative of not proceeding with the proposed action at this time is rejected.

(2) Minor relocation of the wellsite and access road or any special, restrictive stipulations or modifications to the proposed program would not significantly reduce the environmental impact. There are no severe vegetative, animal or archaeological-historical-cultural conflicts at the site. Since only a minor impact on the environment would be expected, the alternative of moving the location is rejected. At abandonment, normal rehabilitation of the area such as contouring, reseeding, etc., would be undertaken with an eventual return to the present status as outlined in the 13-Point Surface Plan.

(3) Drilling should be allowed provided the following mitigative measures are incorporated into the proposed APD and adhered to by the operator.

A. Air mist blooey line to reduce visible dust to passersby of the area.

B. Move topsoil stockpile to southwest corner of pad, corner No. 6 on the site layout.

C. Move reserve pits 75' west to position Blooeyline in more convenient location.

D. Minimize disturbance on existing road, to reduce erosion of road.

E. Burn and trash pit to be covered with at least 4 ft. of soil upon completion of drilling operations.

Adverse Environmental Effects Which Cannot Be Avoided:

Surface disturbance and removal of vegetation from approximately 1.5 acres of land surface for the lifetime of the project which would result in

increased and accelerated erosional potential. Grazing would be eliminated in the disturbed areas and there would be a minor and temporary disturbance of wildlife and livestock. Minor induced air pollution due to exhaust emissions from rig engines of support traffic engines would occur. Minor increase in dust pollution would occur due to vehicular traffic associated with the operation. If the well is a gas producer, additional surface disturbance would be required to install production pipelines. The potential for fires, gas leaks, and spills of oil and water would exist. During the construction and drilling phases of the project, noise levels would increase. Potential for sub-surface damage to fresh water aquifers and other geologic formations exists. Minor distractions from aesthetics during the lifetime of the project would exist. If the well is a producer, an irreplaceable and irretrievable commitment of resources would be made. Erosion from the site would eventually be carried as sediment in the San Rafael River. The potential for pollution to the Cottonwood Wash would exist through leaks and spills.

Determination:

This requested action ~~does~~ does not constitute a major Federal action significantly affecting the environment in the sense of NEPA, Sec. 102(2)(C).

7/16/79

E. W. Longman

District Engineer
U. S. Geological Survey
Conservation Division
Oil and Gas Operations
Salt Lake City District



Columbia Gas Dev

#1-23

United States Department of the Interior
 Geological Survey
 8440 Federal Building
 Salt Lake City, Utah 84138

Usual Environmental Analysis

Lease No.: U 31428

Operator: Colombia Gas Development Well No: 1-23

Location SESW 660'FSL 1980 FWL Sec. 23 T. 24 S R. 13 E

County: Emery State: Utah Field: Wildcat

Status: Surface Ownership: Public Minerals: Federal

Joint Field Inspection Date: May 30, 1979

Participants and Organizations:

Craig Hansen	U.S.G.S., Vernal
Jeff Williams	B.L.M. Moab
Neil Simmons	B.L.M., Price
Gene Stewart	Uintah Engineering
Tom Popp	T.P. Engineering

Related Environmental Analyses and References:

San Rafael Planning Unit 06-0 B.L.M., Price, Utah

Analysis Prepared by Craig Hansen, Environmental Scientist, Vernal, Utah

Reviewed by: George Diwachak, Environmental Scientist, Salt Lake City, Utah

Date: June 1, 1979

Noted - G. Diwachak

*Per 165 x 300
 Pit 100 x 150
 1/10 mi. 16' across
 1 1/2 mi. up grade trail
 Flow line not in
 Stockpits typical
 1970 cc
 E*

Date 6-1-79

Person and Division making request Allen Aigen

AREA: County and State Emery Co. Utah

Township 24 N S Range 13 E Section 23 $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$ SE BLM

Altitude of surface at site 4760 Formation at surface (if known) Esmeralda

PURPOSE:

Protection of useful ground water (casing program); check ✓
 Other (describe):

Please notify Tim Hood - WRD - when drilling is to start!

4760
 - 3520

 1240

For WRD use Date in: 6/1/79

Person assigned: Hood Date out: 6/1/79

Evaluation: Site is on upthrown side of SE trending fault. North of fault, a petroleum-test 14 sec. 11 found fresh water in both the Navajo and Wingate and was left as a water well. In sec. 11 the base of the wingate is at 1525 ft. In sec. 32 SW of the site, and along the trend of the trough that borders the S. Ref. Swell, the base of the wingate is at 1325 ft. At site in question, base of wingate \approx 1240 ft

- 1) Navajo must be protected to depth of approx. 800 ft (4050 ft)
- 2) wingate probably should be protected to depth of approx. 1300 ft (or base) whichever is shallower.

If well is drilled with air or geophysical logs run, the company will be able to evaluate salinity of water in wingate - if water has dissolved solids of 3000 mg/l or less, protection by surface casing should be done

3) Below wingate SS, most formations contain saline water, but White Rim SS (coconino) may contain useful water - this should be watched carefully if air drilling is done.

Advise company to keep careful records of water salinity and rates of water production if air drilling is done.

continue over

Signed by evaluator James Hood Time used 1/2

Evaluator: Send copy to coordinator - original direct to originator of request

FROM: DISTRICT GEOLOGIST, SALT LAKE CITY, UTAH
TO: DISTRICT ENGINEER, O&G, SALT LAKE CITY, UTAH
SUBJECT: APD MINERAL EVALUATION REPORT

LEASE NO. U 31428

OPERATOR: Columbia Gas Development

WELL NO. 1-23

LOCATION: 1/4 SE 1/4 SW 1/4 sec. 23, T. 24S, R. 13E, S26M

Emery County, Utah

1. Stratigraphy:

Entrada - surface
Navajo 550
Kayenta 1175
Wingate 1375
Chinle 1700
Shinarump 1960

Moenkopi 2050
Sinbad 2560
Kaibab 2640
Coconino 2700
TD - 2750

2. Fresh Water:

See log

3. Leasable Minerals:

Oil shows common

4. Additional Logs Needed:

adequate

5. Potential Geologic Hazards:

H₂S dissolved in water in Shinarump, Moenkopi and Coconino. (not a health hazard but corrosive)

6. References and Remarks:

BP&G Field Conference 1956

Signature: [Signature]

Date: 6 - 1 - 79

COLUMBIA GAS DEVELOPMENT CORPORATION

13 Point Surface Use Plan

Well Location

Paradox #1-23

Located In

Section 23, T24S, R13E, S.L.B. & M.

Emery County, Utah

COLUMBIA GAS DEVELOPMENT CORPORATION
Paradox #1-23
Section 23, T24S, R13E, S.L.B. & M.

1. EXISTING ROADS

See attached Topographic Map "A", to reach Columbia Gas Development Corporation well location, located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 23, T24S, R13E, S.L.B. & M., from Hanksville, Utah:

Proceed Northerly out of Hanksville, Utah on Utah State Highway 24, 27 miles to its junction with a dirt road which exits to the Southeast; proceed Southeasterly along this road 1.8 miles to its junction with the proposed access road (to be discussed in Item #2).

At the present time there will be no construction required along Utah State Highway 24, the last 1.8 miles of the above described road will need to be upgraded to meet the necessary standards to facilitate an orderly flow of traffic to and from this well, during the drilling, completion, and production activities of this location. This upgrading will meet the requirements of Item #2.

2. PLANNED ACCESS ROAD

See Topographic Map "B".

The planned access road leaves the existing road described in Item #1 in the SE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 23, T24S, R13E, S.L.B. & M., and proceeds in a Northeasterly direction approximately 0.1 miles to the proposed location site in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 23, T24S, R13E, S.L.B. & M.

In order to facilitate the anticipated traffic flow necessary to drill and produce this well the following standards will be met:

This proposed access road will be an 18' crown road (9' either side of the centerline) with drain ditches along either side of the proposed road where it is determined necessary in order to handle any run-off from any normal meteorological conditions that are prevalent to this area.

Back slopes along the cut areas of the road will be $1\frac{1}{2}$ to 1 slopes and terraced.

The road will be centerline flagged prior to the commencement of construction.

The grade of this road will vary from flat to 8% but will not exceed this amount. This road will be constructed from native borrow accumulated during construction.

If deemed necessary by the local governmental agencies or thier representatives turnouts will be installed for safety purposes every 0.25 miles or on the top of ridges that will provide the greatest sight distance. These turnouts will be 200' in length and 12' in width and will be tapered from the shoulder of

COLUMBIA GAS DEVELOPMENT CORPORATION
Paradox #1-23
Section 23, T24S, R13E, S.L.B. & M.

2. PLANNED ACCESS ROAD - continued

the road for a distance of 50' in length at both the access and outlet ends.

Any fences that are encountered along this access road will be cut and replaced with a cattleguard with a minimum width of 18' and a loading factor large enough to facilitate the heavy trucks required in the drilling and production of this well.

If cattleguards are to be located at existing gates, they will be installed with the above requirements and with a new gate installed at one end of the cattleguard.

The access from the road to the gate will be of such a nature that there will be no impedance of traffic flow along the main access road and no difficulties encountered by traffic utilizing the gate either leaving or entering the proposed road.

There will be no culverts along this road as it crosses no major drainages.

The terrain that this road traverses is over rolling hill type terrain and is vegetated by sagebrush, grasses and cacti.

3. LOCATION OF EXISTING WELLS

See Topographic Map "B".

There are no water wells, temporarily abandoned wells, producing wells, abandoned wells, drilling wells, shut in wells, injection wells, monitoring or observation wells for other resources within a one mile radius of this location site.

4. LOCATION OF EXISTING AND PROPOSED FACILITIES

There are no tank batteries, production facilities, oil gathering lines, gas gathering lines, injection lines or disposal lines, belonging to Columbia Gas Development Corporation within a one mile radius of this location site.

All petroleum production facilities are to be contained within the areas shown on the location layout sheet, until lines can be run by the company purchasing the product, it is not known at this time where the proposed lines will be. The plans for any proposed lines will be submitted to the appropriate authorities when the decision is made and upon completion of drilling if production is established.

The rehabilitation of the disturbed area that is not required for the production of this well, will meet the requirements of Items #7 and #10 and these requirements and standards will be adhered to.

COLUMBIA GAS DEVELOPMENT CORPORATION
Paradox #1-23
Section 23, T24S, R13E, S.L.B. & M.

5. LOCATION OF AND TYPE OF WATER SUPPLY

Water to be used in the drilling of this well will be hauled by truck over existing roads and the proposed access road from the Dirty Devil River at the point that Utah State Highway 24 crosses it in Section 10, T28S, R11E, S.L.B. & M. This water will be hauled approximately 26.9 miles to the location site.

There will be no water well drilled.

6. SOURCE OF CONSTRUCTION MATERIALS

All construction materials for this location site and access road shall be borrow materials accumulated during construction of the location site and access road. No additional road gravels or pit lining materials from other sources are anticipated at this time, but if they are required, the appropriate actions will be taken to acquire them from private sources.

All ground used in this road and location site are under B.L.M. jurisdiction.

7. METHODS FOR HANDLING WASTE DISPOSAL

See location layout sheet.

A reserve and burn pit will be constructed.

The reserve pit will be approximately 8' deep and at least one-half of this depth shall be below the surface of the existing ground.

One-half of the reserve pit will be used as a fresh water storage area during the drilling of this well and the other one-half will be used to store non-flammable materials such as cuttings, salts, drilling fluids, chemicals, produced fluids, etc.

If deemed necessary by the agencies concerned to prevent contamination to surrounding areas the reserve pits will be lined with a gel.

The pits will have wire and overhead flagging installed at such time as deemed necessary to protect the water fowl, wildlife and domesticated animals.

At the onset of drilling, this reserve pit will be fenced on three sides and at the time the drilling activities are completed, it will be fenced on the fourth side and allowed to dry completely prior to the time that back-filling and reclamation activities are attempted.

When the reserve pit dries and the reclamation activities commence, the pits will be covered with a minimum of four feet of soil and all requirements in Item #10 will be followed.

COLUMBIA GAS DEVELOPMENT CORPORATION
Paradox #1-23
Section 23, T24S, R13E, S.L.B. & M.

7. METHODS FOR HANDLING WASTE DISPOSAL - continued

The burn pits will be constructed and fenced on all four sides with a small mesh wire to prevent any flammable materials from escaping and creating a fire hazard.

All flammable materials will be burned and then buried upon completion of this well.

A portable chemical toilet will be supplied for human waste.

8. ANCILLARY FACILITIES

There are no ancillary facilities planned for at the present time and none foreseen in the near future.

9. WELL SITE LAYOUT

See location layout sheet.

The B.L.M. District Manager, and State Representative shall be notified before any construction on the proposed location site.

As mentioned in Item #7, the pits will be unlined unless it is determined by the representative of the agencies involved that the materials are too porous and would cause contamination to the surrounding area; then the pits will be lined with a gel and any other type materials necessary to make it safe and tight.

10. PLANS FOR RESTORATION OF SURFACE

As there is some topsoil on the location site all topsoil shall be stripped and stockpiled (See location layout sheet, and Item #9). When all drilling and production activities have been completed, the location site and access road will be reshaped to the original contour and stockpiled topsoil spread over the disturbed area.

Any drainages re-routed during construction activities shall be restored to their original line of flow as near as possible. Fences around pits will be removed upon completion of drilling activities and all waste being contained in the trash pits shall be buried with a minimum of 5' of covering.

As mentioned in Item #7 the reserve pits will be completely fenced and wired and overhead flagging installed if there is oil in the pits, and then allowed to dry completely before covering.

Restoration activities shall begin within 90 days after completion of this well. Once completion activities have begun, they shall be completed within 30 days.

COLUMBIA GAS DEVELOPMENT CORPORATION
Paradox #1-23
Section 23, T24S, R13E, S.L.B. & M.

10. PLANS FOR RESTORATION OF SURFACE - continued

When restoration activities have been completed, the location site and access road shall be reseeded with a seed mixture recommended by the B.L.M. District Manager, Federal and State Representatives, when the moisture content of the soil is adequate for germination. The Lessee further covenants and agrees that all of said cleanup and restoration activities shall be done and performed in a diligent and most workmanlike manner and strict conformation with the above mentioned Item #7 and #10.

11. OTHER INFORMATION

The Topography of the General Area - (See Topographic Map "A").

The area is located on what is known as the San Rafael Desert which is a basin area formed by the San Rafael Reef to the West and North and the Dirty Devil River and Sams Mesa to the South and East.

The area is interlaced with numerous canyons, ledges and plateaus of which the sides are extremely steep with numerous ledges formed in sandstone and conglomerates.

The soils of this semi-arid area are Dunes, chiefly quartz sand, includes active and inactive accumulation of the Quaternary Epoch and Entrods Sandstone of the Jurassic Epoch.

The majority of the numerous washes and streams in the area are of a non-perennial nature flowing during the early spring run-off and extremely heavy rain storms of long duration which are extremely rare as the normal annual rainfall in the area is only 8".

The Dirty Devil River flows from the Northwest the Southeast and lies approximately 24 miles South of the location.

The San Rafael River flows from the North to the East and lies approximately 8 miles North of the location.

Due to the low precipitation average, climate conditions and the marginal types of soils, the vegetation that is found in the area is common of the semi-arid region we are located in, it consists of sagebrush, and some grasses and cacti.

The fauna of the area consists predominately of the mule deer, coyotes, rabbits, and varieties of small ground squirrels and other types of rodents.

The area is used by man for the primary purpose of grazing domesticated sheep and cattle.

The birds of the area are raptors, finches, ground sparrows, magpies, crows, and jays.

COLUMBIA GAS DEVELOPMENT CORPORATION

Box #1-23

Section 23, T24S, R13E, S.L.B. # M.

ADDITIONAL INFORMATION - continued

The Topography of the Immediate Area - (See Topographic Map "B").

The well location sits on a flat area 2.4 miles North of a large wash known as Cottonwood Wash which drains to the Northeast into the San Rafael River.

The terrain in the immediate vicinity of the well site slopes from the edge of the flat to the Northwest, down through the location to the Southeast at approximately a 1% grade to the edge of the aforementioned Cottonwood Wash.

All washes and draws in the immediate area are of a non-perennial nature.

The vegetation in the immediate area surrounding the location site is predominantly sagebrush and grasses.

There are no occupied dwellings or other facilities of this nature in the general area.

All surface disturbance is on B.L.M. lands and is under their jurisdiction.

There are no visible archaeological, historical, or cultural sites within a reasonable proximity of the proposed location site. (See Topographic Map "B").

24. LESSEE'S OR OPERATOR'S REPRESENTATIVE

Columbia Gas Development Corporation
c/o T P Engineering Incorporated
1201 Security Life Building
Denver, Colorado 80202

TELE: 303/623-5219

25. CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which 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 the Columbia Gas Development Corporation and its contractors and sub-contractors in conformity with this plan and terms and conditions under which it is approved.

Date _____

T P Engineering Incorporated

COLUMBIA GAS DEVELOPMENT CORPORATION

PARADOX No. 1-23
SESW Sec. 23, T24S, R13E
Emery County, Utah

Federal Lease No. U31428

Continuation of Form 9-331-C

1. The surface formation is Entrada.

2. Estimated formation tops:

Chinle	1700	Sinbad	2560
Shinarump	1960	Kiabab	2640
Moenkopi	2050	Coconino	2700

3. Estimated depths at which water, oil, gas, or other mineral bearing formations are expected: water bearing formations are not known. Operator expects to discover hydrocarbons in the Sinbad and Kiabab formations. All water flows and hydrocarbon shows will be protected and reported.

4. Proposed casing program:

Conductor Pipe: 20", 94.0#, H-40, ST&C, new, set at 30' and cemented to surface.

Surface Casing: 10 3/4", 40.5#, H-40 or K-55, ST&C, used, set at 400' and cement circulated to the surface.

Production Casing: 4 1/2", 9.5#, K-55, ST&C, used, set at approx. 2700' w/ 100 sacks cement.

5. Operators minimum specifications for pressure control equipment (see diagram):

Blowout Preventers: Cameron, Type SS, or equivalent, 10" series 900, dual control, w/ 80-gallon accumulator.

Manifold: 2" X 5000 psi.

Blowout preventers and manifold will be installed on 10 3/4" surface casing and tested at 1500 psi before plug is drilled. BOP operation will be checked daily.

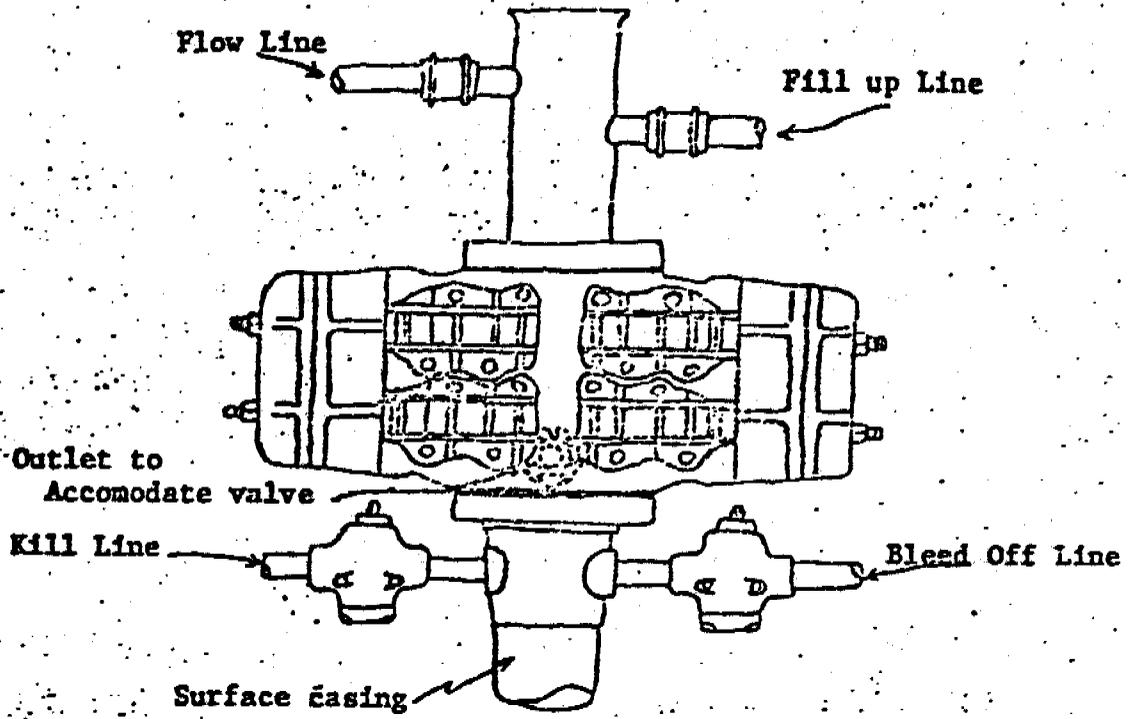
6. Circulating Medium: Air and/or air mist will be used to drill the surface hole for 10 3/4" casing and to drill to total depth below surface casing. If hole conditions preclude the use of air or air mist, low fluid loss mud (8.5# to 9.0# per gallon) will be substituted.

- 7. **Auxiliary Equipment:**
 - A. Rotating head for air drilling.
 - B. Kelly cock
 - C. Float valve
 - D. Full-opening floor valve

- 8. **Testing, logging and coring programs:** Use of air or air mist for drilling will permit continuous monitoring of all formations and fluids encountered, and will permit testing of all shows with minimum hole and formation damage. No other testing is anticipated and no coring is planned. Completion procedures will be determined from well data and will be reviewed with Federal and State Agencies before implementation. Induction-Gammaray and Neutron-Density logs will be run.

- 9. No abnormal pressures or temperatures, and no hydrogen sulfide gas are anticipated.

- 10. It is anticipated that the access road will be built and the location cleared soon after approval of the application to drill. Drilling is expected to begin about June 20, 1979, and should be completed in less than thirty days.



STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING

** FILE NOTATIONS **

Date: May 24, 1979

Operator: Columbia Gas Development Corp.

Well No: Paradox 1-23

Location: Sec. 23 T. 24S R. 13E County: Emery

File Prepared:

Entered on N.I.D.:

Card Indexed:

Completion Sheet:

API Number: 43-015-30066

CHECKED BY:

Administrative Assistant: _____

Remarks:

Petroleum Engineer: M.G. Minder 5-29-79

Remarks:

Director: Z

Remarks:

INCLUDE WITHIN APPROVAL LETTER:

Bond Required:

Survey Plat Required:

Order No. _____

Surface Casing Change
to _____

Rule C-3(c), Topographic exception/company owns or controls acreage
within a 660' radius of proposed site

O.K. Rule C-3

O.K. In _____ Unit

Other:

Letter Written/Approved



SCOTT M. MATHESON
Governor

GORDON E. HARMSTON
Executive Director,
NATURAL RESOURCES

CLEON B. FEIGHT
Director

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

May 30, 1979

OIL, GAS, AND MINING BOARD

CHARLES R. HENDERSON
Chairman

JOHN L. BELL
C. RAY JUVELIN
THADIS W. BOX
CONSTANCE K. LUNDBERG
EDWARD T. BECK
E. STEELE McINTYRE

COLUMBIA GAS DEVELOPMENT CORPORATION
1201 SECURITY LIFE BUILDING
DENVER CO 80202

Re: Well No. Paradox 1-23, Sec. 23, T. 24S, R. 13E, Emery County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with Rule C-3, General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

MICHAEL T. MINDER - Geological Engineer
HOME: 876-3001
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation in completing this form will be appreciated.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-015-30066.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING


Cleon B. Feight, Director

cc: U. S. Geological Survey

Enclosure



SCOTT M. MATHESON
Governor

OIL, GAS, AND MINING BOARD

GORDON E. HARMSTON
Executive Director,
NATURAL RESOURCES

CHARLES R. HENDERSON
Chairman

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL, GAS, AND MINING

1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

JOHN L. BELL
C. RAY JUVELIN
THADIS W. BOX
CONSTANCE K. LUNDBERG
EDWARD T. BECK
E. STEELE McINTYRE

CLEON B. FEIGHT
Director

March 6, 1980

Looked well have Morrison 4-8-80 - well has been plugged + abandoned - will send completion -

Columbia Gas Development Corp.
C/O T P Engineering Inc.
1201 Security Life Building
Denver, Colorado 80202

Re: Well No. Paradox 1-23
Sec. 23, T. 24S, R. 13E.
Emery County, Utah

Well No. Paradox 1-12
Sec. 12, T. 25S, R. 13E.
Emery County, Utah

Gentlemen:

In reference to above mentioned wells, considerable time has gone by since approval was obtained from this office.

This office has not received any notification of spudding. If you do not intend to drill these wells, please notify this Division. If spudding or any other activity has taken place, please send necessary forms. If we do not hear from your company within fifteen (15) days, we will assume you do not intend to drill this location and action will be taken to terminate the application. If you plan on drilling these wells at a later date, please notify as such.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

Janice Tabish

JANICE TABISH
CLERK TYPIST

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.

14

5. LEASE DESIGNATION AND SERIAL NO.

U31428

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Paradox

9. WELL NO.

1-23

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 23, T24S, R13E

12. COUNTY OR PARISH

Wayne EMEY Utah

13. STATE

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL GAS WELL DRY Other _____

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESVR. Other _____

2. NAME OF OPERATOR

Columbia Gas Development Corp.

3. ADDRESS OF OPERATOR

c/o TP Engineering, Inc.
1201 Security Life Bldg., Denver, CO 80202

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface SEW (660' FSL, 1980' FWL) Sec. 23

At top prod. interval reported below Dry Hole

At total depth Same

14. PERMIT NO. DATE ISSUED

43-015-30066 | 7-24-79

15. DATE SPUDDED
9-19-79

16. DATE T.D. REACHED
9-25-79

17. DATE COMPL. (Ready to prod.)
N.A. 9-26-79 PAA

18. ELEVATIONS (DE, BEB, BT, GR, ETC.)*
4774' (KB) 4760' (GR)

19. ELEV. CASINGHEAD
4760'

20. TOTAL DEPTH, MD & TVD
2275'

21. PLUG, BACK T.D., MD & TVD
P & A

22. IF MULTIPLE COMPL., HOW MANY*
P & A

23. INTERVALS DRILLED BY
→

ROTARY TOOLS
0-2275

CABLE TOOLS
None

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

Dry Hole

25. WAS DIRECTIONAL SURVEY MADE
No

26. TYPE ELECTRIC AND OTHER LOGS RUN

DIL, FDC, DNL, GR

27. WAS WELL CORED

Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
10 3/4"	40.5	400'	15"	400 sx	None
7 5/8"	26.4	1400'	9 7/8"	135 sx	None

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)
None		

31. PERFORATION RECORD (Interval, size and number)

None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
None	

33.* PRODUCTION

DATE FIRST PRODUCTION: Dry Hole
PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)
WELL STATUS (Producing or shut-in)

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
			→				

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

RECEIVED
APR 18 1980

35. LIST OF ATTACHMENTS

Core Analyses

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available logs and data.

TP Engineering, Inc.

SIGNED D. Morrison

TITLE Agent

DIVISION OF

OIL, GAS & MINING

DATE 1-24-80

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

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formations and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments, items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES:
SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.
Sinbad	2083	2108	Core analysis attached
Sinbad	2108	2123	Core analysis attached
Sinbad	2200	2245	Core analysis attached

38. GEOLOGIC MARKERS

NAME	TOP	
	MEAS. DEPTH	TRUE VERT. DEPTH
Elevation	4774'	(KB)
Navajo	228'	
Chinle	1320'	
Moenkopi	1678'	
Sinbad	2080'	
Kiabab	2249'	
Total Depth	2275'	

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

COLUMBIA GAS & DEVELOPMENT CORPORATION : SINBAD
 PARADOX NO. 1-23 : DRG. FLUID: AIR
 WILDCAT : LOCATION : SE SW SEC 23-T24S-R13E
 EMERY COUNTY : STATE : UTAH

DATE : 9-27-79
 FILE NO. : RP-2-5988
 ANALYSTS : RM-RG
 ELEVATION: 4774'KB

PRELIMINARY COPY

CONVENTIONAL CORE ANALYSIS--BOYLE'S LAW HELIUM POROSITY

AMP. NO.	DEPTH	PERM. TO AIR (MD)		POR. B.L.	FLUID SATS.		GR. DNS.	DESCRIPTION
		HORZ.	VERTICAL		OIL	WATER		
1	2083-84	48		20.4	36.8	9.2	2.84	DOLO GRY-TN VFX SUC
2	2084-85	16		17.3	47.4	9.9	2.84	DOLO GRY-TN VFX SUC
3	2085-86	0.13		4.4	44.3	28.0	2.78	DOLO GRY-TN VFX SUC
4	2086-87	21		19.4	27.9	12.0	2.83	DOLO GRY-TN VFX SUC
5	2087-88	10		9.2	16.1	13.5	2.82	DOLO GRY-TN VFX SUC
6	2088-89	18		5.4	20.8	11.6	2.84	DOLO GRY-TN VFX SUC
7	2089-90	6.4		11.1	25.3	10.8	2.84	DOLO GRY-TN VFX SUC
8	2090-91	0.49		4.3	36.3	24.2	2.73	DOLO GRY-TN VFX SUC
9	2091-92	0.53		11.4	43.2	11.7	2.73	DOLO GRY-TN VFX SUC
10	2092-93	1.6		11.1	43.6	14.5	2.73	DOLO GRY-TN VFX SUC
11	2093-94	0.33		11.2	49.0	15.1	2.75	DOLO GRY-TN VFX SUC
12	2094-95	1.9		9.5	32.8	10.9	2.79	DOLO GRY-TN VFX SUC
13	2095-96	0.08		7.4	38.3	40.9	2.72	DOLO GRY-TN VFX SUC
14	2096-97	0.29		9.3	36.7	47.2	2.75	DOLO GRY-TN VFX SUC
15	2097-98	0.06		5.7	28.9	35.7	2.78	DOLO GRY-TN VFX SUC
16	2098-99	0.05		9.6	24.1	24.1	2.84	DOLO LT GRY VFX
17	2099 -0	0.07		5.6	33.6	48.1	2.71	DOLO GRY-TN VFX
18	2100 -1	0.73		9.4	40.8	23.8	2.76	DOLO GRY-TN VFX
19	2101 -2	0.04		3.9	39.8	37.7	2.80	DOLO GRY-TN VFX-FX
20	2102 -3	0.59		5.2	39.8	15.9	2.81	DOLO GRY-TN FX PYR
21	2103 -4	0.25		5.2	39.0	16.1	2.79	DOLO GRY-TN VFX-FX
22	2104 -5	0.07		4.0	46.7	18.3	2.76	DOLO GRY-TN VFX-FX
23	2105 -6	0.28		5.7	39.1	28.8	2.83	DOLO GRY-TN VFX-FX
	2106-2108							LOST CORE
24	2108 -9	0.25		6.9	34.9	23.3	2.81	DOLO GRY-TN VFX-FX

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions

COLUMBIA GAS & DEVELOPMENT CO FORMATION : SINBAD
 PARADOX NO. 1-23 DRLG. FLUID: AIR
 WILDCAT LOCATION : SE SW SEC 23-T24S-R13E
 EMERY COUNTY STATE : UTAH

DATE : 9-27-79
 FILE NO. : RP-2-5988
 ANALYSTS : RM-RG
 ELEVATION: 4774'KB

CONVENTIONAL CORE ANALYSIS--BOYLE'S LAW HELIUM POROSITY

SAMP. NO.	DEPTH	PERM. TO HORZ.	AIR (MD) VERTICAL	POR. B.L.	FLUID OIL	SATS. WATER	GR. DNS.	DESCRIPTION
25	2109-10	0.05		3.5	33.0	28.3	2.78	DOLO TN-GRY VFX-FX
26	2110-11	0.03		3.3	37.7	53.8	2.79	DOLO GRY-TN VFX-FX ANHY
27	2111-12	0.03		0.6	29.8	53.0	2.73	DOLO GRY-TN VFX-FX ANHY
28	2112-13	0.02		1.4	51.1	34.0	2.76	DOLO GRY-TN VFX ANHY
	2113-2118							NO ANALYSIS - DENSE SHALY LIMESTONE
29	2118-19	0.03		3.0	34.3	60.1	2.66	DOLO GRY-TN VFX SL/SHY
	2119-2123							NO ANALYSIS - DENSE SHALY LIMESTONE

COLUMBIA GAS & DEVELOPMENT CO FORMATION : KAIBAB
 PARADOX NO. 1-23 DRLG. FLUID: AIR
 WILDCAT LOCATION : SE SW SEC 23-T24S-R13E
 EMERY COUNTY STATE : UTAH

DATE : 9-27-79
 FILE NO. : RP-2-5988
 ANALYSTS : RM-RG
 ELEVATION: 4774'KB

CONVENTIONAL CORE ANALYSIS--BOYLE'S LAW HELIUM POROSITY

SAMP. NO.	DEPTH	PERM. TO AIR (MD) HORZ. VERTICAL	POR. B.L.	FLUID SATS. OIL WATER	GR. DNS.	DESCRIPTION
30	2200 -1	0.04	0.8	64.9 20.5	2.69	DOLO GRY VFX PYRITE
31	2201 -2	0.03	0.7	69.6 17.4	2.69	DOLO GRY VFX TR PYRITE
32	2202 -3	0.04	0.9	61.7 17.6	2.71	DOLO GRY VFX TR PYRITE
33	2203 -4	0.04	0.7	61.4 17.5	2.72	DOLO GRY VFX TR PYRITE
34	2204 -5	0.04	0.4	67.3 19.2	2.68	DOLO GRY VFX TR PYRITE
35	2205 -6	0.05	2.0	52.8 26.4	2.76	DOLO GRY VFX TR PYRITE
36	2206 -7	0.04	1.5	64.0 21.3	2.73	DOLO GRY VFX TR PYRITE
37	2207 -8	0.04	1.4	64.7 16.2	2.65	DOLO GRY-TN VFX-FX ANHY CONGL
38	2208 -9	0.03	1.0	54.5 13.6	2.70	DOLO GRY VFX TR PYRITE
39	2209-10	0.04	0.9	75.7 14.4	2.68	DOLO GRY VFX-FX ANHY TR PYRITE
40	2210-11	0.04	1.4	61.3 26.3	2.72	DOLO GRY-TN VFX-FX ANHY CONGL PYRITE
41	2211-12	0.03	1.7	58.6 12.3	2.70	DOLO GRY-TN VFX-FX ANHY CONGL PYRITE
42	2212-13	0.03	1.7	60.0 18.9	2.69	DOLO GRY-TN VFX-FX ANHY CONGL PYRITE
43	2213-14	0.03	1.5	45.3 37.7	2.74	DOLO GRY-TN FX V/ANHY CONGL
44	2214-15	0.02	1.2	51.3 25.6	2.70	DOLO GRY-TN FX V/ANHY CONGL
45	2215-16	0.02	0.8	65.3 16.3	2.70	DOLO GRY VFX-FX ANHY CONGL PYRITE
46	2216-17	0.03	0.7	58.9 25.2	2.69	DOLO GRY VFX-FX ANHY CONGL PYR
47	2217-18	0.06	2.0	59.3 22.3	2.75	DOLO GRY VFX-FX ANHY CONGL PYRITE
48	2218-19	0.04	2.4	28.3 61.3	2.75	DOLO GRY VFX-FX ANHY CONGL PYRITE
49	2219-20	0.03	2.2	46.7 31.1	2.81	DOLO GRY VFX-FX V/ANHY CONGL PYRITE
50	2220-21	0.03	1.8	66.9 14.1	2.75	DOLO TN VFX ANHY CONGL PYRITE
51	2221-22	0.01	2.4	55.9 23.5	2.76	DOLO TN VFX ANHY CONGL PYRITE
52	2222-23	2.7	13.5	41.9 6.2	2.83	DOLO TN FX ANHY CONGL PYRITE
53	2223-24	0.15	8.1	34.5 8.2	2.79	DOLO TN FX ANHY CONGL PYRITE
54	2224-25	0.07	4.9	54.6 10.4	2.82	DOLO TN FX ANHY CONGL PYRITE

COLUMBIA GAS & DEVELOPMENT CO FORMATION : KAIBAB
 PARADOX NO. 1-23 DRLG. FLUID: AIR
 WILDCAT LOCATION : SE SW SEC 23-T24S-R13E
 EMERY COUNTY STATE : UTAH

DATE : 9-27-79
 FILE NO. : RP-2-5988
 ANALYSTS : RM-RG
 ELEVATION: 4774'KB

CONVENTIONAL CORE ANALYSIS--BOYLE'S LAW HELIUM POROSITY

SAMP. NO.	DEPTH	PERM. TO AIR (MD)		POR. B.L.	FLUID SATS.		GR. DNS.	DESCRIPTION
		HORZ.	VERTICAL		OIL	WATER		
55	2225-26	0.10		8.8	30.0	25.3	2.87	DOLO TN VFX-FX ANHY CONGL PYRITE
56	2226-27	0.09		8.1	24.6	23.3	2.87	DOLO TN VFX-FX ANHY CONGL PYRITE
57	2227-28	0.07		7.3	10.3	57.5	2.84	DOLO TN VFX-FX ANHY CONGL PYRITE
58	2228-29	0.05		4.6	30.3	23.1	2.82	DOLO TN VFX-FX ANHY CONGL PYRITE
59	2229-30	0.05		6.0	30.9	29.3	2.84	DOLO TN VFX-FX ANHY CONGL PYRITE
60	2230-31	2.8		12.0	28.6	20.0	2.84	DOLO TN VFX-FX ANHY CONGL PYRITE
61	2231-32	0.78		10.5	28.1	18.3	2.83	DOLO VFX-FX ANHY CONGL PYRITE
62	2232-33	0.17		7.4	43.4	17.3	2.92	DOLO TN VFX-FX ANHY CONGL PYRITE
63	2233-34	0.19		8.8	23.1	37.5	2.82	DOLO TN VFX-FX ANHY CONGL PYRITE
64	2234-35	1.9		9.1	5.5	38.4	2.83	DOLO TN VFX V/ANHY CONGL PYRITE
65	2235-36	0.06		8.8	16.6	29.4	2.80	DOLO TN VFX V/ANHY CONGL PYRITE
	2236-2239							NO ANALYSIS - DENSE SHALY LIMESTONE

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees assume no responsibility for the accuracy or completeness of the data or the results of the analyses.

April 21, 1980

Columbia Gas Development
c/o TP Engineering Inc.
1201 Security Life Bldg.
Denver, Colorado 80202

Re: WELL NO. PARADOX 1-12
Sec. 12, T. 25S, R. 13E,
Emery County, Utah

WELL NO. PARADOX 1-23
Sec. 23, T. 24S, R. 13E,
Emery County, Utah

WELL NO. Paradox 1-9
Sec. 9, T. 27S, R. 12E,
Wayne County, Utah

Gentlemen:

Our records indicate that you have not filed a Subsequent Report of Abandonment for the above subject wells.

Rule D-2, General Rules and Regulations and Rules of Practice and Procedure, requires that said reports be filed within (30) thirty days after the plugging of any well.

In order that we may keep our records accurate, and complete, please complete the enclosed Form OGC-1b11n duplicate, and forward them to this office as soon as possible.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

Kathy Avila

KATHY AVILA
RECORDS CLERK

April 22, 1980

Columbia Gas Development Corp.
C/O T P Engineering, Inc.
1201 Security Life Bldg.
Denver, Colorado 80202

Re: Well No. Paradox 1-23
Sec. 23, T. 24S, R. 13E.
Emery County, Utah

Gentlemen:

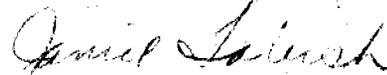
According to our records, a "Well Completion Report" filed with this office 1-24-80, from above referred to well indicates the following electric logs were run: DIL, FDC, DNL, GR. As of today's date this office has not received these logs.

Rule C-5, General Rules and Regulations and Rules of Practice and Procedure, requires that a well log shall be filed with the Commission together with a copy of the electric and radioactivity logs.

Your prompt attention to the above will be greatly appreciated.

Sincerely,

DIVISION OF OIL, GAS, AND MINING



JANICE TABISH
CLERK-TYPIST

October 1, 1980

Columbia Gas Development Corporation
40 T P Engineering, Incorporated
101 Security Life Building
Denver, Colorado 80202

RE: Well No. Paradox 1-23
Sec. 23, T. 24S, R. 13E.,
Emery County, Utah

Gentlemen:

According to our records, a "Well Completion Report" filed with this office January 24, 1980, from above referred to well indicates the following electric logs were run: DIL, FDC, DNL, GR. As of today's date this office has only received the DIL log, please submit the rest of the logs indicated.

Rule C-5, General Rules and Regulations and Rules of Practice and Procedure, requires that a well log shall be filed with the Commission together with a copy of the electric and radioactivity logs.

Your prompt attention to the above will be greatly appreciated.

Sincerely,

DIVISION OF OIL, GAS, AND MINING

BARBARA HILL
CLERK TYPIST

/bjh