

ARCHEOLOGICAL - ENVIRONMENTAL RESEARCH CORPORATION

P.O. Box 853 Bountiful, Utah 84010

Tel: (801) 292-7061, 292-9668

September 27, 1984

RECEIVED
OCT 11 1984

Subject: Archeological Evaluation of a Proposed Oil-Gas
Well Location and Access Road in Chimney Rock
Project Locality of Grand County, Utah

Project: Conoco Oil Company - Federal 31-1

Project No.: CON-84-2

Permit: U.S. Dept. of Interior 81-Ut-179
Utah State - U-84-26-107b

To: Mr. Steve Erwin, Conoco Oil Company, 907 Rancho
Road, Casper, Wyoming 82601

✓ Mr. Colin Christensen, Area Manager, Bureau of Land
Management, P.O. Box M, Moab, Utah 84532

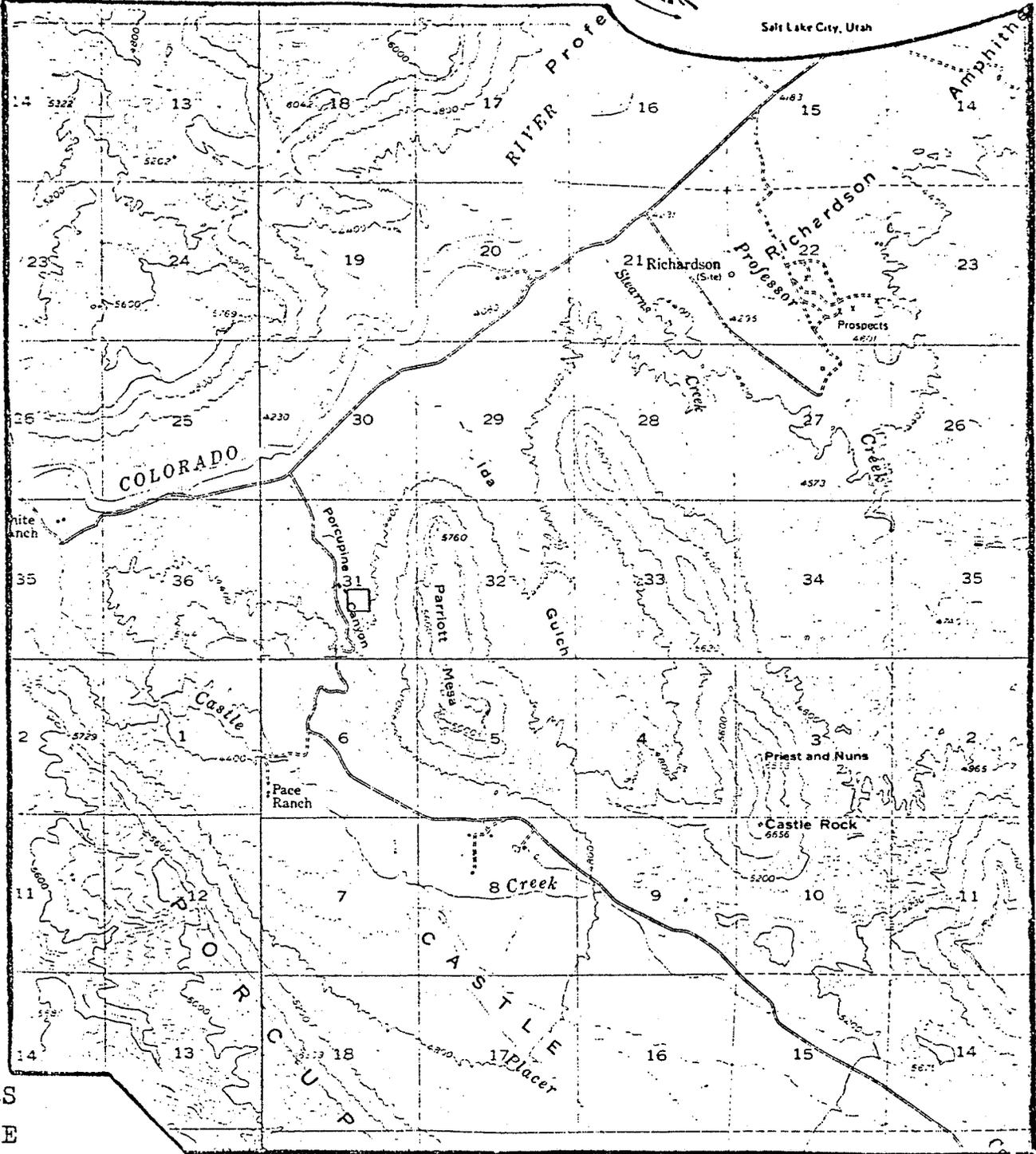
Info: Mr. Richard Fike, BLM Archeologist, Bureau of
Land Management, University Club Building, 136 East
South Temple, Salt Lake City, Utah 84111

Antiquities Section, Division of State History, 300
Rio Grande, Salt Lake City, Utah 84101



ARCHEOLOGICAL - ENVIRONMENTAL
RESEARCH CORPORATION

Salt Lake City, Utah



T.24S
R.23E

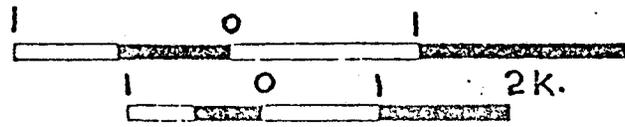
Meridian: Salt Lake B&M

Quad:
Castle Valley

Project: CON-84-2
Series: E, Utah
Date: 9-25-84

Map of a Proposed Location
31-1 and Access Road in
Chimney Rock Project
Locality in Grand County,
Utah

Legend:
Well Location



2 M.
Access Road



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

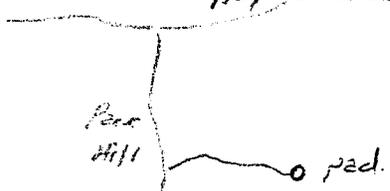
Date 1-5-85

District MOAB

Resource Area GRAND

Activity (program) 4111

SECTION A. PROJECT INFORMATION

1. Project Name CONOCO WELL	4. Location Township 24 Range 23 Section	5. Location Sketch Hwy 128 
2. Key Observation Point Castle Valley Road		
3. VRM Class II		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Verticle Cliffs, Spires massive rock outcrops, eroded formations	rounded	N/A
LINE	Verticle, angular, broken, serrated, sloping	Broken, irregular, random	N/A
COLOR	Red, Brown	Light Green, Tan	N/A
TEXTURE	Rough, coarse, dissected	Patchy, broken, clusters	N/A

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Verticle Cliffs Spires massive rock outcrops, eroded formations	rounded	horizontal, cylindrical
LINE	Verticle, angular, broken serrated, sloping	Broken, irregular, random	horizontal, verticle
COLOR	Reddish, Brown	light Green, tan	Reddish Brown
TEXTURE	Roughly coarse, dissected	Patchy, broken, clusters	Smooth

SECTION D. CONTRAST RATING SHORT TERM LONG TERM

DEGREE OF CONTRAST	FEATURES												2. Levels of Change <input type="checkbox"/> Very Low, <input checked="" type="checkbox"/> Low, <input type="checkbox"/> Moderate, <input type="checkbox"/> High
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
	5	4	3	2	5	4	3	2	5	4	3	2	
Form 4x			4					2				4	3. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Explain: (Continue on reverse, if necessary)
Line 3x			3				3					3	
Color 2x				0				0				0	
Texture 1x		2				2				2			
ELEMENTS	4. Additional mitigating measures recommended <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Use reverse side if "yes".)												

SECTION D. (Continued)

Continuation of comments from item 3.

Earth moving scars should be rounded and reseeded and disturbed vegetation should be reseeded where necessary. In Class II The degree of contrast of any one element should not exceed a moderate value of 2, and the total contrast for any feature may not exceed 10. The contrast ratings for this project falls within these limits.

Additional Mitigating Measures (See item 4)

Any permanent structures should be painted a blending color to minimize visual contrast.

Signature

David Muna

Date

1-5-85

Mr. Gene Nodine
Bureau of Land Management
P.O. Box 970
Moab, Utah 84532

January 2, 1984

Dear Sir:

As a property owner in Castle Valley River Ranchos I must address the issue of the proposed drilling project on Pace Hill Conoco Federal # 31-1. I would like these comments to be used as scoping comments on the EA.

- 1) Castle Valley should be addressed as a special case and not as any other oil lease on any other BLM property for the following reasons.
 - a) Castle Valley River Ranchos has been legally incorporated with the State of Utah since 1972. At this time the Housing Urban Development, State of Utah, and Grand County Commission documented and accepted a set of covenants, conditions, and restrictions.
 - b) Castle Valley River Ranchos Property Owners Association has been very active and vocal when these covenants, conditions, and restrictions, guaranteeing a quality of life, were threatened by seismic exploration on State land and on BLM land.
 - 1) at that time the State of Utah (Paul Pratt) stated that State land use in Castle Valley and around rural communities would address the issue of "quality of life". BLM should therefore do the same thing.
 - c) Poisen gases and increased traffic and road closures would deny free entrance and egress from private property.
- 2) The BLM Grand Resource Area manager Pete Christensen was personally derelict in his duties and should be removed from his position for these reasons:
 - a) Knowing that Castle Valley residents could be in a life threatening situation his decision not to announce beforehand, information on the drilling application was to occlud public comment therefore preclude public involvement in order to facilitate Conoco oil at the possible expense of individuals life, liberty; and pursuit of happiness.
 - b) He did not upgrade the permit application or appraise the Conoco representative that the application was not correct in several major issues:
 - 1) The Pace Hill road is freshly refinished, not gravel.
 - 2) There are water wells within a mile area.
 - 3) There are 2 schools and 300+ people in a 2 mile area.
 - 4) There is heavy commuter traffic and school bus traffic on the effected roads.
 - 5) There were local land use policies in effect prior to leasing that would be in direct conflict with the lease.
 - 6) That the lease was in conflict with two prior BLM managment plans, the Management Framework Plan, and 1973 oil and gas resource plan EA. Both identified significant scenic areas that should be removed from leasing

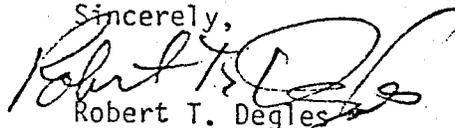
- 3) Further the Grand Resource Area Manager did not operate within the scope of Public Law #94-579, the Organic Act, specifically:
 - a) See 202-C-1 Oil production cannot be maintained in perpetuity.
 - b) See 202-C-2 The decision was contrary to the findings of the interdisciplinary findings of both the Grand Resource Area Management Framework Plan and the Oil And Gas Resource Plan EA.
 - c) See 202-C-3 Priority was not given to areas of critical environmental concern as set for in the Management Framework Plan.
 - d) See 202-C-7 The relatively short term gain from oil exploration compared to the long term gain by tourism in the area.
 - e) See 202-C-9 The intent of the consistency clause of the covenants, conditions and restrictions did not enter into the decision process.

I am strongly requesting an extension of the public comment period for these reasons: The two week comment period is far too short to involve the number of people that are affected by this, such as the local PTA, Grand County School Board, the Utah Department of Transportation (regarding the safety of our children), Grand County Sheriff Dept, Utah Highway Patrol, the National Park Service, State Parks and Recreation, Sierra Club, Utah Wilderness Association, all river outfitters and tour operators, Utah Travel Council, other land owners in the affected area, and due to the holidays many people are away from their homes which makes making them aware and getting comments that must more difficult.

These and a frightening number of other issues have created a breach of trust in a land use manager, the BLM District.

I believe that the public safety has been relegated second to large corporations financial interests.

Sincerely,



Robert T. Degles
P.O. Box 1435
Moab, Utah 84532
(owner of lot 338, Castle Valley
River Ranchos)

cc: Roland Robinson, BLM State Director
Gerald Kinghorn, esq.

Dead Horse Point



Double Arch



Colorado River



Castle Valley



County Commissioners:

Jimmie Walker

William H. Hance

John L. Zimmerman

Barbara Domenick
Clerk and Auditor

Grand County

STATE OF UTAH
Moab, Utah 84532

January 2, 1984

Lilly Mae Noorlander
Recorder
Donna C. Loveridge
Treasurer
Norma S. Stocks
Assessor
Jim Nyland
Sheriff
William L. Bengé
Attorney
John Keogh
Surveyor

Bureau of Land Management
Moab District Office
Grand Resource Area
South Highway 191
Moab, Utah 84532

Dear Sirs,

Re: Comments on proposed Wildcat Well Location,
Sec. 31, T24S, R23E, by Conoco, Inc.

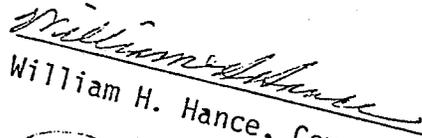
After reviewing the application made by Conoco, Inc. to the BLM, we feel that the following potential problems are well covered by their statements in this application.

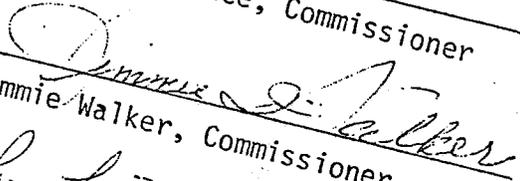
- 1-H₂S that may be encountered in the drilling operations and safety plans and procedures in the event of H₂S.
- 2-Drilling water source-Castle Creek, upon approval of Utah State Engineer.
- 3-Casing and Cementation plan-would guarantee no possible migration of water from formation to formation, or release of any contamination of drilling fluids in the aquifer supply water to Castle Valley Residents.
- 4-Blowout prevention plan-5000 bound BOP Stack, with double rams.
- 5-Reserve Pit plan-more than adequate to hold drilling fluids without any loss to environment.
- 6-Surface restoration-top soil to be stockpiled and replaced when drilling is complete. Reseeding to be done by Conoco, Inc., according to BLM specifications.

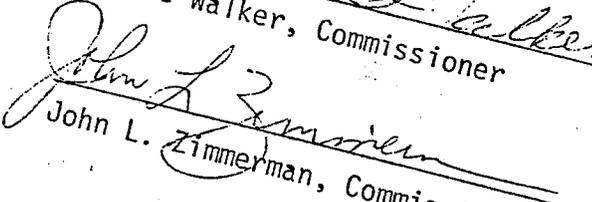
Items not specifically covered include impact of travel on Highway 128 and Castle Valley Residents. The amount of truck traffic would certainly be increased during the Rig-up period and the demobilization period. Traffic would be less than that involved in the Amoco project on Pine Ridge, on the north end of the LaSals. There have not been any reports of traffic injuries involving Amoco associated vehicles.

residents. ... of noise could have some effect on two or three Castle Valley
This well will cost Conoco approximately \$2,600,000.00 of which approximately
\$1,000,000.00 would be spent locally. We feel the long term benefits outweigh
the short term inconvenience caused to Castle Valley residents and the people
who may use Highway 128.

Sincerely,


William H. Hance, Commissioner


Jimmie Walker, Commissioner


John L. Zimmerman, Commissioner

LAW OFFICES OF
ROBERT P. LIPPMAN

P.O. BOX 330
MOAB, UTAH 84532
801/259-7000

P.O. BOX 1115
FLAGSTAFF, ARIZONA 86002
602/774-0130

P.O. BOX 767
KEAMS CANYON, ARIZONA
86034

Mr. Gene Nodine
Moab District Manager
Bureau of Land Management
Box 970
Moab, UT 84532

December 31, 1984

RE: CONOCO FEDERAL #31-1, "Scoping" Comments for Environmental Assessment

Dear Sir:

These preliminary comments are in response to the proposed Conoco oil well on Pace Hill, Sec. 31, T. 24S, R. 23E.

The BLM decision to prepare an Environmental Assessment on this action is most appreciated, although it is regrettable that the process was essentially initiated by the public through fortuitous notice.

At this point in the process, rather than simply recite my concerns or list areas needing analysis (see Appendix 1, attached), I wish to comment on certain aspects of the action, both procedural and substantive, as presently identified, that in my opinion should warrant the BLM to seriously consider a finding of non-suitability for the proposed project, even before reaching the threshold question of the need to prepare an EIS:

First, Conoco's Application for a Permit to Drill, Form 3160, and its supporting documents are grossly deficient and inaccurate, and as such, should be rejected and returned. Contrary to Conoco's Certification, 1 company officials made application without properly or actually inspecting site and surrounding conditions, for assembling accurate information to allow the BLM to properly evaluate the application. The application is replete with untrue and erroneous statements.² The required Contingency Plan also exhibits a complete disregard for actual conditions, and does not even recognize the existence of either the community of Castle Valley, or the heavy recreational use of the area. Considering that the well would be sited along the only practical evacuation route, and that several hundred residents (and possibly several hundred river-runners and tourists) would be affected, I believe that such a plan is on its face entirely impractical and unrealistic, and as such, should alone warrant non-approval of the permit application.

Page 2 of the APD notes that "It is expected that H2s will be encountered during the drilling of this well." On December 12, 1984, an agent of Conoco discovered the existence of the Castle Valley community, and happened upon a property owners meeting, announcing that evacuation plans would be required due to the anticipated hazard of deadly hydrogen sulfide gas. In the face of Conoco's admissions in this regard, it is premature and perhaps irresponsible for the BLM to downplay the H2S issue, as it has done thus far.

1. 13-Point Surface Plan, p. 7.

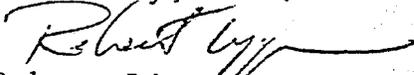
2. e. g., "There are no occupied dwellings or other facilities of this nature in the general area", Id., p. 6; "There are no known water wells located within a 1-mile radius of this location site", Id. p. 2.

Second, as the BLM recognizes that drilling in a populated, but industrially "pristine" area is unprecedented in the county, and perhaps the State, the agency should not proceed with the application process unless and until statewide or local policies are promulgated, in an orderly process of law, to address criteria to be used in considering the propriety of such projects in residential areas.

Third, and related to the above, is that the BLM, as well as any other Federal agency, must act consistent with existing management recommendations and plans. The EA would need to relate the location and nature of the proposed project to the proper Management Framework Plan, for the Castle Valley Planning Area. At this point, it appears that this requirement should also lead to a decision of non-approval, even before reaching any threshold decision to prepare an EIS, as prior management recommendations for the Colorado River Corridor and Castle Valley areas have specifically excluded oil and gas leasing in the proposed project location.³ Onshore Oil and Gas Order No. 1 also requires the BLM, under its lead responsibility, to "identify any threatened and endangered species and/or critical habitat problems, and other environmental concerns."⁴

Again, this opportunity to provide "scoping" comments is most appreciated, and I trust that the BLM will not abuse its discretion by failing to properly and substantially follow the agency's own rules, policies, and management plans.

Sincerely,


Robert Lippman

cc: Roland Robinson, Utah State Director, Bureau of Land Management
Temple Reynolds, Executive Director, State of Utah Natural Resources
R. J. Firth, Associate Director, Division of Oil, Gas, and Mining,
State of Utah Natural Resources
Gerald Kinghorn, Esq.

Att.

3. Management Framework Plan, Castle Valley Planning Unit (Minerals), 2/1/
4. 43 CFR Part 3164.1 (B); Circular No. 2538; Section III-F

LISTING OF RELEVANT CONCERNS NEEDING ANALYSIS:

1. Procedural Concerns.

- Relationship of proposed project to Management Framework Plan
- Other legal requirements of BLM as agency with lead responsibility (Cultural, archaeological, and endangered species clearance, etc.)
- Accuracy of information supplied by Applicant for APD
- Interagency cooperation (State of Utah Natural Resources; Utah Dept. of Transportation; Utah Division of State Parks and Recreation)
- Public involvement

Environmental, Social, and Recreational Concerns.

- Proximity of residential community to proposed project area
- Hydrogen sulfide concerns and issues
- Highway traffic problems and physical constraints; access problems
- Impacts on tourism and development of designated Scenicway for Highway 128 and Colorado River Corridor
- Visual and audible impacts
- Air quality impacts
- Water quality impacts
- Reclamation problems
- Liability potential
- Regulation of overflights
- Property values
- Direct conflicts with present, established uses and resources
- Cumulative and comprehensive impacts of above (under proposed scenario, and under scenarios of potential development levels)

Margaret B. Doles
Box 245
Moab, Utah 84532
December 28, 1984

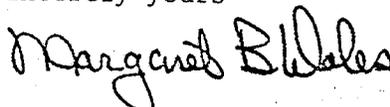
Colin P. Christensen
Grand Resource Area Manager
Bureau of Land Management
Sand Flats Road
Moab, Utah 84532

Ladies and Gentlemen

Subject: Conoco Inc.
Casper, Wyoming
12,000 ft well Sec 31 T24S R23E

I am strongly in favor of this well and I am fully aware of the fact most of the well drilling in this area for the past 20 years has had to deal with the presence of H²S. I feel the company is fully capable of taking care of the possible situation.

Sincerely yours



Margaret B. Doles

B. Wade Tangreen
533 Locust Lane
Moab, Utah 84532
December 28, 1984

Colin P. Christensen
Grand Resource Area Manager
Bureau of Land Management
Sand Flats Road
Moab, Utah 84532

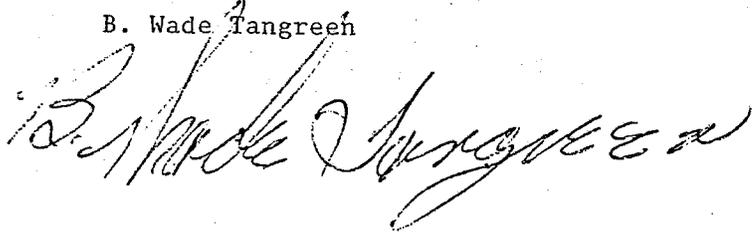
Ladies and Gentlemen

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I am strongly in favor of this well and I am fully aware of the fact most of the well drilling in this area for the past 20 years has had to deal with the presence of H²S. I feel the company is fully capable of taking care of the possible situation.

Sincerely yours

B. Wade Tangreen

A handwritten signature in cursive script that reads "B. Wade Tangreen". The signature is written in dark ink and is positioned below the typed name.

Mr. Colin Christensen, Area Manager
Grand Resource Area, B.L.M.

Dear Mr. Christensen,

As a resident and property owner in Castle Valley River Ranchos I want to make some comments on Connoco's application for a drilling permit on Pace Hill in Castle Valley.

The property owners meeting you attended in the Valley last week gave you a good idea of the concern the residents have for this project. I want to express my own concern for the areas of safety, traffic, and noise pollution. Many of the controls in these areas rely upon promises and assurances from Connoco and I am not satisfied with this approach. I do not believe our safety should be based on vague, unwritten promises and monitoring practises.

Another area I wish to comment about is cultural resources. I do not remember this topic being mentioned during the meeting and I want comment on it. Castle Valley has a number of cultural sites. I recommend that you demand that Connoco provide the most detailed report possible prior to the deadline for the Environmental Analysis, even if the deadline needs to be extended.

After reviewing the final draft of the Proposed Management Plan, I am very concerned that you may issue a permit in an area that is so far away from a dedicated utility corridor. In the event there should be a producing well, an extensive pipeline would have to be constructed to connect with existing lines. This would

have a tremendous impact upon the environment and scenic resources as well. I do not believe Connoco has even dealt with this matter yet. I strongly recommend that the subject of a gas pipeline in this area be thoroughly studied before you consider issuing a drilling permit.

I conclude this with the hope you will consider my comments and I thank you for the opportunity to present them.

Sincerely

Heward Smythe

CVSR Box 2501

CASTLE VALLEY, UTAH

84532

Castle Valley Star Rt.
Box 1306
Moab, Utah 84532
December 30, 1984

Mr. Gene Nodine
Moab District Manager
Bureau of Land Management
P.O. Box 970
Moab, Utah 84532

Dear Mr. Nodine:

Please accept the following scoping comments on the application by Conoco Inc. to drill a 12,000 ft. oil well in Sec.21, T24S., R.23E.

By way of introduction, I am a landowner and resident of Castle Valley living within two air miles of the proposed Conoco well. I am very concerned that Castle Valley residents and property owners have been perceived by some BLM staff as "environmentalists" and "obstructionists." However inevitable these labels seem to have become, I don't believe they are helpful or meaningful. They tend to put people into a category that allows those in power to ignore what those people are saying. I am confident that we can open up a dialogue and our concerns will be viewed as genuine, coming from people who take a great deal of pride in their local area and its future and who know Castle Valley as their home.

As a resident and landowner in Castle Valley whose sole all-season access and egress is on a road 1200 ft. from the proposed rig site, I am in fact appalled that we were not given the courtesy of notification by the BLM of intention to drill. It was only after some residents were made aware of the drilling project in a chance encounter with an official from Conoco at the December monthly meeting of the Castle Valley River Ranches Property Owners Association that there was any prior information about this proposal. As a reminder to you, the public was notified beforehand by a BLM press release of the drilling that took place along Hwy. 191 north of the Arches National Park entrance; further caution was advised to motorists of danger on the road.

I do appreciate the decision by Mr. Rhea on December 18, 1984 to solicit scoping comments and to prepare an Environmental Assessment. Further, I want to thank Mr. Rhea for his expression of willingness to work with the residents of Castle Valley during the meeting on December 26, 1984, at the Mormon chapel in Castle Valley.

The following are specific questions I have concerning the drilling and future development of oil or gas in the vicinity of Castle Valley. I would appreciate answers to these questions in the to be published Environmental Assessment.

1. H₂S Contingency Plan

In the 10-Point Drilling Program, attached to Form 3160-3, item 9, Conoco states: "We expect to encounter H₂S in the drilling of this well. The H₂S contingency plan (attached) will be adhered to at all times." In the Contingency Plan, Item 8 of the Checklist for Drilling or Workover in H₂S Environment, it is stated that residents within a two-mile radius shall be notified in an emergency. Since Conoco only listed two residences within a two-mile radius, the obvious need is to update this list as there are considerably more than two residences. In addition, the health and safety of those residents within the two mile radius must be taken into account when designing evacuation and emergency training procedures. Conoco's present plan does not take these residents into account. Where will an alarm be placed that is audible and visible to those residents? The present plan makes no mention of such an alarm. Will those residents within the two mile radius be informed by a safety advisor or other personnel when drilling at the depth H₂S may be expected? If the condition is one of extreme danger to life and the attempts to control the H₂S gas fail, what route of escape will be provided for the residents of Castle Valley? What air flow modeling will be done to determine areas in Castle Valley of extreme danger in the event of an uncontrolled H₂S leak? Will the residents in this area be given portable life support systems—gas masks, breathing equipment? How will the lives of the school children traveling to and from Moab twice a day be incorporated into this contingency plan? More specifically, who will look out for the health and safety of these children in the event a leak of H₂S is encountered at the time the bus is passing within a two mile radius of the drill site? Is it standard procedure to have a rig such as this in such close proximity to a populated area? What liability does Conoco have in case of loss of life or property? Please document.

2. Access to property blocked in the event of an uncontrolled leak of H₂S

Item 10A of the Procedure Program of the H₂S Contingency Plan (p. 12) states "Road barricades will be used if necessary to block access to the location at all entrances at a safe distance from the well site. Under critical drilling and testing operations, gate guards will be used." If the Castle Valley road becomes blocked how will the landowners have access to their property? Is it standard procedure to have a rig of this nature in this close proximity to the only access and egress of a populated area?

3. Traffic on U-128

As all residents of Castle Valley know, U-128 is a high-risk road due to sharp turns, blind curves, rock falls, icy conditions in winter, etc. In the seven years I have lived in this area I have had two close calls, both on blind curves, where I encountered heavy equipment trucks in my half of the lane. I am very concerned about any increased traffic of heavy equipment and the practicality of U-128 safely handling this extra traffic. How will these additional hazards be mitigated during the winter season when icy, slick conditions are standard? In addition, how

will the additional hazards be mitigated during the tourist season when the river companies use this road heavily to transport their passengers to and from the Colorado River Daily Float? Will UDOT enforce whatever restrictions are agreed upon on the flow of traffic of heavy equipment to and from the site? I understand BLM has no authority to enforce any flow of traffic on the roads.

4. Source of water

Does Conoco have an adequate and approved supply of water for drilling? (Please document) From where will the water be drawn? The sole source of water for the residents of Castle Valley comes from wells and Castle Creek. What are the sources of contamination to our aquifer and our surface water? Describe potential damage to our wells from drilling procedures. In the Point Surface Use Plan it states "There are no known water wells. . . located within a one-mile radius of the site." Obviously this information needs to be updated. Please list those wells within a mile radius of the proposed site.

5. Impacts on quality of life

I am concerned about the noise, visual and air-quality impacts on the high-quality of rural life that we now experience in this area. This high-quality of life is reflected in our covenants, conditions and restrictions of the property owners in Castle Valley River Ranchos. I am concerned about our life-sustaining environment because this is my family's home. I hope that the BLM and the residents of Castle Valley can deal with this question of potential conflict of land use in Castle Valley and in the near vicinity of Castle Valley.

In closing, I would like to make it clear that I do not oppose development that is planned with ^{due consideration for} the future health and safety of the local people near the development. I think we are a long way from being shown that this drilling program can be carried out with a realistic consideration for the health and safety of the local residents and landowners. This particularly in light of many erroneous statements and information included in Conoco's application for permit to drill, their surface use plan and the contingency plan. Finally, the residents and landowners in the vicinity of Castle Valley may have their right of access seriously threatened.

Thank you for this opportunity to participate in the scoping comments. I hope that you will please consider extending the comment period on the Environmental Assessments as there are inevitably concerned parties that are gone for the holidays. There must be a reasonable time for all interested parties to become informed about this proposal and to comment if so desired.

Sincerely,

Mary A. Rees

Mary A. Rees

PROFESSOR VALLEY RANCH

P.O. Box 509
Moab, Utah 84532

January 2, 1985

Mr. Gene Nodine, District Manager
Bureau of Land Management
Moab District
P.O. Box 970
Moab, Utah 84532

Dear Mr. Nodine:

Following are my concerns which may be considered as "scoping" comments regarding an Environmental Assessment on the Conoco APD for Conoco Federal 31-1 on Pace Hill:

I have read Conoco's Form 3160 and Attachments as well as the H₂S Contingency Plan. There are a sufficient number of inaccurate statements and presumptions in these documents to indicate that the area was not researched well by the company, nor did the BIM apparently make any effort to correct the inaccuracies. Particular concerns are related to the number of residents in the two-mile radius of the drill site and their safety in the event of drilling encounters with toxic gases.

Among items which should be addressed:

- There are water wells within or very close to the one-mile radius of the site. In such fractured geology, will drilling affect these water sources?
- Can enough water for drilling be obtained from Castle Creek? How does this affect other rights to that water during irrigation season?
- The H₂S Contingency Plan does not acknowledge the many families living within a two-mile radius in Castle Valley, nor the Boulden Ranch property upriver, nor the livestock grazing along the river.
- The prevailing winds are not generally from the north. The rock formations influence the airflow as well.

(continued)

PROFESSOR VALLEY RANCH

P.O. Box 509
Moab, Utah 84532

page 2, Conoco Federal 31-1

- If a H₂S Contingency Plan exists because the gas is² anticipated, as stated, then an actual scenario must also be anticipated: An uncontrollable gas leak would probably run downhill to the sole access road into Castle Valley (in Winter and Spring) and to the Colorado River (much river traffic in Summer) and the White Ranch or, perhaps, the Boulden Ranch. If the Castle Valley access road is blocked, there is no emergency exit for 100 or more families in the event of medical problems or other situations. Route 128 along the Colorado River is used daily for a great deal of commuter traffic to Moab, school buses and seasonal tourist traffic. How would a serious gas leak or explosion affect these lives?
- If H₂S is encountered under great pressure and is warmer than the air with which it comes in contact, and rises, might it spread if it encountered one of our Winter inversions and then fall over a wider area as it cooled?
- What are the possibilities and dangers of encountering methane at this site? It would not be the first time in Grand County.
- What are the possibilities and impacts of encountering brine in this drilling program? Another familiar item in Grand County drilling history.

The area topography limits the options for people living and working in this area in the event of a crisis. All of us who live "upriver" from Moab are aware of the added difficulties in emergencies, whether it be fire, flood or medical crisis. We accept some of that responsibility in living here. But to allow that access to be limited further in the event of potential man-induced disaster is a matter for serious consideration.

Sincerely,
Robert Wilson
Mrs. Bates E. Wilson

(continued)

PROFESSOR VALLEY RANCH

P.O. Box 509
Moab, Utah 84532

page 3, Conoco Federal 31-1

P.S. My interest in the BLM's handling of this APD is obviously related to the fact that our ranch property, just upriver from the Boulden Ranch, is surrounded by federal land which has been in the path of a great deal of seismograph activity and leasing interest in recent years. We are a 325 acre working ranch; a family corporation involved in raising crops and feeding livestock. Additional potentials for the property, which are now under consideration, depend in part upon maintenance of certain scenic values as well as the practicalities of a pollution-free environment in which to carry on the business of farming.

The future of this unusual corridor, Richardson Amphitheater, along the Colorado River is about to be up for bid. The manner in which Conoco Federal 31-1 is considered by the BLM Area and District offices and your communication with the public will set the pattern for future dealings in the minds of local property owners.

To Whom it may concern;

I am a resident and land owner in Castle Valley, River Ranches (formerly the Pace Ranch). I am distressed to hear and read about the request to locate a drill rig at the base of Pace Hill.

One of my main concerns is that in researching the area the company failed to find a community of 200+ people within a radius of 4 miles. I don't believe that studying a U.S.G.S. Topographical map (probably dated 1956) and looking in a phone book for ranches, can replace the experience of a reconnaissance in person.

As there is a possibility of hitting H_2S , a lethal gas, I don't believe that Conoco has taken the time, to prove they can handle an emergency situation with a nearby community, and thus should be denied Conoco Drill Permit # 31-1.

Thank-you,

Kathy Markland KATHY Markland
BVSR Box 2508
Moab, Utah
89532

To Whom It MAY CONCERN,

As A LANDOWNER AND RESIDENT
IN THE CASTLE VALLEY RIVER RANCHOS,

I AM OPPOSED TO ANY DEEP WELL
DRILLING IN THE CASTLE VALLEY AREA.

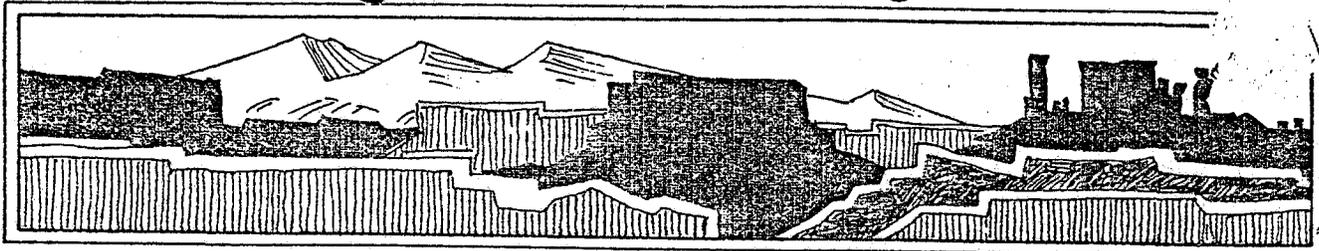
Thank you

William A. Markland

CUSR Box 2508

MOAB, UT.

84532



CANYONLANDS FIELD INSTITUTE

Professor Valley Ranch • P.O. Box 68 • Moab, Utah 84532 • 801-259-6503/7750

January 1, 1985

Mr. Gene Nodine
Moab District Office
Bureau of Land Management
Moab, UT 84532

Dear Mr. Nodine,

I am writing on behalf of Canyonlands Field Institute in regards to the application by Conoco to drill on Parriot Mesa near Castle Valley. Canyonlands Field Institute (CFI) is a non-profit educational organization that offers programs in cultural and natural history of the northern Colorado Plateau. CFI is associated with Professor Valley Ranch that is located just to the east of the proposed drill site. Though CFI does not at this point in time maintain facilities for full time educational programs on the ranch property, we do use the site for segments of our year round programs and have specific plans to develop residential housing and meeting facilities on the site in the near future. We are thus concerned about the inadequacy of Conoco's application.

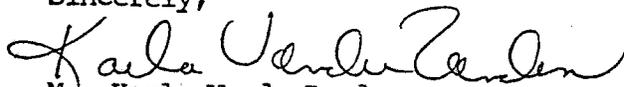
Conoco should be asked to list the residences within the 2 mile radius of concern that were not included in the original version of the application. In addition, we feel that nearby residences and ranches, including Professor Valley Ranch, should be mentioned as areas of concern. We bring participants to the Professor Valley Ranch for studies in natural sciences, history and local issues. A major draw for our business are the unobstructed scenic vistas possible from Highway 128 towards the LaSals that are possible from the White Ranch to the Hittle Bottom area as well as the "old west" pastoral character of the landscape. Our customers primarily travel from Moab and secondarily from the Cisco exit on I-70. Some of our activities involve transport from the Professor Valley Ranch up Castle Valley to the LaSals via Pace Hill. We are considering horse transport as well over the saddle that separates our two valleys.

The State of Utah has expressed support for our operations by providing a small grant in 1984 for site analysis and feasibility study. Several levels of government including Grand County have recognized the outstanding scenic character of Highway 128 along the Colorado River. Recommendations have been made to make the route a Scenic Way. The scheduled upgrading of Dewey Bridge and other road work will encourage increased public travel on the highway.

Please insure that these matters are addressed in the development of a draft Environmental Assessment on the Concoco drill application.

Thank you.

Sincerely,



Ms. Karla VanderZanden,
Trustee and Program Director

December 31, 1984

Gene Nodine, District Manager
Bureau of Land Management
P.O. Box 570
Moab, Utah 84032

I am writing in reference to the Conoco Drill Permit #31-1. I believe that many facts have been overlooked or avoided during the "Application for Permit to Drill" was given to the Conoco, Inc.

- #1 Road Congestion - Highway 128 is in no condition to handle any additional traffic due to the Spring floods of the Colorado River. Many families travel this road daily. Increased traffic would cause more accidents. Many tourists travel this road and may, and usually do, stop in the middle of the road to take pictures. This road is also the only year round passage into Castle Valley.
- #2 Existing Wells - Many water wells are located within the 2-mile radius that could be contaminated.
- #3 Pollution to the Colorado River - If any materials or chemicals did escape the drill area the river is within a $\frac{1}{2}$ -mile radius and would be contaminated.
- #4 Hydrogen Sulfide Poisoning - Many families live within a 2-mile radius and will be in immediate danger. Evacuation would be highway 128 which is lower than the drill site, where as the deadly gas settles in low spots. Where is the escape road? The company must provide adequate safeguard, which I feel has been overlooked. No emergency route has been explained to me, nor have respiratory protective equipment been given to my family. Prevailing wind, East to Southeast, would carry the deadly gas toward Castle Valley.

I feel that every safety aspect of this drill rig has been overlooked and ignored. I also feel that the lives and safety and rights of the residents in the area have been ignored and ridiculed. We all feel this as done on purpose to avoid confrontation with those concerned for a better environment.

Concerned Castle Valley Residents

Denise & Dennis D'Agnesse

Denise & Dennis D'Agnesse

Castle Valley Star Route #1706
Moab, Utah 84532
December 31, 1984

Dear Sir,

Conoco's application for a permit to drill a well on Pace Hill showed poor or no research. It stated that no one lived in the general area, and it contained geological errors. They did no studies of the aquifer, availability of water, or the location of nearby natural gas pipelines.

My concerns are as follows. Firstly, the families in the lower part of Castle Valley will suffer from noise, air and water pollution. The intrusion of hydrocarbons into people's wells is common near gas wells. At that point, one's home would be worthless.

The safety record of state highway 128 is the poorest in Utah. Many fatal accidents including incidents involving construction equipment have occurred. Although Conoco has given a verbal promise to use flagcars and repair road damage, that damage can not be ascertained unless a survey of the present condition of the road is done now. The school bus children and other commuters should be guaranteed a properly maintained road.

Lastly, all the property owners in Castle Valley River Ranchos signed covenants that were instituted in 1973 and forbid any commercial development. That same year the BLM restricted mineral development near Parriott Mesa and Castle Rock according to their Management Framework Plan. Many of my neighbors and I invested our life savings in our present homes with this understanding. Hopefully the BLM will keep full commitment to its own rules and regulations.

Sincerely yours,


George M. Ottinger

12/21/84

Melodie Taylor - 259-8252

1. No one mentioned - if people on state DOT has been contacted to coordinate use of trucks on road - Dewey Bridge?

2. Form - 3160-3 pg 2 twice it says H_2S is expected to be encountered - but Charlie Morris said it is rarely is encountered.

3. Why would it be considered next to people?

APPENDIX IV

PUBLIC COMMENTS

(recieved during 15 day scoping period)

Mrs. Kevin B. Sweeney
Castle Valley Route, Box 2102, Moab, Utah 84532
Dec. 30, 1984

Mr. Gene Nodine
Moab District
Bureau of Land Management
P. O. Box 970
Moab, Utah 84532

Dear Mr. Nodine:

The proposal submitted to the Bureau of Land Management by Conoco regarding a gas well on Pace Hill seems, at least in part, to be based on data thirty years old. It lists only two residences as being immediately involved in case of an H₂S emergency, whereas, as you know, there are a great many within the two-mile radius. In addition, those of us outside the two-mile limit must pass through this area in driving to and from Highway 128. There is no other access to our properties during most months of the year. This is also true of community services; i.e., school buses, fire equipment, etc.

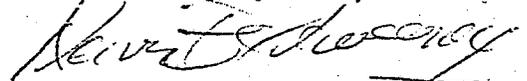
Is it customary to grant a permit for a site this close to residences and access routes?

The contingency plan for evacuation in case of an H₂S or other emergency is not clear. There seems to be a sort of generic plan for

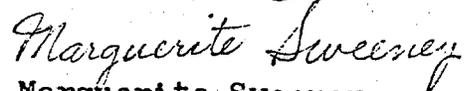
workers on the site to follow, but the problem of notifying or evacuating residents of Castle Valley is not addressed.

It seems to us, therefore, that the present proposal is totally inadequate in terms of dealing with the health and safety of the residents of Castle Valley and access to their property.

Very truly yours,



Kevin B. Sweeney



Marguerite Sweeney

C. V. S. R. Box 2210
Moab, Utah 84532
December 28, 1984

Gene Nodine
Moab District Manager
Bureau of Land Management
P.O. Box 970
Moab, Utah 84532

Re: Conoco Federal 31-1

Dear Sir:

I live within one mile of this proposed project in a community that has had a land-use plan existing as a legal entity for over twelve years. Conoco's project conflicts with this plan in many areas most notably the noise and visual impacts of the drilling operation itself.

My personal concerns as a resident and property owner within this one mile boundary are:

1. All traffic hazards associated with transportation, construction, assembly, operation and removal of the drilling equipment and associated support equipment and activities.
2. Possible contamination of the aquifer that my culinary well is located in by drilling fluids and/or cross-strata migration of water, brine, oil, gas or anything else encountered by drilling to this depth.
3. Disruption and/or denial of access both to my property and to such services as fire protection, ambulance service, hospital services, law enforcement and other public services.
4. Possibility of personal injury and/or death as a result of H₂S emissions from the proposed drill site.
5. Possibility of future development associated with oil/gas field production and the compounding of effects that this increased activity would have with the above mentioned concerns and conflicts that this increased development would have with both existing land-use planning in this area and the quality of life and lifestyle that this land-use planning has created.

C. V. S. R. Box 2210
Moab, Utah 84532
December 28, 1984

Gene Nodine
Moab District Manager
Bureau of Land Management
P.O. Box 970
Moab, Utah 84532

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2. Possible contamination of the aquifer that my culinary well is located in by drilling fluids and/or cross-strata migration of water, brine, oil, gas or anything else encountered by drilling to this depth.
3. Disruption and/or denial of access both to my property and to such services as fire protection, ambulance service, hospital services, law enforcement and other public services.
4. Possibility of personal injury and/or death as a result of H₂S emissions from the proposed drill site.
5. Possibility of future development associated with oil/gas field production and the compounding of effects that this increased activity would have with the above mentioned concerns and conflicts that this increased development would have with both existing land-use planning in this area and the quality of life and lifestyle that this land-use planning has created.

I understand that not all of these issues and concerns can be addressed in an Environmental Assessment. Therefore, I am requesting an Environmental Impact Statement on this project. This is the only means to analyze any impact that may occur off-site. Also an EIS could and should address the possible future development scenarios that need to be considered before the BLM creates an irretrievable commitment of resources.

Some additional items that can only be addressed in an EIS and that I feel should be mentioned are:

1. Air quality and movement within the two mile federal and state safety zone surrounding the proposed drill site.
2. Safety planning and evacuation contingency plans in the event of a release of H₂S from the drill site. (This plan has to address the safety of residents within two miles of the site as well as the possibility of recreational users and tourists within this area.)
3. Effects of this project and possible future development on recreational users and tourism both in the immediate area and adjoining areas. (One possibility could be oilfield development and associated flaring affecting air quality and impinging upon the Integral Vistas Program in Arches National Park.)

My concern for any future development scenarios and their inclusion in the studies done on this project is the result of a person-to-person talk with Mr. Mike Rooney, a representative of Conoco. On December 21, 1984, during this conversation, it was mentioned that this was one of many proposed drillsites for Conoco in this area. The area mentioned was approximately twelve square miles and included most of the Richardson Amphitheater and Professor Valley. At present, tourism and recreational use of this land is this area's only stable economic resource. Any boom-and-bust development that could adversely affect this resource should not be permitted.

The Grand Resource Area Office of the BLM is in charge of this project. To date, this proposed project has not been handled adequately by the staff dealing with this situation. This inadequacy is evident in initial lack of concern for possible conflicts with an existing and developed economic resource (tourism), and in not following the provisions of the Organic Act. The resource area manager seems to be derelict in the performance of his duties as he is the responsible individual at that office.

One example of this dereliction of duty is in the processing of the original APD under a categorical exclusion. There are other irregularities in the handling of the permit process dealing with Conoco's APD. Because

Anderson-page three

of these circumstances I am asking you to relieve Pete Christensen of his duties in the Grand Resource Area office until it can be shown through an objective evaluation why he didn't follow the provisions of the law in handling this permitting process.

The findings of the investigation of this irregularity should be made available to the public. It is our public lands that you are administering. It is essential that all provisions of all applicable procedures and laws be followed in the performance of this administrative responsibility. Because of the above mentioned breach of public trust I feel that any action or processing of Conoco's application for a permit to drill should be suspended until your in-house investigation is complete and a matter of public record.

I would like to thank the BLM for having finally recognized the need for public comment on this proposal, however I feel that two weeks is not long enough. I am requesting a thirty day comment period on the draft EA as well as a thirty day comment period on the final EA before any decision is made.

Once again I urge you to evaluate your in-house irregularities before you proceed any further with this process.



C.W. Anderson

mm:cwa

cc: Roland Robison, State Director, BLM
Dianne R. Nielson, Ph.D., Division Director, State of Utah Natural Resources, Oil, Gas, and Mining
Pete Christensen, Manager, Grand Resource Area

Dec. 26, 1984
Box 1806
Castle Valley Star Rt.
Moab, Utah 84532

Gene Nodine
District Manager
Moab District Office
Bureau of Land Management
PO Box 970
Moab, Utah 84532

Dear Mr. Nodine,

I am supplying the following remarks as scoping comments concerning the pending drilling application and Environmental Assessment on the Conoco Federal 31-1 location near Castle Valley, Utah.

1. I feel that the Bureau of Land Management acted irresponsibly and without due concern for property owners in this matter. There was no public notification of the pending project nor was there any effort on the behalf of the Bureau to see that any organizations or individuals were aware of the what was to be done. A copy of a letter addressed to Conoco, Inc. dated Dec. 13 says that the application "has been determined to be administratively adequate". A subsequent letter dated Dec. 18 indicates there will be a delay in approval due to the need for an Environmental Assessment. What could have transpired in those five days that turned an adequate permit application into a situation that requires an Environmental Assessment? It was only by accident that residents of Castle Valley found out about this project and I am left with the distinct impression that had they not brought their concerns out in public the permit would have been approved within 30 days as indicated in the letter. What future provisions will be made to prevent similar occurrences?

I am also concerned that perceptions of the character of the residents of Castle Valley on the part of BLM personnel affected the way in which decisions were made in this case. All persons are entitled to their opinions and it should be the responsibility of the Bureau to take those opinions into account whether they are personally agreed with or not. We are not just "a bunch of tree huggers" and do not expect to be treated in a categorical fashion.

2. Concerning the permit application and the associated documents:
 - A On form 3160-S dated as received on Dec. 10 a change is made to indicate that water trucks will load their water directly from Castle Creek. In view of the fragile nature of desert riparian habitats, where exactly will these trucks load? Do they need to cross private land? Are permits necessary for using state land for this purpose?

B On page two of the application it is important to note that Conoco Inc. expects to encounter H₂S in the drilling of this well.

C Concerning the 10 point drilling program:

- a. Item number 3 indicates that no water bearing zones are anticipated. There are many water wells within a one mile radius of this location. While these wells are not extremely deep what effects will the drilling have on these wells? These wells represent the sole culinary water supply for the residents of the area and represent a substantial investment in time and money as well. For example, is it known what effect forcing mud at high pressures into the hole will have on surrounding water wells? Will it cause gases or contaminated water to be pushed through leaky casing and surface in water wells? The lack of knowledge of these water wells indicates disregard for the residents by both Conoco Inc. and the Bureau of Land Management.
- b. In Item 9 Conoco again mentions that they expect to encounter H₂S and will adhere to the contingency plan.

The 13 Point Surface Use Plan seems to have been written as though surface conditions are forever the same. Either the plan was written entirely from maps, most of which are many years out of date, or a single visit may have been made to the site and no effort was made to examine the surrounding area.

- a. Item 1. The plan indicates that the Castle Valley road is a gravel road. It is a bituminous surfaced road and has been for many year.
- b. Item 2. At the completion of the project will the road be rehabilitated or upgraded? To what degree will it be rehabilitated if that is the choice? Has there been a plant survey to determine what plants will be disturbed?
- c. The plan states "there are no known water wells...located within a one-mile radius of this location site." Once again neither Conoco nor the Bureau gave the residents the courtesy of necessary research.
- d. Item 4 discusses the possibility of future production facilities. Such development will lead to cumulative and comprehensive impacts that will require significant efforts to mitigate. These impacts seem to require investigation normally beyond the capabilities of an Environmental Assessment and may if fact require the elevation of the investigation to EIS status.

e. Some statements in Item 10 may be in conflict with statements in Item 2 regarding whether the road will be upgraded or rehabilitated. Thunderstorms are mentioned as being extremely rare. It has been the experience of most Castle Valley residents that these storms are, in fact, quite common in the Summer months. We may only get 8 inches of precipitation a year but often a majority of that comes during Summer thundershowers. Perhaps the most important oversight in this item is the statement that "there are no occupied dwellings or other facilities of this nature in the general area." I might remind Conoco that there are several hundred residents and many dwellings in Castle Valley as well as two schools and a variety of stock raising and farming operations. Many of these people live within one mile of the location.

E The H₂S Contingency Plan is a very intimidating document to those of us who live in Castle Valley. Mr. Rhea played down the danger of this gas when he was in Castle Valley on Dec. 26. If this is, indeed, such a minor problem in routine drilling why did representatives of Conoco make such a fuss over the issue at a recent property owners meeting?

a. In the Checklist for Drilling there are many references to items which are not noted on the site plan. Item 4 refers to an emergency escape route. Other references are made elsewhere to several roads accessing the site yet only one road is shown on the site plan and map. How many roads will be built? Which roads will be rehabilitated and which will be upgraded? Will this be decided prior to the start of construction? Concerns expressed in item 8 refer to my notes in item D, e above. Concerning item 12 I would remind Conoco that the Castle Valley Road is the sole access and egress for residents of Castle Valley for much of the year. In an emergency evacuation this is the route which must be used. If this route is blocked due to gas danger evacuation becomes very complicated.

b. On page 1 it is stated that if the H₂S is warmer than the air at release it will tend to rise. I would therefore suspect that as it cools it would also sink. It should be noted that the lower portion of Castle Valley acts as a natural trap for cooler, heavier air and thus would be the likely place for the heavier gas to settle after it has cooled. I would therefore suggest that

airflow modeling studies must be done as part of the EA process to consider worst case scenarios.

c. Under the Procedure Program, Item A6, an escape road is mentioned which is not shown on the site plan or map.

3. As a resident of Castle Valley I have a right to access to my property which I feel is likely to be cut off for some period of time should this permit be approved. I therefore must ask that the Bureau either not approve the permit or guarantee that there be no substantial interruptions of access to my property.

I am also concerned about the additional traffic hazards that will come with increases in travel on Hiway 128 due to this project. I am not only concerned about travel directly involved with Conoco but also with their subcontractors. As with other rigs there will be a steady flow of trucks to and from the rig carrying equipment and supplies. What can be done to alleviate this problem especially during the hours that school buses and commuters are likely to be on the road?

Finally, there are the aesthetic concerns of a drilling rig so near to both residences and areas of substantial scenic beauty. What will the night lighting effects be in an area where night lighting is almost totally absent? How much noise will be produced by this drilling rig, generators, and associated equipment and how will this noise travel across Castle Valley after being reflected by Parriott Mesa? How much dust will be raised? Will the rig be visible from Hiway 128, an area identified as having scenic recreational opportunities in the Resource Management Plan?

I am confident that all the concerns I have raised here are valid and can be addressed in an appropriate manner. I am also confident that residents of Castle Valley and personnel of the Bureau of Land Management can work together effectively if we assume an atmosphere of trust and understanding.

Respectfully submitted


Thomas B. Rees, Jr.

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
 Conoco Inc.

3. ADDRESS OF OPERATOR
 907 N. Poplar, Casper, WY 82601

4. LOCATION OF WELL (Report location clearly and in accordance with any State regulations.)
 At surface: 1,972' FSL, 1,973' FEL, NW/SE
 At proposed prod. zone: Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST-OFFICE
 Approx. 19 miles NE of Moab, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)
 1,972'

RECEIVED
 DEC 04 1984
 DIVISION OF
 OIL, GAS & MINING

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.
 None

16. NO. OF ACRES IN LEASE
 640

19. PROPOSED DEPTH
 11,715'

17. NO. OF ACRES ASSIGNED TO THIS WELL
 160

20. ROTARY OR CABLE TOOLS
 Rotary 0'-T.D.

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 4,369' GL

22. APPROX. DATE WORK WILL START*
 Jan. 1, 1985

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20"	94 lb.	300'	785 sacks Class "G"
17 1/2"	13 3/8"	61 lb.	3,000'	2,080 sacks Class "B" & Light
12 1/4"	7"	23 to 32 lb.	11,715'	1,580 sacks Class "H" with additives

Note: See addendum to 10-point drilling plan for contingency casing program in the event a salt section is encountered.

It is proposed to drill Conoco Federal 31 No. 1 as an oil and gas producer in the Leadville formation. All appropriate logs will be run. A BOP will be installed and tested daily.

Conoco Inc. has current and correct Corporate Qualifications on file in the Cheyenne, Wyoming office of the Bureau of Land Management as required by WY 2800-39 (April, 1981). Reference No. W-56943 dated May 14, 1981.

A subsequent report will be submitted upon completion of this project. A completion rig will be used for completion operations. All conditions of this form will apply during such operations.

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 [Signature] TITLE Admin. Supervisor DATE Nov. 27, 1984

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____

CONDITIONS OF APPROVAL, IF ANY:
 BLM-Moab(3) UOGCC(2) WIO File 3708

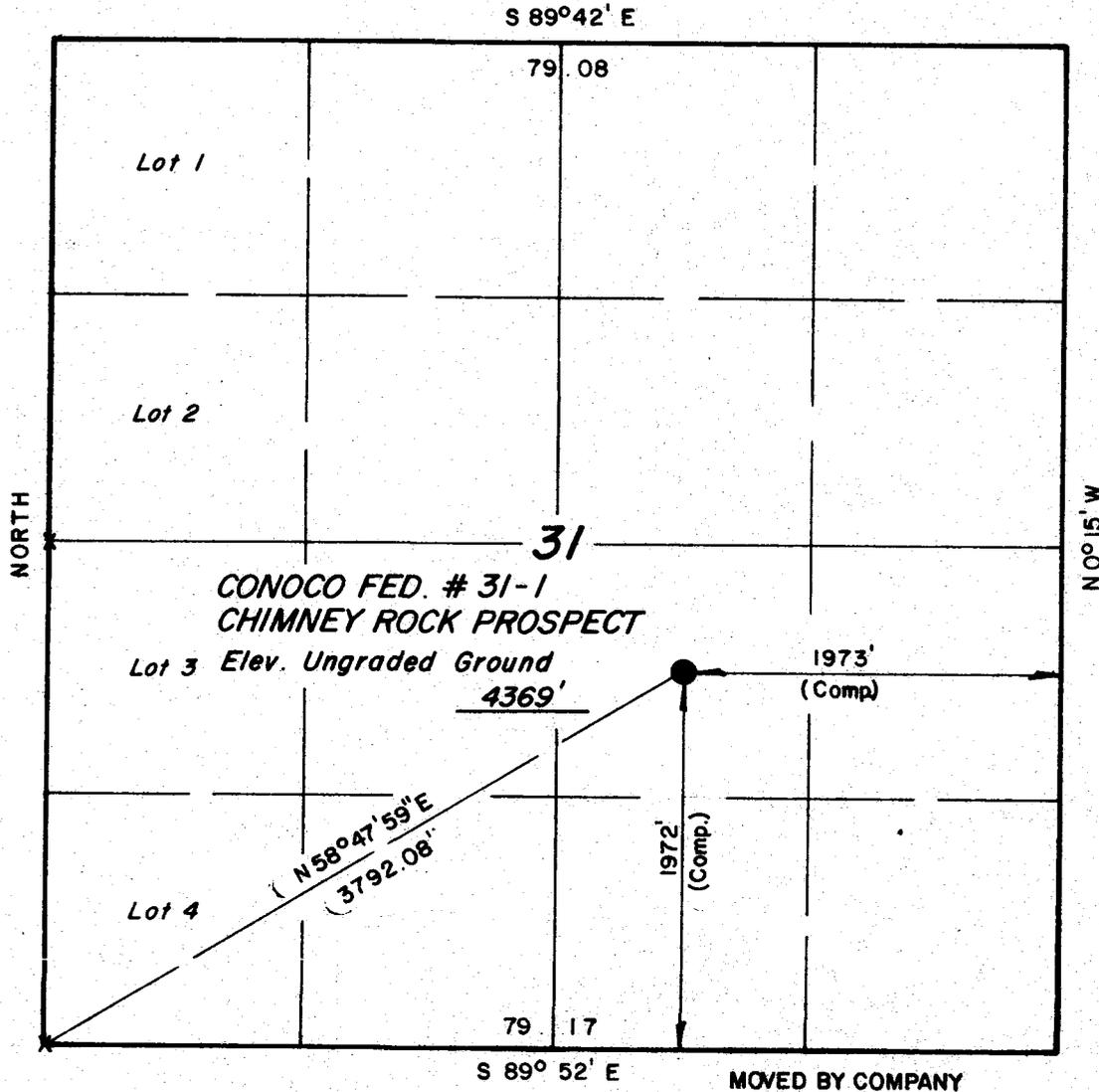
APPROVED BY THE STATE
 OF UTAH DIVISION OF
 OIL, GAS, AND MINING
 DATE: 12/10/84
 BY: [Signature]

*See Instructions On Reverse Side

T 24 S, R 23 E, S.L.B. & M.

PROJECT
CONOCO INC.

Well location, **CONOCO FED.**
31-1 CHIMNEY ROCK PROSPECT,
 located as shown in the NW 1/4
 SE 1/4 Section 31, T 24 S, R 23 E,
 S.L.B. & M. Grand County, Utah.



N 0° 15' W



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. ...

REGISTERED LAND SURVEYOR
 REGISTRATION NO 2454
 STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
 P.O. BOX Q ~ 85 SOUTH - 200 EAST
 VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 9 / 27 / 84
PARTY G.S. K.R. J.H. BFW	REFERENCES GLO Plat
WEATHER	FILE

X = Section Corners Located

REVISED 11/21/84

MOVED BY COMPANY

Form 3160-3
Conoco Federal 31 No. 1
Nov. 27, 1984
Page Two

An archeological survey of the well site and access road was made on September 25, 1984 by the AERC Corporation of Bountiful, Utah.

It is expected that H₂S will be encountered during the drilling of this well. An H₂S contingency plan has been prepared and is hereto attached. Conoco Inc. and its contractors will adhere to this plan in order to ensure the safety of all employees and to protect the environment of the area.

Attachments:

- 1) Survey plat
- 2) 10-point drilling program w/addendum
- 3) BOP Diagram
- 4) 13-point surface use plan w/maps and site layout
- 5) H₂S contingency plan

Attached to Form 3160-3

10-POINT DRILLING PROGRAM
CONOCO FEDERAL 31 NO. 1
GRAND COUNTY, UTAH

1. The geologic name of the surface formation:

Permian Cutler

2. Estimated tops of important geologic markers:

<u>Formations</u>	<u>Drilled Depth</u>	<u>Subsea Depth</u>
Penn. Hermosa	8,750'	-4,030'
Miss. Leadville	11,215'	-6,495'
Dev. Ouray	11,715'	-6,995'

3. Waterbearing zones:

None anticipated.

4. Proposed casing program:

All new casing.

See Form 3160-3 for cementing program. Conoco will ensure that all potentially productive hydrocarbon zones will be cemented off behind the pipe.

The estimated cement tops will be as follows:

Conductor	-	Cement to surface
Surface	-	Cement to surface
Production	-	TOC @ 9,000'

All casing will be pressure tested after it has been installed. Casing will be tested to the following specifications:

Conductor	-	1,000 psi
Surface	-	1,500 psi
Production	-	1,500 psi

0- 300'	20" 94 lb/ft, H-40 ST&C
0- 3,000'	13 3/8", 61 lb/ft, K-55 ST&C
0-11,715'	9 7/8" , 23, 26, 29 & 32 lb/ft, N-80, LT&C

Note: If a salt section is encountered, an alternative casing will be used as outlined in the addendum to this drilling plan.

5. Specifications for pressure control:

Our minimum specifications for pressure equipment will be 5,000 pounds. See attached diagram. The BOP will be tested daily.

6. Proposed circulating medium:

0- 300'	Gelled fresh water 8.5-9.0 ppg., viscosity 40-60 sec/qt.
300- 3,000'	Air/air mist (contingency fluid: Low solids nondispersed mud, 8.5-8.9 ppg, viscosity 35-45 sec/qt, pH 10.0-10.5, water loss 10-15 cc).
3,000-10,700'	Air/air mist/foam (contingency fluid: Low solids nondispersed to lightly dispersed, 8.7-9.1 ppg, viscosity 35-45 sec/qt, water loss 10-15 cc, pH 10.0-10.5).
10,700-T.D.	Low solids dispersed, 8.7-9.1 ppg, viscosity 35-45 sec/qt, water loss less than 12 cc, pH 10.0-10.5 (contingency fluid if salt encountered: salt saturated, low solids dispersed, 10.2-10.5 ppg, viscosity 40-45 sec/qt, water loss less than 12 cc, pH 9.0-9.5, salinity 330,000 ppm).

Sufficient mud materials will be mixed on location to fill hole volume plus an excess of 200 bbl, with sufficient weight to control the bottom hole pressure.

7. Auxiliary equipment:

We will use kelly cocks, floats at the bit, monitoring equipment on the mud system, a sub on the floor with a full opening valve, and a blooie line.

8. Testing, logging, and coring:

No cores will be taken.

<u>Open hole logs:</u>	T.D. - 10,700'	DLL-MSFL-GR
	T.D. - 3,000'	DIL-SFL-GR; FDC-CNL-GR; BHC Sonic (integrated)-GR

Drill Stem Tests: Leadville - 11,215'

Since this is an exploratory well, completion procedures cannot be anticipated at this time. If stimulation is to be attempted, prior approval will be obtained with a sundry notice to the Moab office of the BLM.

10-Point Drilling Program
Conoco Federal 31 No. 1
November 27, 1984
Page Three

9. Abnormal pressures and temperatures:

We do not anticipate encountering any abnormal pressures or temperatures. If encountered, a BOP will be used for control while drilling with mud. Mud weight will be increased if necessary to ensure adequate control. We expect to encounter H₂S in the drilling of this well. The H₂S contingency plan (attached) will be adhered to at all times.

10. Starting date and duration:

The well will be spudded approximately January 1, 1985. It is expected that drilling operations will require 150 days to complete.

ADDENDUM TO 10-POINT DRILLING PROGRAM
CONOCO FEDERAL 31 NO. 1
GRAND COUNTY, UTAH

In the event a salt section is encountered in the drilling of this well, the following change will be made to the casing program:

0- 300'	No change
0- 3,000'	No change
0-10,700'	9 5/8", 40.0 to 53.5 lb/ft, N-80 LT&C
10,000-11,715'	7", 35 lb/ft, P-110 LT&C

The cementing program will change as follows:

0- 300'	No change
0- 3,000'	No change
0-10,700'	630 sacks class H with additives
10,000-11,715'	230 sacks class H with additives

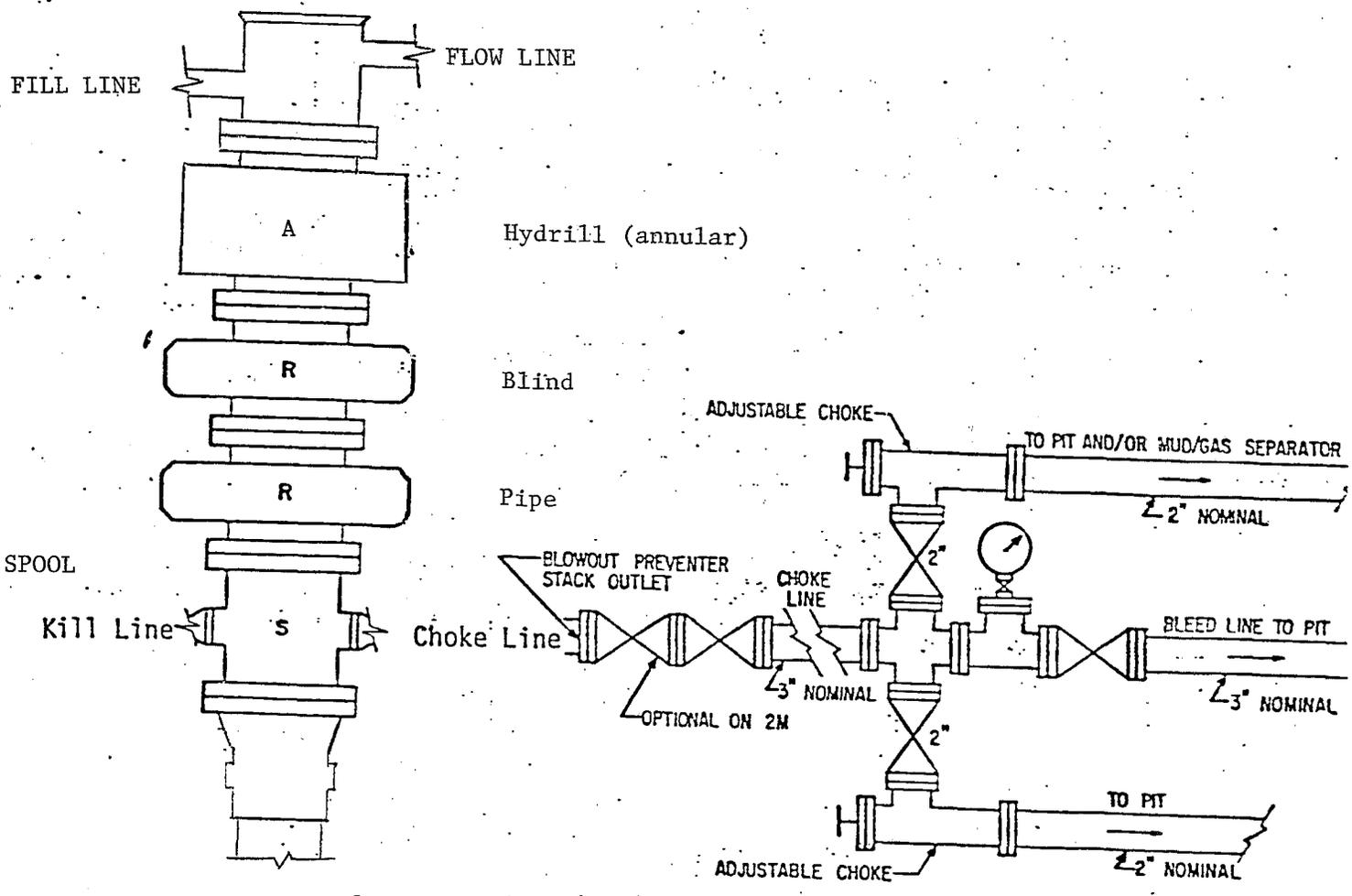
The estimated cement tops will be as follows:

Conductor	-	Cement to surface
Surface	-	Cement to surface
Intermediate	-	TOC @ 9,000'
Liner	-	TOC @ top of Liner

The intermediate string and liner will be pressure tested after installation as follows:

Intermediate	-	1,000 psi
Liner	-	1,500 psi

The remainder of the drilling program will remain unchanged.



DOUBLE RAM TYPE PREVENTERS

Minimum BOP Stack	5,000 psi Working Pressure
One Pipe Ram	5,000 psi Working Pressure - 13 5/8"
One Blind Ram	5,000 psi Working Pressure - 13 5/8"
One Annular	5,000 psi Working Pressure 13 5/8"
Well Head	5,000 psi Working Pressure 13 5/8" x 13 3/8" Weld-on
Manifold	5,000 psi Working Pressure
Spool	5,000 psi Working Pressure - 13 5/8"

CONOCO FEDERAL 31 #1

Grand Co., Utah

CONOCO INC.
13 POINT SURFACE USE PLAN
FOR
WELL LOCATION

CONOCO FEDERAL #31-1 CHIMNEY ROCK PROSPECT
LOCATED IN
SECTION 31, T24S, R23E, S.L.B.& M.
GRAND COUNTY, UTAH

Attached to Form 3160-3
Conoco Federal #31-1 Chimney Rock Prospect
Section 31, T24S, R23E, S.L.B. & M.

13 Point Surface Use Plan

1. Existing Roads

See attached Topographic Map "A."

To reach CONOCO INC. well location site Conoco Federal #31-1 Chimney Rock Prospect, located in NW/4 SE/4 Section 31, T24S, R23E, S.L.B. & M., Grand County, Utah:

Proceed northerly out of Moab, Utah along U. S. Highway 160 - 2.5 miles to the junction of this Highway and Utah State Highway 128; proceed Northeasterly along Utah State Highway 128 - 17.2 miles more or less to the junction of this Highway and the Castle Valley Road; proceed South along the Castle Valley Road 0.8 miles to its junction with the proposed access road (to be discussed in Item #2).

The highways mentioned above are bituminous surfaced roads to the Castle Valley Road at which point the county road is surfaced with gravel.

The highways mentioned above are state administered and are maintained by their crews, and the county road mentioned above is maintained by county crews.

2. Planned Access Road

See Topographic Map "B."

The planned road leaves the existing road described in Item #1 in the SE/4 NW/4 Section 31, T24S, R23E, S.L.B. & M., and proceeds in a South-easterly direction approximately 1,200' to the proposed location site.

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

The 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 deemed necessary in order to handle any run-off from normal meteorological conditions that are prevalent to the area. The maximum disturbed width will be 30'. The access road will be rehabilitated or brought to Resource (Class III) Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the Area Manager will be notified so that temporary drainage control can be installed.

Back slopes along the cut areas of the roads will be 1½ to 1 slopes and terraced.

There will be a 36" culvert required at the first major dry wash crossing, located in the first 100' along this road. There is another dry wash crossing which will require extensive up-grading. Straw bales will be placed along sides of up-grading in both major washes to control erosion.

There will be no turnouts required along this access road.

There are no fences encountered along this access road; therefore, there are no gates or cattleguards required.

The lands involved in this action are under B.L.M. jurisdiction. Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will require advance approval by the Area Manager.

The terrain that is traversed by this road is relatively broken. It is sparsely vegetated with sagebrush and grasses.

3. Existing Wells:

See Topographic Map "B."

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

4. Location of Existing and Proposed Facilities

There are no other CONOCO INC. tank batteries, production facilities, oil gathering lines, gas gathering lines, injection lines, or disposal lines within a one mile radius of this location site.

A welded steel tank will be placed on the location site to contain liquid hydrocarbons that are produced by this well.

The area will be built, if possible, with native materials and if these materials are not available then the necessary arrangements will be made to get them from private sources. Because this is a wildcat well, the production facilities cannot be anticipated at this time. If production is established, approval to construct necessary facilities will be secured before construction begins. Any production facilities built will be painted non-reflective Largo Red.

If there is any deviation from the above, all appropriate agencies will be notified.

Rehabilitation of disturbed areas no longer needed for operations after construction is completed will meet the requirements of Item #10.

5. Location and Type of Water Supply

See Topographic Map "B."

At the present time, it is anticipated that the water for this well will be purchased from private sources in Moab, Utah.

In the event that this source is not used, an alternate source will be used and all necessary arrangements will be made with the proper authorities.

All appropriate permits will be acquired from the proper authorities.

There will be no water well drilled at this location site.

6. Source of Construction Materials

Construction materials for this location site shall be borrow material accumulated during construction of the location site.

The use of materials under B.L.M. jurisdiction will conform to 43 CFR 3610.2-3. If additional material is required, the Grand Resource Area will be contacted for approval.

7. Methods for Handling Waste Disposal

See location layout sheet.

A reserve pit will be constructed.

The reserve pit will vary in size and depth according to the water table at the time of drilling.

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 and produced fluids, etc.

The reserve pit will be lined with 20 mil plastic, with an underlining of sand or straw. Pit construction will be inspected prior to liner placement and prior to spudding.

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

At the onset of drilling, the reserve pit will be fenced on three sides with a 4-strand barbed wire fence. At the time drilling activities are completed, it will be fenced on the fourth side and allowed to dry completely prior to the time that backfilling and other reclamation activities are attempted.

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

Produced waste water will be confined to a lined pit for a period not to exceed ninety days after initial production. During the ninety day period, an application for approval of a permanent disposal method and location, along with the required waste analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B). Any oil produced during testing will be collected in a portable steel test tank and hauled by truck from the location.

A portable trash basket will be placed on the location site and all trash will be hauled to the nearest Sanitary Land Fill.

The temporary camp on the location will have a closed septic system. Sewage will be hauled from the septic tank and disposed of properly.

8. Ancillary Facilities

There are no ancillary facilities planned now, and none foreseen in the near future.

9. Well Site Layout

See attached location layout sheet .

The B.L.M. Representative will be notified before any construction begins on the proposed location site. Fill areas will be compacted and watered to aid compaction. The northeast corner of the pad will be rounded off and the drainage re-routed around the pad corner.

A trash and burn pit will not be required because a trash bin will be provided on location and all trash will be hauled from the location to a landfill. The blooie line will vent over the reserve pit.

When drilling activities commence, all work shall proceed in a neat and orderly sequence.

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.) Any subsurface material not used in the construction of the location will be stockpiled separately from the topsoil.

Immediately upon completion of drilling, the location and surrounding areas will be cleared of all remaining debris, materials, trash and junk not required for production. Before any dirt work to restore the location and surrounding area, they will be cleared of all remaining debris, materials, trash and junk not required for production. The Operator or his contractor will notify the Grand Resource Area 48 hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.

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. Prior to re-seeding, all disturbed areas, including the access roads, will be scarified and left with a rough surface. Seed will be broadcast or drilled at a time specified by the B.L.M. If broadcast, a harrow or some other implement will be dragged over the seeded area to assure seed coverage. The seed mixture to be used will be determined by the B.L.M. at the time of restoration.

11. Other Information

Surface Ownership

All of the surface land involved in the construction of the access road and location site are Federally owned, and are under the jurisdiction of the B.L.M.

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

The area is a large basin formed by the Book Cliff Mountains to the north and the Lasal Mountains to the south. The Colorado River is located approximately 1 mile to the north of the location site.

The basin floor is interlaced with numerous canyons and ridges formed by the non-perennial streams of the area. The sides of these canyons are steep and ledges formed in sandstone ledges, conglomerate deposits, and shale are common in this area.

The geologic structures of the area that are visible are of the Uinta formation (Eocene Epoch) Tertiary Period in the upper elevations and the cobblestone and younger alluvial deposits are from the Quaternary Period.

Outcrops of sandstone ledges, conglomerate deposits and shale are common in this area.

The topsoils in the area range from a light brownish-gray sandy clay (SM-ML) type soil with poorly graded gravels to a clayey (OL) soil.

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

The Colorado River to the north of this location is the only perennial water that is affected by this location site.

Due to the low precipitation average, climatic 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 primary flow areas of sagebrush, rabbitbrush, some grasses and cacti as the primary flora. This is also true of the lower elevations.

The fauna of the area is sparse and consists predominantly of the mule deer, pronghorn antelope, 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 domestic sheep and cattle.

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

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

Conoco Federal #31-1 Chimney Rock Prospect is located in the bottom of Porcupine Canyon, which is located between Parriott Mesa and Porcupine Ridge.

The terrain in the vicinity of the location slopes from the southeast through the location site to the northwest at approximately a 15% grade.

The vegetation in the immediate area surrounding the location site consists of grasses and sparse amounts of sagebrush.

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

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

12. Miscellaneous

Warning signs will be in place prior to pad and road construction. Signs will be placed 100 yards north and south of access road on the Castle Valley county road and at its junction with Highway 128. At the junction of the access road and the county road, a sign will be in place to identify the area as a limited access area, and only authorized personnel allowed to enter.

There will be no deviation from the proposed drilling program without prior approval from the District Manager. Safe drilling and operating practices will be observed. This well will be identified in accordance with 43 CFR 3162.2.

"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 3164.

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

A cultural resource clearance has been obtained, and a copy sent to the B.L.M. Grand Resource Area office. If any cultural resources are found during construction, all work will stop and the Area Manager will be notified.

13. Lessee's or Operator's Representative

Michael S. Rooney
Conoco Inc.
907 N. Poplar Blvd.
Casper, WY 82601
(307) 234-7311

14. Certification

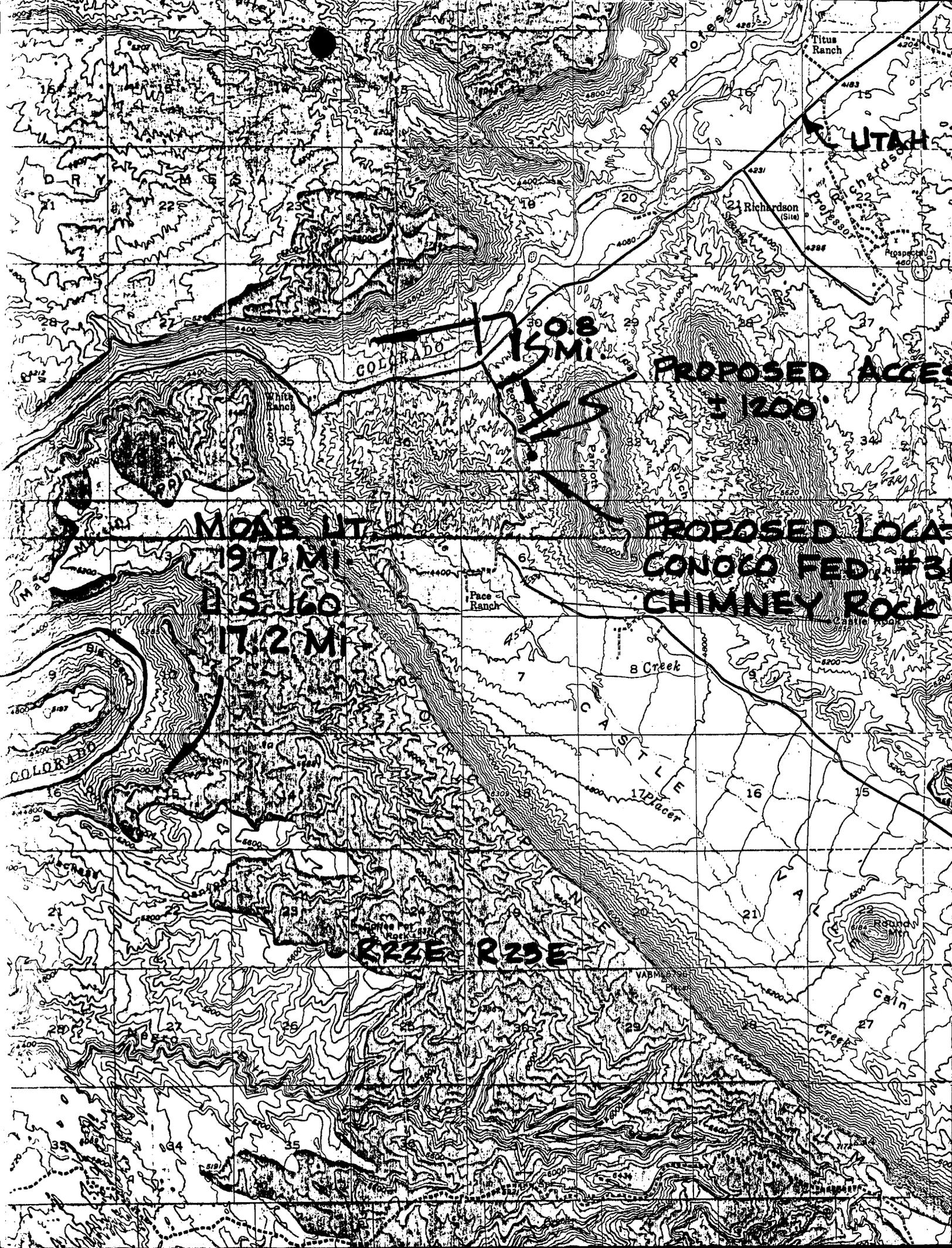
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are to the best of my knowledge true and correct; and that

Attached to Form 3160-3
Conoco Federal #31-1 Chimney Rock Prospect
November 27, 1984
Page 8

other work associated with the operation proposed herein will be performed by Conoco Inc. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

11-29-84
Date

for J. J. ...
Michael S. Rooney



UTAH

PROPOSED ACCESS
1200

PROPOSED LOCAL
CONOCO FED. #31
CHIMNEY ROCK

MOAB UT
19.7 MI
S. 160
17.2 MI

R22E R23E

15.8 MI

CONOCO INC. CONOCO FED # 35 CHIMNEY ROCK PROSPECT

TOPO. MAP B

N

UTAH

Landing Strip

Stock Ponds
South

MOAB 15
CITY PARK

Spring

SPRING
22

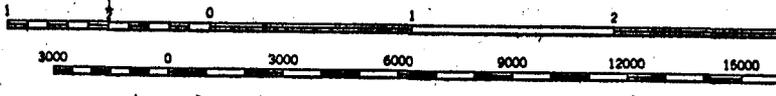
BM 4611

BM 4746

LA SAL JUNCTION 16 MI. N 2580 000 FEET R. 22 E. SAN JUAN CO. 637 25' R. 23 E. (LA SAL JUNCTION) 4160 IV 643

Maped, edited, and published by the Geological Survey
with cooperation by the Atomic Energy Commission
Control by USGS and USC&GS

Topography from aerial photographs by multiplex methods
Aerial photographs taken 1953. Advance field check 1964
Polyconic projection. 1987 North American datum
60,000-foot grid based on Utah coordinate system, central zone
6000-meter Universal Transverse Mercator grid ticks,
zone 12, shown in blue
Dashed land lines indicate approximate locations
Unchecked elevations are shown in brown



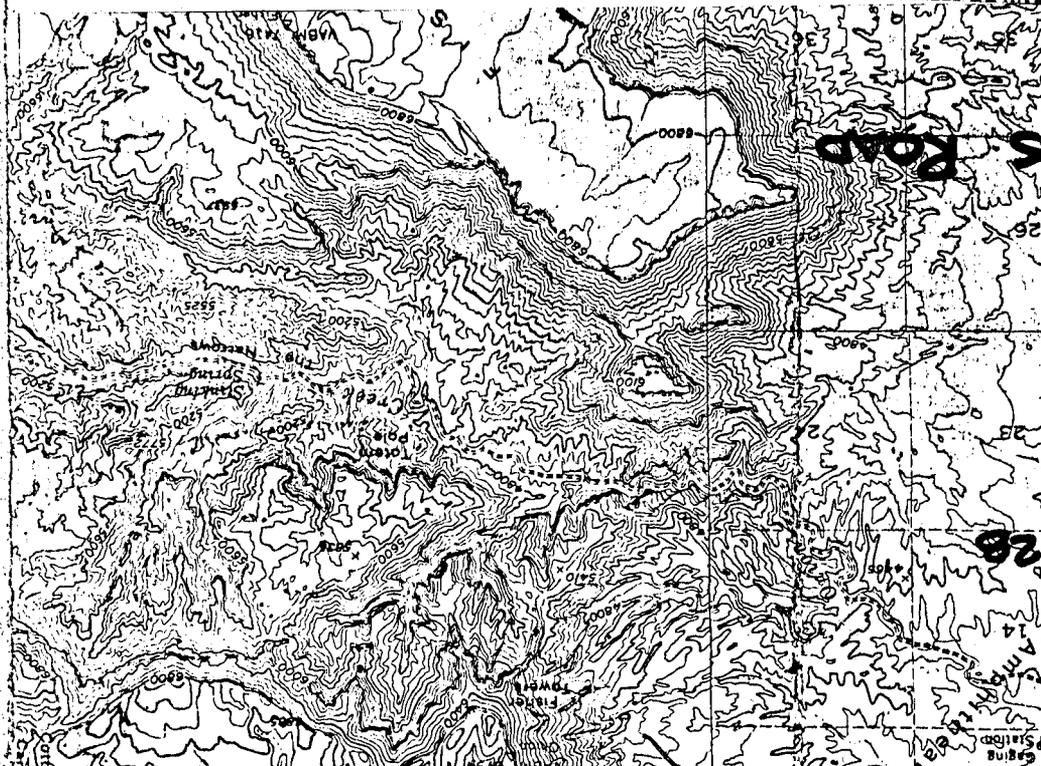
SCALE 1:62500

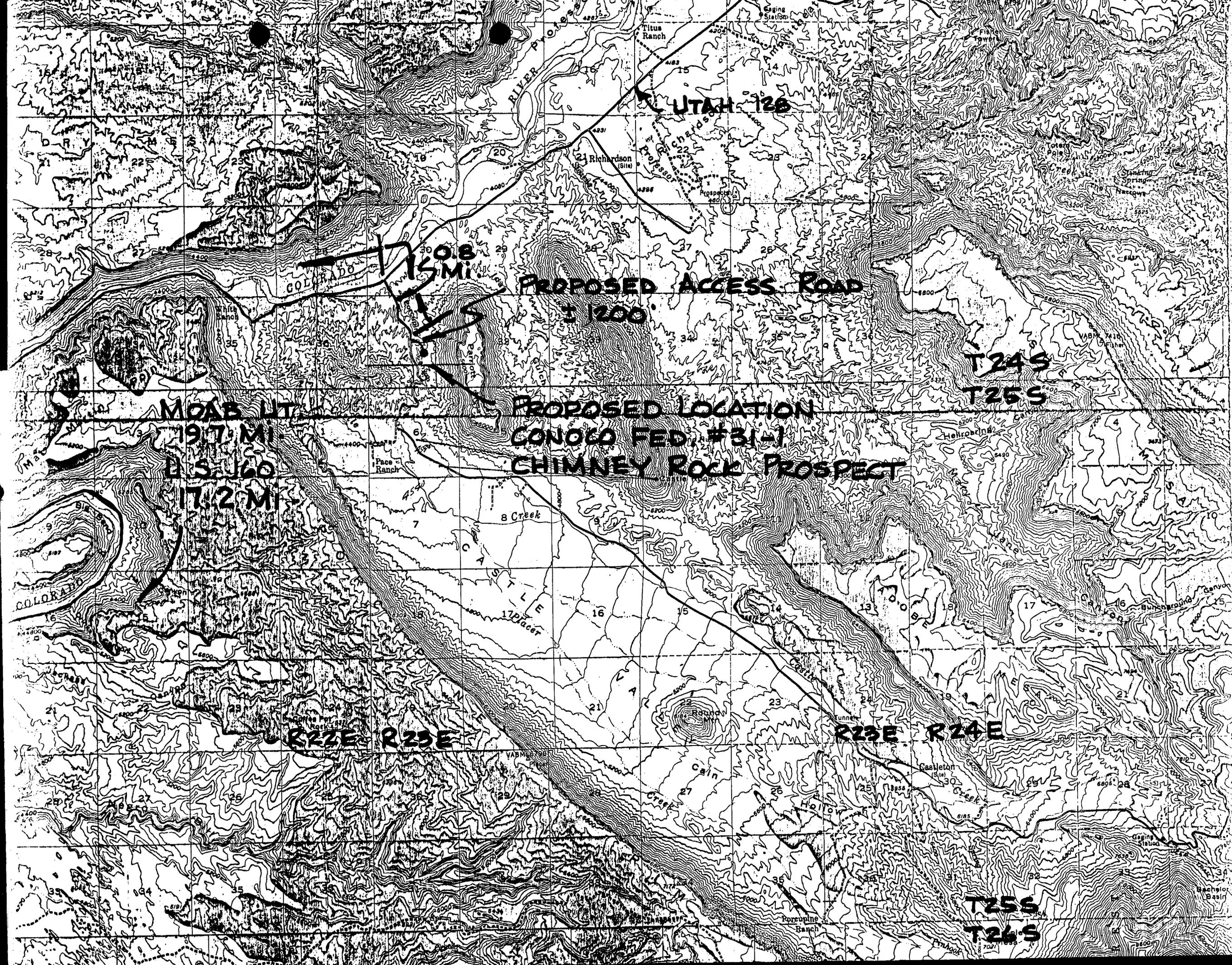
CONTOUR INTERVAL 80 FEET
DATUM IS MEAN SEA LEVEL



UTM GRID AND 1984 MAGNETIC NORTH

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS





UTAH 126

MOAB UT
19.7 MI
U.S. 160
17.2 MI

15.08
15 MI
15

PROPOSED ACCESS ROAD
1.1200

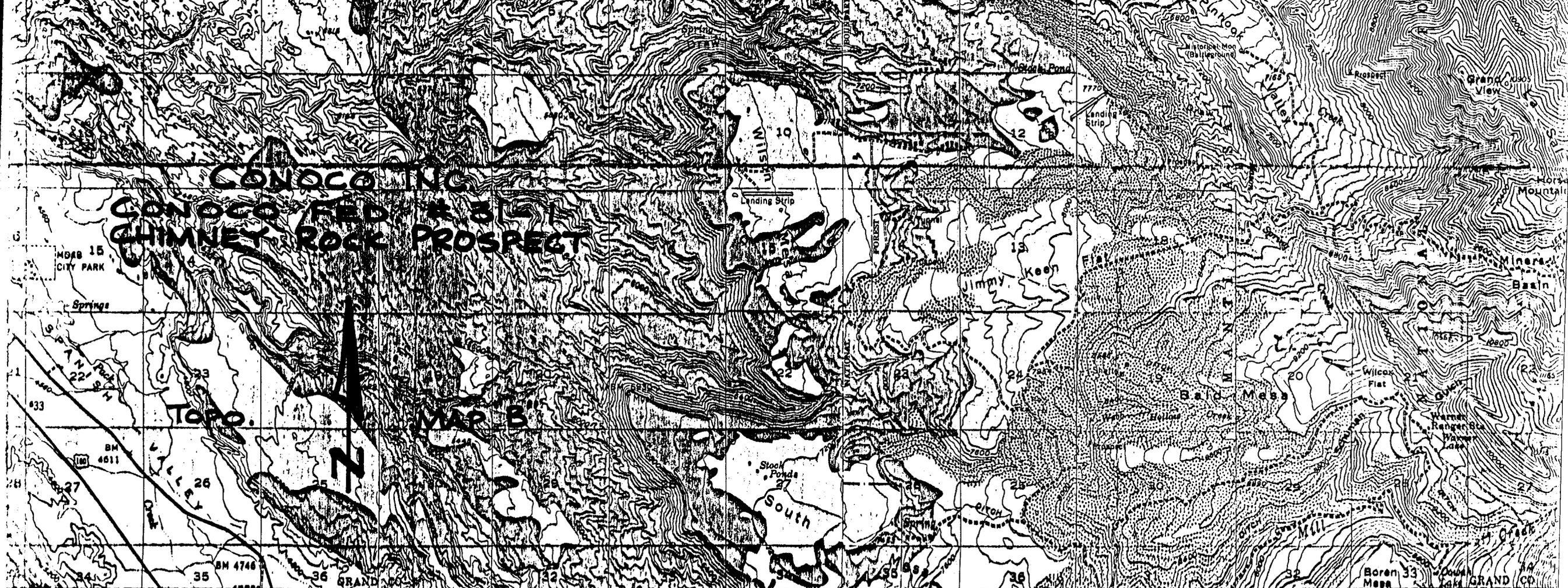
PROPOSED LOCATION
CONOCO FED #31-1
CHIMNEY ROCK PROSPECT

R22E R23E

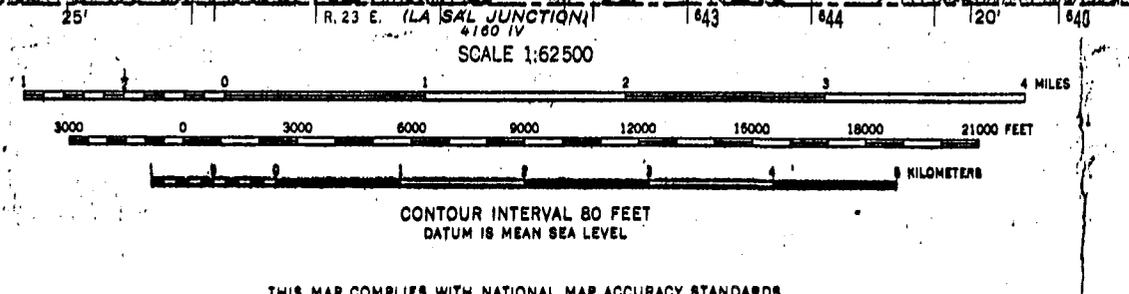
R23E R24E

T24S
T25S

T25S
T26S

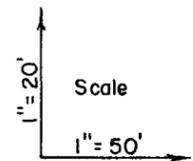
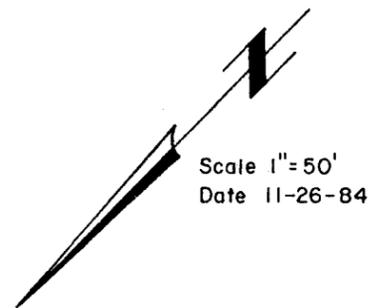
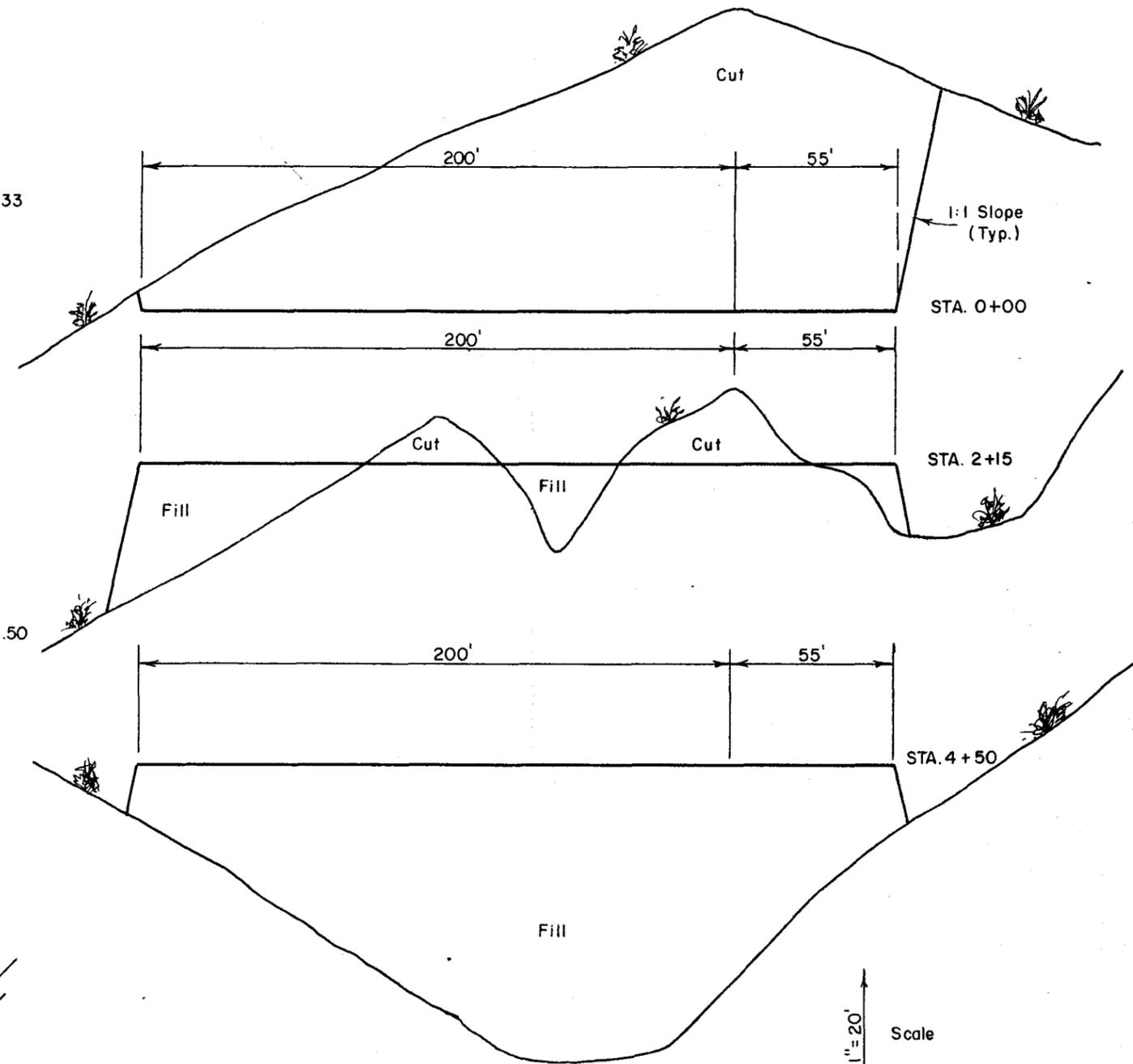
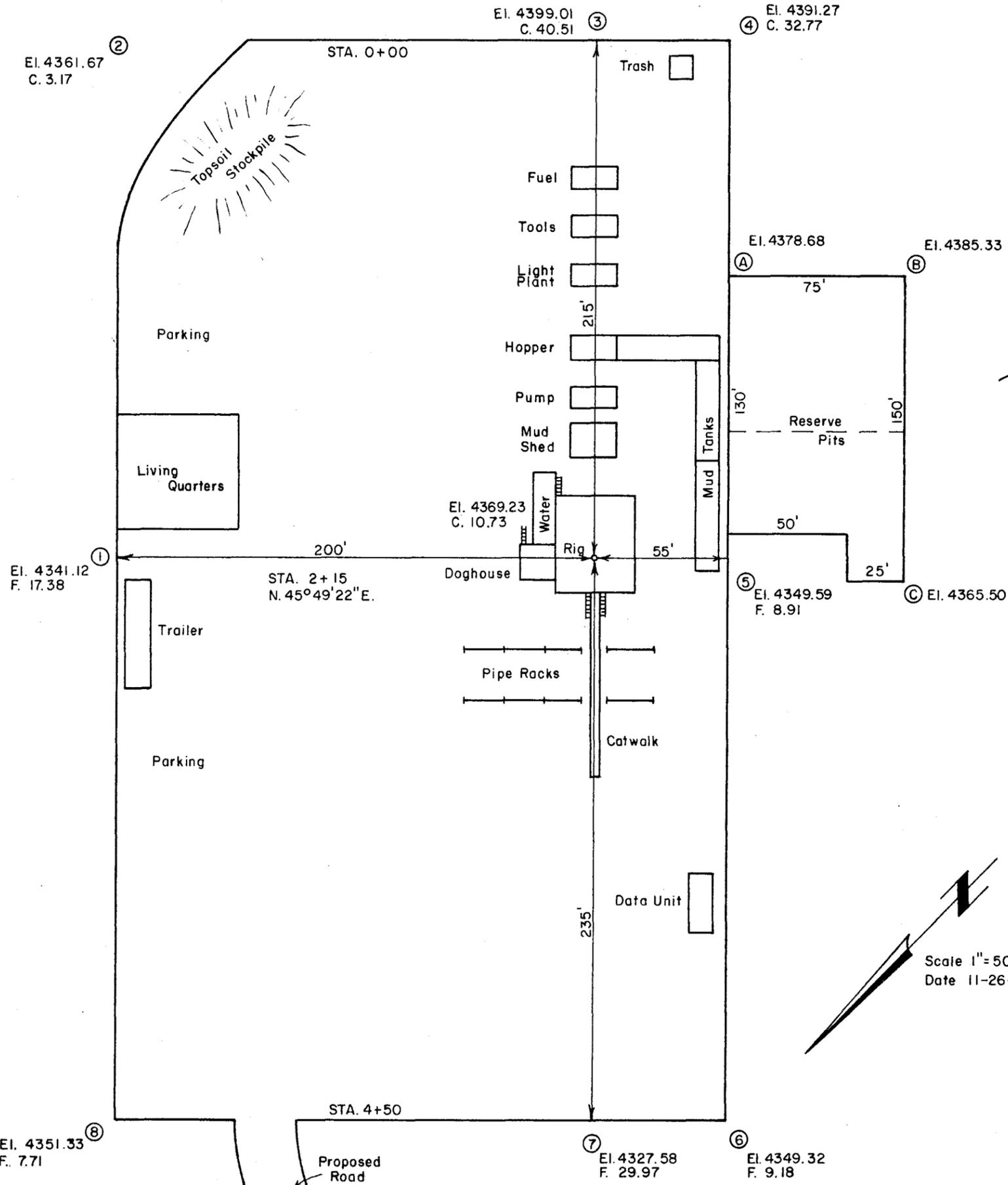


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 1000-meter Universal Transverse Mercator grid ticks,
 zone 12, shown in blue
 Dashed land lines indicate approximate locations
 Unchecked elevations are shown in brown
 UTM GRID AND 1984 MAGNETIC NORTH



ROAD CLASSIFICATION
 Medium-duty _____ Light-duty _____
 Unimproved dirt
 U.S. Route State Route
 QUADRANGLE LOCATION
CASTLE VALLEY, UT
 N3830-W10915/15
 1984

CONOCO INC.
Chimney Rock Prospect
Conoco Fed. #31-1



APPROX. YARDAGES

Cu. Yds. Cut 35,047
Cu. Yds. Fill 29,554

DUPLICATE COPIES OF WELL HISTORY INFORMATION

OPERATOR Comoro, Inc DATE 12-6-84

WELL NAME Comoro Fed 31 #1

SEC NW 31 T 24S R 23E COUNTY Grand

43-019-31180
API NUMBER

Fed
TYPE OF LEASE

CHECK OFF:

PLAT

BOND

NEAREST WELL

LEASE

FIELD

POTASH OR OIL SHALE

PROCESSING COMMENTS:

No other wells in Sec 31
Need water permit

APPROVAL LETTER:

SPACING: A-3 _____ UNIT

c-3-a _____ CAUSE NO. & DATE

c-3-b

c-3-c

STIPULATIONS:

i - water



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dianne R. Nielson, Ph.D., Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

December 10, 1984

Conoco, Inc.
907 N. Poplar
Casper, Wyoming 82601

Gentlemen:

Re: Well No. Conoco Federal 31 #1 - NW SE Sec. 31, T. 24S, R. 23E
1972' FSL, 1973' FEL - Grand County, Utah

Approval to drill the above referenced oil well is hereby granted in accordance with Rule C-3 (b), General Rules and Regulations and Rules of Practice and Procedure, subject to the following stipulations:

1. Prior to commencement of drilling, receipt by the Division of evidence providing assurance of an adequate and approved supply of water.

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

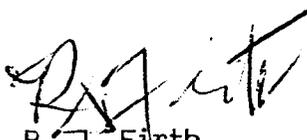
1. Spudding notification to the Division within 24 hours after drilling operations commence.
2. Submittal to the Division of completed Form OGC-8-X, Report of Water Encountered During Drilling.
3. Prompt notification to the Division should you determine that it is necessary to plug and abandon this well. Notify John R. Baza, Petroleum Engineer, (Office) (801) 538-5340, (Home) 298-7695 or R. J. Firth, Associate Director, (Home) 571-6068.
4. Compliance with the requirements and regulations of Rule C-27, Associated Gas Flaring, General Rules and Regulations, Oil and Gas Conservation.

Conoco, Inc.
Well No. Conoco Fed. 31 #1
December 10, 1984
Page 2

5. This approval shall expire one (1) year after date of issuance unless substantial and continuous operation is underway or an application for an extension is made prior to the approval expiration date.

The API number assigned to this well is 43-019-31180.

Sincerely,



R. J. Firth
Associate Director, Oil & Gas

as
Enclosures
cc: Branch of Fluid Minerals

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T24S, R23E

12. COUNTY OR PARISH | 13. STATE

Grand

UT

SUNDRY NOTICES AND REPORTS ON WELLS
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

Conoco Inc.

3. ADDRESS OF OPERATOR

907 N. Poplar, Casper, WY 82601

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

1,972' FSL, 1,973' FEL, NW/SE

RECEIVED
DEC 10 1984

DIVISION OF
OIL, GAS & MINING

14. PERMIT NO.

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

4,369' GL

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

NOTICE OF INTENTION TO :

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF :

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Permission is requested to amend the Application for Permit to Drill, submitted Nov. 27, 1984 for the well mentioned above. It is proposed to change item five of the thirteen-point surface use plan attached to the APD as follows:

Delete: At the present time, it is anticipated that the water for this well will be purchased from private sources in Moab, Utah.

Add: Water to drill this well will be taken from the Castle Creek, in the NE $\frac{1}{4}$ of Sec. 35, T24S, R22E. Little or no disturbance of the surface will be required for the water trucks to reach the creek because it is very close to the highway in this area. Application to appropriate this water has been made to the State of Utah.

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

SIGNED

J. Thompson

TITLE

Admin. Supervisor

DATE

12/6/84

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

BLM-Moab(3)

UOGCC(2)

File 3708

*See Instructions on Reverse Side



Mark K. Mosley
Division Manager
Production Department

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

December 10, 1984

RECEIVED
DEC 13 1984

Division of Oil, Gas & Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

DIVISION OF
OIL, GAS & MINING

Attention: John Baza

Gentlemen:

Application for Bottom Hole Exception Location
Conoco Federal 31 No. 1
NW SE Section 31, T24S, R23E
Grand County, Utah

Conoco Inc. has made application for permit to drill the subject well at a surface location 1972' FSL and 1973' FEL of Section 31, T24S, R23E in Grand County, Utah. The well will be drilled to a total depth of 11,715' to test the Mississippian Leadville Formation.

The surface location of the well is a proper location, pursuant to Rule C-3(b). Inasmuch as all of Section 31, T24S, R23E is part of U.S. Lease Utah-50694, with Conoco Inc. as lessee, Conoco requests permission to drill the 31 No. 1 well to a bottom hole location anywhere in the SE $\frac{1}{4}$ of Section 31, so long as the bottom hole location is not less than 500' from the east and south boundary lines of the section. By allowing the wellbore to drift, the costs of directional control will be minimized. A directional survey will be run and will be furnished when the well reaches total depth.

If you have any questions concerning this application, please call Ron Beamer, of this office.

Yours very truly,

Mark K. Mosley
Mark K. Mosley
Division Manager

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 12/19/84
BY: John R. Baza

jb

Condition of approval:

cc: APE
TCT
SLP

1. Directional surveys will be run for determination of the bottomhole location of the well when completed.

C. V. S. R. Box 2210
Moab, Utah 84532
December 28, 1984

RECEIVED
DEC 31 1984

DIVISION OF
OIL, GAS & MINING

Gene Nodine
Moab District Manager
Bureau of Land Management
P.O. Box 970
Moab, Utah 84532

Re: Conoco Federal 31-1

Section 31, T24S, R23E
Grand Co.

Dear Sir:

I live within one mile of this proposed project in a community that has had a land-use plan existing as a legal entity for over twelve years. Conoco's project conflicts with this plan in many areas most notably the noise and visual impacts of the drilling operation itself.

My personal concerns as a resident and property owner within this one mile boundary are:

1. All traffic hazards associated with transportation, construction, assembly, operation and removal of the drilling equipment and associated support equipment and activities.
2. Possible contamination of the aquifer that my culinary well is located in by drilling fluids and/or cross-strata migration of water, brine, oil, gas or anything else encountered by drilling to this depth.
3. Disruption and/or denial of access both to my property and to such services as fire protection, ambulance service, hospital services, law enforcement and other public services.
4. Possibility of personal injury and/or death as a result of H₂S emissions from the proposed drill site.
5. Possibility of future development associated with oil/gas field production and the compounding of effects that this increased activity would have with the above mentioned concerns and conflicts that this increased development would have with both existing land-use planning in this area and the quality of life and lifestyle that this land-use planning has created.

I understand that not all of these issues and concerns can be addressed in an Environmental Assessment. Therefore, I am requesting an Environmental Impact Statement on this project. This is the only means to analyze any impact that may occur off-site. Also an EIS could and should address the possible future development scenarios that need to be considered before the BLM creates an irretrievable commitment of resources.

Some additional items that can only be addressed in an EIS and that I feel should be mentioned are:

1. Air quality and movement within the two mile federal and state safety zone surrounding the proposed drill site.
2. Safety planning and evacuation contingency plans in the event of a release of H₂S from the drill site. (This plan has to address the safety of residents within two miles of the site as well as the possibility of recreational users and tourists within this area.)
3. Effects of this project and possible future development on recreational users and tourism both in the immediate area and adjoining areas. (One possibility could be oilfield development and associated flaring affecting air quality and impinging upon the Integral Vistas Program in Arches National Park.)

My concern for any future development scenarios and their inclusion in the studies done on this project is the result of a person-to-person talk with Mr. Mike Rooney, a representative of Conoco. On December 21, 1984, during this conversation, it was mentioned that this was one of many proposed drillsites for Conoco in this area. The area mentioned was approximately twelve square miles and included most of the Richardson Amphitheater and Professor Valley. At present, tourism and recreational use of this land is this area's only stable economic resource. Any boom-and-bust development that could adversely affect this resource should not be permitted.

The Grand Resource Area Office of the BLM is in charge of this project. To date, this proposed project has not been handled adequately by the staff dealing with this situation. This inadequacy is evident in initial lack of concern for possible conflicts with an existing and developed economic resource (tourism), and in not following the provisions of the Organic Act. The resource area manager seems to be derelict in the performance of his duties as he is the responsible individual at that office.

One example of this dereliction of duty is in the processing of the original APD under a categorical exclusion. There are other irregularities in the handling of the permit process dealing with Conoco's APD. Because

Anderson-page three

of these circumstances I am asking you to relieve Pete Christensen of his duties in the Grand Resource Area office until it can be shown through an objective evaluation why he didn't follow the provisions of the law in handling this permitting process.

The findings of the investigation of this irregularity should be made available to the public. It is our public lands that you are administering. It is essential that all provisions of all applicable procedures and laws be followed in the performance of this administrative responsibility. Because of the above mentioned breach of public trust I feel that any action or processing of Conoco's application for a permit to drill should be suspended until your in-house investigation is complete and a matter of public record.

I would like to thank the BLM for having finally recognized the need for public comment on this proposal, however I feel that two weeks is not long enough. I am requesting a thirty day comment period on the draft EA as well as a thirty day comment period on the final EA before any decision is made.

Once again I urge you to evaluate your in-house irregularities before you proceed any further with this process.



C.W. Anderson

mm:cwa

cc: Roland Robison, State Director, BLM
Dianne R. Nielson, Ph.D., Division Director, State of Utah Natural Resources, Oil, Gas, and Mining
Pete Christensen, Manager, Grand Resource Area

C. V. S. R. Box 2210
Moab, Utah 84532
December 28, 1984

RECEIVED
DEC 31 1984

DIVISION OF
OIL, GAS & MINING

Gene Nodine
Moab District Manager
Bureau of Land Management
P.O. Box 970
Moab, Utah 84532

Re: Conoco Federal 31-1

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1. All traffic hazards associated with transportation, construction, assembly, operation and removal of the drilling equipment and associated support equipment and activities.
2. Possible contamination of the aquifer that my culinary well is located in by drilling fluids and/or cross-strata migration of water, brine, oil, gas or anything else encountered by drilling to this depth.
3. Disruption and/or denial of access both to my property and to such services as fire protection, ambulance service, hospital services, law enforcement and other public services.
4. Possibility of personal injury and/or death as a result of H₂S emissions from the proposed drill site.
5. Possibility of future development associated with oil/gas field production and the compounding of effects that this increased activity would have with the above mentioned concerns and conflicts that this increased development would have with both existing land-use planning in this area and the quality of life and lifestyle that this land-use planning has created.

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1. Air quality and movement within the two mile federal and state safety zone surrounding the proposed drill site.
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3. Effects of this project and possible future development on recreational users and tourism both in the immediate area and adjoining areas. (One possibility could be oilfield development and associated flaring affecting air quality and impinging upon the Integral Vistas Program in Arches National Park.)

My concern for any future development scenarios and their inclusion in the studies done on this project is the result of a person-to-person talk with Mr. Mike Rooney, a representative of Conoco. On December 21, 1984, during this conversation, it was mentioned that this was one of many proposed drillsites for Conoco in this area. The area mentioned was approximately twelve square miles and included most of the Richardson Amphitheater and Professor Valley. At present, tourism and recreational use of this land is this area's only stable economic resource. Any boom-and-bust development that could adversely affect this resource should not be permitted.

The Grand Resource Area Office of the BLM is in charge of this project. To date, this proposed project has not been handled adequately by the staff dealing with this situation. This inadequacy is evident in initial lack of concern for possible conflicts with an existing and developed economic resource (tourism), and in not following the provisions of the Organic Act. The resource area manager seems to be derelict in the performance of his duties as he is the responsible individual at that office.

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Anderson-page three

of these circumstances I am asking you to relieve Pete Christensen of his duties in the Grand Resource Area office until it can be shown through an objective evaluation why he didn't follow the provisions of the law in handling this permitting process.

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I would like to thank the BLM for having finally recognized the need for public comment on this proposal, however I feel that two weeks is not long enough. I am requesting a thirty day comment period on the draft EA as well as a thirty day comment period on the final EA before any decision is made.

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C.W. Anderson

mm:cwa

cc: Roland Robison, State Director, BLM
Dianne R. Nielson, Ph.D., Division Director, State of Utah Natural Resources, Oil, Gas, and Mining
Pete Christensen, Manager, Grand Resource Area

APPENDIX II
CONOCOS PROPOSED ACTION

Attached to Form 3160-3

10-POINT DRILLING PROGRAM
 CONOCO FEDERAL 31 NO. 1
 GRAND COUNTY, UTAH

1. The geologic name of the surface formation:

Permian Cutler

2. Estimated tops of important geologic markers:

<u>Formations</u>	<u>Drilled Depth</u>	<u>Subsea Depth</u>
-------------------	----------------------	---------------------

CONFIDENTIAL

3. Waterbearing zones:

The only known water bearing formations are the red clay and gravel formations which we anticipate to be at approximately 70'. The domestic water well closest to the proposed location is in the SW/4 of Section 6, T25S, R23E, and is completed at a depth of 128'. The casing and cementing program indicated below will provide adequate protection of these freshwater formations.

4. Proposed casing program:

All new casing.

See Form 3160-3 for cementing program. Conoco will ensure that all potentially productive hydrocarbon zones will be cemented off behind the pipe.

The estimated cement tops will be as follows:

Conductor	-	Cement to surface
Surface	-	Cement to surface
Production	-	TOC @ 9,000'

All casing will be pressure tested after it has been installed. Casing will be tested to the following specifications:

Conductor	-	1,000 psi
Surface	-	1,500 psi
Production	-	1,500 psi

0- 300'	20" 94 lb/ft, H-40 ST&C
0- 3,000'	13 3/8", 61 lb/ft, K-55 ST&C
0-11,715'	7", 23, 26, 29 & 32 lb/ft, N-80 LT&C

Rec'd MDC 11 7 1985

Note: If a salt section is encountered, an alternative casing will be used as outlined in the addendum to this drilling plan.

10-Point Drilling Program
 Conoco Federal 31 No. 1
 November 27, 1984 (Rev.)
 Page Three

9. Abnormal pressures and temperatures:

We do not anticipate encountering any abnormal pressures or temperatures. If encountered, a BOP will be used for control while drilling with mud. Mud weight will be increased if necessary to ensure adequate control. No H₂S has been encountered during the drilling of any wells in this area.

However, the State of Utah requires an H₂S plan for all wildcat wells, even though the chances of encountering H₂S are extremely low. The drilling records for the following wells have been investigated and no reports of H₂S were found:

Onion Creek Unit No. 2	Sec. 13, T24S, R23E
Onion Creek Unit No. 1	Sec. 31, T23S, R24E
Mobil Federal No. 1	Sec. 7, T24S, R25E
Onion Creek Federal No. 1	Sec. 18, T24S, R25E
Pace No. 1	Sec. 12, T26S, R25E
Burkholder No. 1	Sec. 1, T26S, R22E
Castle Valley Unit No. 1	Sec. 16, T25S, R23E

The H₂S contingency plan (attached) will be adhered to at all times.

10. Starting date and duration:

The well will be spudded approximately February 15, 1985. It is expected that drilling operations will require 150 days to complete.

Attached to Form 3160-3
Conoco Federal #31-1 Chimney Rock Prospect
November 27, 1984 (Rev.)
Page 2

There will be a 36" culvert required at the first major dry wash crossing, located in the first 100' along this road. There is another dry wash crossing which will require extensive up-grading. Straw bales will be placed along sides of up-grading in both major washes to control erosion.

There will be no turnouts required along this access road.

There are no fences encountered along this access road; therefore, there are no gates or cattleguards required.

The lands involved in this action are under B.L.M. jurisdiction. Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will require advance approval by the Area Manager.

The terrain that is traversed by this road is relatively broken. It is sparsely vegetated with sagebrush and grasses.

3. Existing Wells:

See Topographic Map "B."

There are no known commercial water wells, producing wells, abandoned wells, disposal wells, drilling wells, shut-in wells, injection wells, monitoring or observation wells for other resources located within a one-mile radius of this location site. The only known wells within a one mile radius of the proposed well are 3 domestic water wells in the SW/4 of Sec. 6, T25S, R23E.

4. Location of Existing and Proposed Facilities

There are no other CONOCO INC. tank batteries, production facilities, oil gathering lines, gas gathering lines, injection lines, or disposal lines within a one mile radius of this location site.

A welded steel tank will be placed on the location site to contain liquid hydrocarbons that are produced by this well.

The area will be built, if possible, with native materials and if these materials are not available then the necessary arrangements will be made to get them from private sources. Because this is a wildcat well, the production facilities cannot be anticipated at this time. If production is established, approval to construct necessary facilities will be secured before construction begins. Any production facilities built will be painted non-reflective Largo Red.

Form 3160-5
November 1983
Formerly 9-331)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T24S, R23E

12. COUNTY OR PARISH 13. STATE

Grand

UT

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

Conoco Inc.

3. ADDRESS OF OPERATOR

907 N. Poplar, Casper, WY 82601

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

At surface

1,972' FSL, 1,973' FEL, NW/SE

14. PERMIT NO.

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

4,369' GL

12. COUNTY OR PARISH 13. STATE

Grand

UT

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Conoco proposes to revise the Application for Permit to Drill dated Nov. 27, 1984 for the subject well. Please replace the original pages with the revised pages provided here.

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

SIGNED

Jane D. Bronnenberg

TITLE

Admin. Supervisor

DATE

12/28/84

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

BLM - Moab(3)

UOGCC(2)

WIO

File 3708

*See Instructions on Reverse Side

Form 3160-3
Conoco Federal 31 No. 1
Nov. 27, 1984
Page Two

An archeological survey of the well site and access road was made on September 25, 1984 by the AERC Corporation of Bountiful, Utah.

No H₂S has been encountered during the drilling of any wells in this area. However, the State of Utah requires an H₂S plan be prepared for all wildcat wells even though the chances of encountering H₂S are very low. The drilling records for the following wells have been investigated and no reports of H₂S were found:

Onion Creek Unit No. 2	Sec. 13, T24S, R23E
Onion Creek Unit No. 1	Sec. 31, T23S, R24E
Mobil Federal No. 1	Sec. 7, T24S, R25E
Onion Creek Federal No. 1	Sec. 18, T24S, R25E
Pace No. 1	Sec. 12, T26S, R25E
Burkholder No. 1	Sec. 1, T26S, R22E
Castle Valley Unit No. 1	Sec. 16, T25S, R23E

An H₂S contingency plan has been prepared and is hereto attached. Conoco Inc. and its contractors will adhere to this plan in order to ensure the safety of all employees and to protect the environment of the area.

Attachments:

- 1) Survey plat
- 2) 10-point drilling program w/addendum
- 3) BOP diagram
- 4) 13-point surface use plan w/maps and site layout
- 5) H₂S contingency plan

Les Dobson ph. 259-6111
BLM - Moab

Conoco well in Castle Valley,
- This is ~~sensitive~~ sensitive area and they
are trying to establish H₂S contamination
potential. There have been no figures
postulated for potential hydrocarbon flow
rates and H₂S concentrations for the
well. Need some kind of number
or volume to begin modelling.

Use Lisbon field as worse case.

Lisbon Unit Well No. A-911
prod. about 200 Mcf/D.

Looking rest of Lisbon Unit, an
average well probably makes about
1000 Mcf/D

Using worst case of 10% \Rightarrow 100,000 cf
of H₂S each
day.

Using low estimate of 0.03% \Rightarrow 300 cf
of H₂S each
day.

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

SUBMIT IN TRIPPLICATE*
(Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T24S, R23E

12. COUNTY OR PARISH | 13. STATE

Grand

Utah

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Conoco Inc.

3. ADDRESS OF OPERATOR
907 North Poplar, Casper, Wyoming 82602

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

1,972' FSL , 1,973' FEL (NW/SE)

14. PERMIT NO. | 15. ELEVATIONS (Show whether DF, RT, GR, etc.)

4369' GL

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Conoco proposes to amend the H₂S Contingency Plan, submitted with our APD dated November 27, 1984, as shown on the attached pages. This list will be added to the existing Plan under the 'Emergency Telephone Numbers' section.

Please contact this office if additional information is required.

RECEIVED
DEC 28 1984

DIVISION OF
OIL, GAS & MINING

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

SIGNED J. Thompson TITLE Administrative Supervisor DATE December 20, 1984

(This space for Federal or State office use)

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

BLM - Moab (3) UOGCC (2) File 3708

*See Instructions on Reverse Side

AREA RESIDENTS AMENDED

George Rybka	(801)259-8427
Richard Stucki	259-7708
Lou Schmidt	259-3554
Ron Drake	259-7525 (work)
Godwin	259-8464
Miller	259-8364
Montaque	259-7803
Wilson	259-8259
Stu & E.J. Smythe	259-6613
George Ottinger	259-5255
Lin Kolb	" "
Joe & Stacy Kingsley	259-6304
Robert Lippman	259-7008
Gary & Ruth Fitzsimmons	259-8683
Ken Drogin	259-8274
Pam DeVore	259-5573
Dave & Lois Wagstaff	259-5077
Curt Gregga	259-8806
Roger Lowry	259-6589
Michael Omana & Milly Dezelsky	259-7620
Bill Hedden	259-5284
Michael Harper	259-5786
Donna Bowthorpe	259-5869
Monte Bowthorpe	259-5059

AREA RESIDENTS (cont.)

Serwind Netzler (801) 259-7077
(have preschool with 9 children)

Castle Valley Academy 259-5786
(have appx. 60 people)

Castle Valley River Ranchos
Property Owners Assoc.
P.O.Box 815
Moab,Ut.84532

George Ottinger 259-5255 after 6:00 pm

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE*
(Other instructions on re-verse side)

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

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Wildcat

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Sec. 31, T24S, R23E

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2. NAME OF OPERATOR

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3. ADDRESS OF OPERATOR

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At surface

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

4,369' GL

12. COUNTY OR PARISH 13. STATE

Grand

UT

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NOTICE OF INTENTION TO:

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PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT*

(Other)

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

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RECEIVED
JAN 03 1985

DIVISION OF
OIL, GAS & MINING

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

SIGNED

Jane J. Bronnenberg

TITLE Admin. Supervisor

DATE 12/28/84

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

~~BLM - Mead(3)~~

UOGCC(2)

WIO File 3708

*See Instructions on Reverse Side

Attached to Form 3160-3

10-POINT DRILLING PROGRAM
CONOCO FEDERAL 31 NO. 1
GRAND COUNTY, UTAH

1. The geologic name of the surface formation:

Permian Cutler

2. Estimated tops of important geologic markers:

<u>Formations</u>	<u>Drilled Depth</u>	<u>Subsea Depth</u>
Penn. Hermosa	8,750'	-4,030'
Miss. Leadville	11,215'	-6,495'
Dev. Ouray	11,715'	-6,995'

3. Waterbearing zones:

The only known water bearing formations are the red clay and gravel formations which we anticipate to be at approximately 70'. The domestic water well closest to the proposed location is in the SW/4 of Section 6, T25S, R23E, and is completed at a depth of 128'. The casing and cementing program indicated below will provide adequate protection of these freshwater formations.

4. Proposed casing program:

All new casing.

See Form 3160-3 for cementing program. Conoco will ensure that all potentially productive hydrocarbon zones will be cemented off behind the pipe.

The estimated cement tops will be as follows:

Conductor	-	Cement to surface
Surface	-	Cement to surface
Production	-	TOC @ 9,000'

All casing will be pressure tested after it has been installed. Casing will be tested to the following specifications:

Conductor	-	1,000 psi
Surface	-	1,500 psi
Production	-	1,500 psi

0- 300'	20" 94 lb/ft, H-40 ST&C
0- 3,000'	13 3/8", 61 lb/ft, K-55 ST&C
0-11,715'	7", 23, 26, 29 & 32 lb/ft, N-80 LT&C

There will be a 36" culvert required at the first major dry wash crossing, located in the first 100' along this road. There is another dry wash crossing which will require extensive up-grading. Straw bales will be placed along sides of up-grading in both major washes to control erosion.

There will be no turnouts required along this access road.

There are no fences encountered along this access road; therefore, there are no gates or cattleguards required.

The lands involved in this action are under B.L.M. jurisdiction. Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will require advance approval by the Area Manager.

The terrain that is traversed by this road is relatively broken. It is sparsely vegetated with sagebrush and grasses.

3. Existing Wells:

See Topographic Map "B."

There are no known commercial water wells, producing wells, abandoned wells, disposal wells, drilling wells, shut-in wells, injection wells, monitoring or observation wells for other resources located within a one-mile radius of this location site. The only known wells within a one mile radius of the proposed well are 3 domestic water wells in the SW/4 of Sec. 6, T25S, R23E.

4. Location of Existing and Proposed Facilities

There are no other CONOCO INC. tank batteries, production facilities, oil gathering lines, gas gathering lines, injection lines, or disposal lines within a one mile radius of this location site.

A welded steel tank will be placed on the location site to contain liquid hydrocarbons that are produced by this well.

The area will be built, if possible, with native materials and if these materials are not available then the necessary arrangements will be made to get them from private sources. Because this is a wildcat well, the production facilities cannot be anticipated at this time. If production is established, approval to construct necessary facilities will be secured before construction begins. Any production facilities built will be painted non-reflective Largo Red.

Form 3160-3
Conoco Federal 31 No. 1
Nov. 27, 1984
Page Two

An archeological survey of the well site and access road was made on September 25, 1984 by the AERC Corporation of Bountiful, Utah.

No H₂S has been encountered during the drilling of any wells in this area. However, the State of Utah requires an H₂S plan be prepared for all wildcat wells even though the chances of encountering H₂S are very low. The drilling records for the following wells have been investigated and no reports of H₂S were found:

Onion Creek Unit No. 2	Sec. 13, T24S, R23E
Onion Creek Unit No. 1	Sec. 31, T23S, R24E
Mobil Federal No. 1	Sec. 7, T24S, R25E
Onion Creek Federal No. 1	Sec. 18, T24S, R25E
Pace No. 1	Sec. 12, T26S, R25E
Burkholder No. 1	Sec. 1, T26S, R22E
Castle Valley Unit No. 1	Sec. 16, T25S, R23E

An H₂S contingency plan has been prepared and is hereto attached. Conoco Inc. and its contractors will adhere to this plan in order to ensure the safety of all employees and to protect the environment of the area.

Attachments:

- 1) Survey plat
- 2) 10-point drilling program w/addendum
- 3) BOP diagram
- 4) 13-point surface use plan w/maps and site layout
- 5) H₂S contingency plan

Note: If a salt section is encountered, an alternative casing will be used as outlined in the addendum to this drilling plan.

9. Abnormal pressures and temperatures:

We do not anticipate encountering any abnormal pressures or temperatures. If encountered, a BOP will be used for control while drilling with mud. Mud weight will be increased if necessary to ensure adequate control. No H₂S has been encountered during the drilling of any wells in this area.

However, the State of Utah requires an H₂S plan for all wildcat wells, even though the chances of encountering H₂S are extremely low. The drilling records for the following wells have been investigated and no reports of H₂S were found:

Onion Creek Unit No. 2	Sec. 13, T24S, R23E
Onion Creek Unit No. 1	Sec. 31, T23S, R24E
Mobil Federal No. 1	Sec. 7, T24S, R25E
Onion Creek Federal No. 1	Sec. 18, T24S, R25E
Pace No. 1	Sec. 12, T26S, R25E
Burkholder No. 1	Sec. 1, T26S, R22E
Castle Valley Unit No. 1	Sec. 16, T25S, R23E

The H₂S contingency plan (attached) will be adhered to at all times.

10. Starting date and duration:

The well will be spudded approximately February 15, 1985. It is expected that drilling operations will require 150 days to complete.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)

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

5. LEASE DESIGNATION AND SERIAL NO.
U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Conoco Federal 31

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T24S, R23E

12. COUNTY OR PARISH | 13. STATE
Grand | UT

SUNDRY NOTICES AND REPORTS ON WELLS

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

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Conoco Inc.

3. ADDRESS OF OPERATOR
907 N. Poplar Casper, Wyoming 82601

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)
At surface 1,972' FSL & 1,973' FEL, NW/SE

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, RT, GR, etc.)
4,369' GL

RECEIVED
JAN 11 1985

DIVISION OF
OIL, GAS & MINING

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	(Other) _____	

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Conoco proposes to amend the Application for Permit to Drill dated November 27, 1984 for the subject well. Please add to Form 3160-3, item 23, the following:

Conoco will make arrangements to provide escort vehicles and flagmen when the drilling rig is moved to the drilling location, and again when the rig is removed to a stacking point after completion of drilling operations. Conoco agrees to restrict heavy truck and transport vehicle traffic to those hours of least public use in accordance with requirements of the State of Utah. Exception will be made only in emergency situations.

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

SIGNED [Signature] TITLE Administrative Supervisor DATE January 8, 1985

(This space for Federal or State office use)

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

BLM-Moab(3)
UOGCC(2)
File 3708

*See Instructions on Reverse Side

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

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

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

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T24S, R23E

12. COUNTY OR PARISH | 13. STATE

Grand

UT

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

Conoco Inc.

3. ADDRESS OF OPERATOR

907 N. Poplar Casper, Wyoming 82601 OIL, GAS & MINING

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

At surface
1,972' FSL & 1,973' FEL, NW/SE

14. PERMIT NO.

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

4,369' GL

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT*

(Other)

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Conoco proposes to amend the H₂S Contingency Plan submitted with the Application for Permit to Drill for the subject well. Please add the following to the section labelled Emergency Phone Numbers:

James Rains	259-7936	Carl Anderson	259-7062
James Oakden	259-8802	Jerald Ehlers	259-7219
Andrew A. Riley	259-8453	Earl Hotz	259-5522
Flora Najafi	259-8453	Jarmon	*
William McClure	259-6629	Bill Riggs	*
		Gary Fitzsimmons	*

*Phone numbers are unavailable. An attempt will be made to obtain these numbers prior to spud. In the event of an emergency, area residents will be asked to notify them. The Sheriff's office will also be contacted.

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

SIGNED

J. Thompson

TITLE

Administrative Supervisor

DATE

January 9, 1985

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

BLM-Moab(3)

UOGCC(2)

File 3708

*See Instructions on Reverse Side



United States Department of the Interior

IN REPLY REFER TO

BUREAU OF LAND MANAGEMENT

3109 (U-068)

Moab District
Grand Resource Area
P.O. Box M
Moab, Utah 84532

JAN 14 1985

JAN 17 1985

DIVISION OF
OIL, GAS & MINING

Dear Interested Citizen,

Enclosed is a draft Environmental Assessment on the Conoco, Inc., Pace Hill Wildcat Well, proposed to be drilled near the base of Pariott Mesa, in Grand County, Utah.

Issues raised by the public during a 15 day comment period were addressed in the EA. Each issue, such as impacts to local residents has been analyzed.

The public comment period on the draft EA will run from January 14 through January 28. All written comments will be addressed in the Final Ea. The Record of Decision is scheduled for release on January 30, 1985.

Written comments will be accepted by the BLM Grand Resource Area Office, P.O. Box M, Moab, Utah 84532. Questions regarding the EA may be addressed to Pete Christensen, Grand Resource Area Manager (801) 259-8193.

Sincerely yours,


Colin P. Christensen
Area Manager

ENVIRONMENTAL ASSESSMENT COVER SHEET Draft EA [] Final EAEA No. UT-068-85-45Project: Conoco Inc., Pace Hill Wildcat WellApplicant: Conoco Inc., Casper WY Project Location: T. 24 S., R. 23 E., Sec 31 NW $\frac{1}{4}$ SE $\frac{1}{4}$

Intensity of Analysis: [] Minimal [] Low [] Medium (X) High

BLM Office: Grand Resource Area Phone No.: 801-259-8193

List of Preparers:

<u>Name</u>	<u>Title</u>	<u>Resources Assigned</u>
<u>Paul Brown</u>	<u>Oil and Gas Inspector</u>	<u>Reclamation</u>
<u>Mary Plumb</u>	<u>Public Affairs Officer</u>	<u>Public Input</u>
<u>Tom Hare</u>	<u>Inspection and Enforcement Specialist</u>	<u>Transportation, H₂S</u>
<u>Bob Graff</u>	<u>Petroleum Engineer</u>	<u>petroleum Engineering</u>
<u>Bob Milton</u>	<u>Economist</u>	<u>Socio=economics</u>
<u>Les Dobson</u>	<u>Hydrologist</u>	<u>Water, Air</u>
<u>Dave Hansen</u>	<u>Soil Scientist</u>	<u>Soil</u>
<u>Gregg Dawson</u>	<u>Sup. Range Conservationist</u>	<u>Vegetation</u>
<u>Dave Minor</u>	<u>Recreation Planner</u>	<u>VRM, Recreation</u>

Beverly deGruyer - Environmental 1-14-85
 Team Leader Signature/Title Coordinator Date

STIPULATIONS

EA No: UT-068-85-45

Conoco Inc.,
Project: Pace Hill Wildcat Well

Applicant: Conoco Inc., Casper Wyoming

Description of Action Considered: Conoco Proposes to drill a 12,000 ft.

Exploratory well near the base of Pariott Mesa. Drilling will take 150-175
days. H₂S Contingency Plan required.

The following stipulations have been developed through the above referenced Environmental Assessment to mitigate the environmental impacts of this action. The action referenced is described fully in the Environmental Assessment.

Supplemental Stipulations

A. Pre-Construction, General

All lease operations will be conducted in such a manner that full compliance is made with 43 CFR 3160, all Onshore Oil and Gas Orders, NTLs, approved plan of operations, and all applicable state and federal laws. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

The operator will contact the Grand Resource Area manager at 801-259-8193, at least forty-eight (48) hours prior to beginning any dirt work on this location.

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

In accordance with BLM Onshore Oil and Gas Order No. 1, this well will be reported on "Monthly Report of Operations" (BLM Form 3160-6), starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report will be filed directly with the BLM District Office, P.O. Box 970, Hoab, Utah 84532.

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

There will be no deviation from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, will be identified in accordance with 43 CFR 3162.2.

"Sundry Notice and Report on Wells" (BLM Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

The dirt contractor and all subcontractors will be provided with an approved copy of the APD.

A cultural resource clearance permit will be required before any construction begins. If any cultural resources are found during construction, all work will stop and the Grand Resource Area Manager will be notified.

This permit will be valid for a period of one (1) year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.

The well site will be identified as per 43 CFR 3162.6 prior to pad construction.

The appropriate encroachment and oversize highway load permits will be obtained from the Utah Department of Transportation in Price, Utah, prior to moving any equipment to the location. All conditions of such permit(s) will be followed by Conoco and their contractors throughout the full operation.

B. Required Inspections

A pre-construction onsite inspection will be held prior to pad or access road construction. Required participants will be BLM, Conoco, and dirt contractor.

A pre-spudding or pre-drilling inspection will be held prior to rig mobilization to inspect the pad, access road, pit, and pit liner. All participants listed above will be present.

A pre-rehabilitation inspection will be held prior to any reclamation efforts with the above listed participants.

If production is obtained a pre-production inspection will be required to approve production facilities prior to installation.

Other inspections will be held during the life of the project to insure compliance with this permit and all applicable stipulations, laws, and regulations.

C. Construction

Top soil stock pile will be protected from erosion with a plastic or similar cover and marked: "Top soil - Do not use for non-rehabilitation purposes" or a similar sign, and with drainage ditches around the stockpile to contain run off and sediment loss.

Hay or straw bales will be used as sediment filters where sediment from cut or fill areas enters major channels including wash crossings, culvert placement, and at the base of fill slopes.

Wash crossings, culvert locations, and fill slopes adjacent to ephemeral drainages will be rip-rapped with rock 1-2 ft. in diameter to protect these areas from impact by stream flow or run off.

D. Drilling

All fresh water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling will be recorded by depth, cased and cemented. All oil and gas shows will be tested to determine commercial potential.

Bloolie line will be misted to reduce fugitive dust when air drilling.

The BOP's will be capable of actuation by all of the following: (1) manual control for valves, (2) hydraulic controls on the rig floor and at a remote station, and (3) an accumulator system.

The drilling contractor shall conduct regular blowout prevention drills, periodic pressure tests (e.g. at the time of installation, prior to drilling out each casing show, and at least every 30 days), and regular maintenance of the BOP's and related controls. In addition, the pipe and blind rams should be activated at the midpoint of each round trip.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Grand Resource Area manager in accordance with requirements of NTL-3A.

E. Production/Completion

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM 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 3164. 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 "Well Completion and Recompletion Report and Log" (BLM Form 3160-4). Samples (cuttings, fluids, and/or gases) will be submitted when requested by the BLM Moab District Manager.

The spud date will be reported orally to the Grand Resource Area Manager at least 24 hours prior to spudding. Written notification in the form of a "Sundry Notice" (BLM Form 3160-5) will be submitted to the District Office within 24 hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.

If a completion rig is contemplated for completion operations, a "Sundry Notice" (BLM Form 3160-5) will be filed for prior approval of the District Manager. All conditions of the approved drilling plan are applicable during operations conducted with the completion rig. In emergency situations, verbal approval to bring on a completion rig will be approved by the District Petroleum Engineer.

Should the well be successfully completed for production, the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, 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 Grand Resource Area manager will coordinate the field conference.

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

The access road will be rehabilitated or brought to Resource (Class III) Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the Grand Resource Area Manager will be notified so that temporary drainage control can be installed along the access road.

All permanent (onsite for 6 months or longer) production structures (including oil well pump jacks) will be painted a flat, nonreflective, earth tone color to match the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within six (6) months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded. Colors will be as follows: Largo Red (2.5 R 5/6)

If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the battery.

All loading lines and valves will be placed inside the berm surrounding the tank battery.

All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the District Manager.

All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

Gas meter runs for each well will be located within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter along with any other sections occurring on the pad. Meter runs will be housed and/or fenced.

The oil and gas measurement facilities will be installed on the well location. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first 3 months on new meter installations and at least quarterly thereafter. The Grand Resource Area Manager will be provided with a date and time for the initial meter calibration and all future meter-proving schedules. A copy of the meter calibration reports will be submitted to the Grand Resource Area Office. All meter measurement facilities will conform with the API standards for liquid hydrocarbons and the AGA standard for natural gas measurement.

*** Production facilities are not approved at this time. Approval will require an additional onsite and sundry notice.

E. Abandonment/Rehabilitation

No well abandonment operations will be commenced without the prior approval of the District Manager. In the case of newly-drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the BLM District Petroleum Engineer. A "Subsequent Report of Abandonment" (BLM Form 3160-5) will be filed with the BLM District Manager 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. 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 Grand Resource Area Manager.

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The marker will be constructed as follows: Instead of the standard 4 foot marker, information will be on a plate, securely welded to the casing top, 6 inches below surface. The following minimum information will be permanently placed on the plate, beaded-on with a welding torch:

Operator, Well number, location by 1/4 1/4 section, township and range, and Lease number.

All disturbed areas will be recontoured to match the natural terrain (land) around the location.

The stockpiled topsoil will be evenly distributed over the disturbed area.

Prior to reseeding, all disturbed areas, including the access road, will be scarified and left with a rough surface.

Seed will be broadcast or drilled at a time specified by the Grand Resource Area manager. If broadcast, a harrow or some other implement will be dragged over the seeded area to assure seed coverage.

The reserve pit and that portion of the location and access road not needed for production facilities will be reclaimed.

The following seed mixture will be used:

Species		Application Rates: Lbs. per Acre
<u>Grasses</u>		
Agropyron cristatus	Crested wheatgrass (Fairway crested wheatgrass)	2
Hilaria jamesii	Galleta (Curlygrass)	2
Oryzopsis hymenoides	Indian ricegrass	2
<u>Forbs</u>		
Helianthus annuus	Common sunflower (Kansas sunflower)	1
Medicago sativa	Alfalfa	1
Sphaeralcea coccinea	Scarlet globemallow	1
<u>Shrubs</u>		
Atriplex canescens	Fourwing saltbush (White greasewood)	2
Atriplex nuttallii	Nuttall saltbush (Gardner saltbush)	2
Eurotia lanata	Winterfat (Whitesage)	2

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

1b. TYPE OF WELL
 OIL WELL GAS WELL OTHER
 SINGLE ZONE MULTIPLE ZONE

2. NAME OF OPERATOR
 Conoco Inc.

3. ADDRESS OF OPERATOR
 907 N. Poplar, Casper, WY 82601

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
 At surface
 1,972' FSL, 1,973' FEL, NW/SE
 At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*
 Approx. 19 miles NE of Moab, Utah

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any) 1,972'

16. NO. OF ACRES IN LEASE 640

17. NO. OF ACRES ASSIGNED TO THIS WELL 160

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT. None

19. PROPOSED DEPTH 11,715'

20. ROTARY OR CABLE TOOLS Rotary 0'-T.D.

21. ELEVATIONS (Show whether DF, RT, GR, etc.)
 4,369' GL

22. APPROX. DATE WORK WILL START*
 Jan. 1, 1985

5. LEASE DESIGNATION AND SERIAL NO.
 U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
 Conoco Federal 31

9. WELL NO.
 1

10. FIELD AND POOL, OR WILDCAT
 Wildcat/Leadville

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
 Sec. 31, T24S, R23E

12. COUNTY OR PARISH 13. STATE
 Grand UT

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20"	94 lb.	300'	785 sacks Class "G"
17 1/2"	13 3/8"	61 lb.	3,000'	2,080 sacks Class "B" & Light
12 1/4"	7"	23 to 32 lb.	11,715'	1,580 sacks Class "H" with additives

CONFIDENTIAL

RECEIVED
 JAN 17 1985

DIVISION OF
 OIL, GAS & MINING

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 [Signature] TITLE Admin. Supervisor DATE Nov. 27, 1984

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

BLM-Moab(3) UOGCC(2) WIO File 3708

*See Instructions On Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

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

Rec'd GRA DEC 10 1984

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Rec'd MDO DEC 12 1984

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T24S, R23E

14. PERMIT NO.

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

4,369' GL

12. COUNTY OR PARISH | 13. STATE

Grand

UT

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

PCLL OR ALTER CASING

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREAT

MULTIPLE COMPLETE

FRACTURE TREATMENT

ALTERING CASING

SHOOT OR ACIDIZE

ABANDON*

SHOOTING OR ACIDIZING

ABANDONMENT*

REPAIR WELL

CHANGE PLANS

(Other)

(Other)

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Permission is requested to amend the Application for Permit to Drill, submitted Nov. 27, 1984 for the well mentioned above. It is proposed to change item five of the thirteen-point surface use plan attached to the APD as follows:

Delete: At the present time, it is anticipated that the water for this well will be purchased from private sources in Moab, Utah.

Add: Water to drill this well will be taken from the Castle Creek, in the NE $\frac{1}{4}$ of Sec. 35, T24S, R22E. Little or no disturbance of the surface will be required for the water trucks to reach the creek because it is very close to the highway in this area. Application to appropriate this water has been made to the State of Utah.

RECEIVED

JAN 17 1985

DIVISION OF OIL, GAS & MINING

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

SIGNED

J. Thompson

TITLE Admin. Supervisor

DATE 12/6/84

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

BLM-Moab(3) UOGCC(2) File 3708

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

JAN 11 1985

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T24S, R23E

12. COUNTY OR PARISH 13. STATE

Grand UT

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

Conoco Inc.

3. ADDRESS OF OPERATOR

907 N. Poplar Casper, Wyoming 82601

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

1,972' FSL & 1,973' FEL, NW/SE

14. PERMIT NO.

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

4,369' GL

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Conoco proposes to amend the H₂S Contingency Plan submitted with the Application for Permit to Drill for the subject well. Please add the following to the section labelled Emergency Phone Numbers:

James Rains
James Oakden
Andrew A. Riley
Flora Najafi
William McClure

Carl Anderson
Jerald Ehlers
Earl Hotz
Jarmon
Bill Riggs
Gary Fitzsimmons

*
*
*

*Phone numbers are unavailable. An attempt will be made to obtain these numbers prior to spud. In the event of an emergency, area residents will be asked to notify them. The Sheriff's office will also be contacted.

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

SIGNED

J. Morrison

TITLE Administrative Supervisor

DATE January 9, 1985

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

BLM-Moab(3)

UOGCC(2)

File 3708

TITLE

DATE

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Rec'd GRA DEC 28 1984

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NO.
U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Conoco Federal 31

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T24S, R23E

12. COUNTY OR PARISH 13. STATE
Grand Utah

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR
Conoco Inc.

3. ADDRESS OF OPERATOR
907 North Poplar, Casper, Wyoming 82602

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
1,972' FSL , 1,973' FEL (NW/SE)

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, GR, etc.)
4369' GL

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) <input type="checkbox"/>			

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Conoco proposes to amend the H₂S Contingency Plan, submitted with our APD dated November 27, 1984, as shown on the attached pages. This list will be added to the existing Plan under the 'Emergency Telephone Numbers' section.

Please contact this office if additional information is required.

RECEIVED
JAN 17 1985
DEPARTMENT OF
OIL, GAS & MINING

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

SIGNED J. Thompson TITLE Administrative Supervisor DATE December 20, 1984

(This space for Federal or State office use)

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

BLM - Moab (3) UOGCC (2) File 3708

*See Instructions on Reverse Side

AREA RESIDENTS AMENDED

George Rybka
Richard Stucki
Lou Schmidt
Ron Drake
Godwin
Miller
Montaque
Wilson
Stu & E.J. Smythe
George Ottinger
Lin Kolb
Joe & Stacy Kingsley
Robert Lippman
Gary & Ruth Fitzsimmons
Ken Drogen
Pam DeVore
Dave & Lois Wagstaff
Curt Gregga
Roger Lowry
Michael Omana & Milly Dezelsky
Bill Hedden
Michael Harper
Donna Bowthorpe
Monte Bowthorpe

CONFIDENTIAL

AREA RESIDENTS (cont.)

CONFIDENTIAL

Serwind Netzler
(have preschool with 9 children)

Castle Valley Academy
(have appx. 60 people)

Castle Valley River Ranchos
Property Owners Assoc.
P.O.Box 815
Moab, Ut. 84532

George Ottinger

after 6:00 pm

Box 2106 Castle Valley Star Rte.
Moab, Utah 84532
18 Dec 84

Mr. Pete Christensen:
BLM Moab District

Rec'd GBA DEC 19 1984

I am writing to express my concern over the proposed Cenozo drilling site(s) project on Pace Hill near Castle Valley. Unresolved questions include:

- ① Danger of Hydrogen Sulfide Leakage & possible need for subsequent evacuation of Castle Valley residents. What plans have been made for such a scheme?
- ② Traffic & Transportation Hazards
State Road 128 is our lifeline. It is the only winter access to Castle Valley & conditions are often slippery. Heavy equipment-bearing trucks, passenger cars, school buses & emergency vehicles already share this road. The more traffic, the greater the hazard - this will become especially important when the Fisher Point oil-drilling rig is eventually dismantled & transported. Another consideration is road deterioration resulting from heavy truck use.

What thought has been given to transportation?



Property Owners Association

P.O. Box 845, Moab, Utah 84532

December 18, 1984

Mr. Gene Nodine
Moab District Manager
Bureau of Land Management
P. O. Box 970
Moab, UT 84532

Dear Sir:

The Castle Valley Property Owners Association (POA) represents a planned, purposeful community of around 300 landowners in Castle Valley, not including the Castle Valley Institute or the smaller community of Castleton. Recognizing the high quality of rural life available in Castle Valley, we accordingly enforce a strict body of covenants, conditions, and restrictions reflecting these values.

We are at present concerned that plans for oil and gas development in Castle Valley and its immediate, outlying areas, may cause considerable conflict with these values, purposes, and land-use plans. Such development may also pose an immediate threat to public welfare and safety, property values, and environmental/aesthetic values.

Our most immediate concern involves additional traffic hazards and delays which may be caused by the constant flow of heavy or oversized trucks on State Highway 128 and the La Sal Mountain Loop Road. This route is the Valley's only viable access, and at present, poses a high risk for traffic due to sharp turns, blind curves, narrow passes, the effect of icy conditions, and the constant need for maintenance. Two school busses presently make a daily round trip to Moab along this route. Additional hazards and reasons for delays could pose an unacceptable risk to school children, and could seriously affect the availability of hospital, police, and fire services to the community's residents and landowners. We also note that these additional hazards would be further compounded by presently increasing traffic from other existing or proposed developments, either along Rt. 128, or in the La Sal Mountains area. The State of Utah, Division of Parks and Recreation, has also addressed certain traffic and use restrictions for Rt. 128 in its recent draft of a Grand County Commission proposal for a scenic highway and parkland designation for Rt. 128. The concept was originally studied and proposed by the BLM in the Colorado River Scenicway Study.



Property Owners Association

P.O. Box 815, Moab, Utah 84532

then be engineered and routed. We understand that leases similar to Conoco's exist both within and immediately adjacent to Castle Valley.

We therefore believe that any meaningful assessment of the impacts of the proposed action should necessarily include a discussion of potential, cumulative and comprehensive impacts under varying degrees or scenarios of development.

We wish to thank the BLM for recognizing the need to prepare an Environmental Assessment with public comment on this proposed action, and we appreciate this opportunity to be involved in the "scoping" process. In formally requesting the EA, however, we recognize that certain critical aspects normally not included in an EA, but often arising under an Environmental Impact Statement process, may need analysis, for meaningful review. This is in consideration of the public controversy involved, the implications of the Federal action requiring a contingency plan for evacuation, and the need to realistically consider cumulative and comprehensive impacts of the present, existing, and potential or anticipated developments, as well as conflicting uses.

We also believe that the BLM should actively involve other interested agencies and organizations in this process, including the Utah Department of Transportation, the Division of State Parks and Recreation, the Division of Water Rights, the Castle Valley Institute, and other users of Rt. 128, including local tour operators.

Again, we thank you for your cooperation and concern, and we would appreciate being notified in the future regarding any notices, proposals, or plans for drilling, mining, or other such activities in Castle Valley, its outlying area, or in areas requiring the use of Rt. 128 or the La Sal Mountain Loop Road.

Respectfully,

Curtis Halls
Chairman of the Board

CH:R.Lippman

cc: Pete Christensen, Grand Resource Area Manager

Gerald H. Kinghorn, Esq.



CASTLE CANYON VINEYARD KEN DROGIN

Box 2106 CVSR MOAB, UTAH 84532

(801) 259-8274

ORCHARD/VINEYARD DEVELOPMENT
IRRIGATION SYSTEMS DESIGN AND INSTALLATION

Mr. Pete Christensen
Moab District Manager
Bureau of Land Management
125 W. 200 South
Moab, Utah

As a resident of Castle Valley, I would like to register the following public comments concerning the deep drilling project proposed by Conoco in the Castle Valley area.

Comment #1 Keeping the peace

Castle Valley is currently zoned for residential, agricultural, and grazing activities. Most Castle Valley residents cherish the peace and quiet we have in our beautiful valley. Conoco is proposing to disturb this peace and quiet with a major industrial development that will not even offer any jobs to unemployed valley residents. We deserve a full environmental impact statement dealing with the possibility of future wells, and production plans. If Conoco feels they must drill so close to a residential area, common courtesy would dictate that they let us know their plans ahead of time. This will allow residents to comment on problem areas before they occur.

Comment #2 Traffic Hazard

To Castle Valley residents U 128 is our life line to the outside world. It is a narrow, windy road, that is icy during the winter. Accidents happen frequently, and for every accident there are probably ten very near misses. There are many blind corners, and almost every resident has had a personal experience going around a blind corner to face a truck or car barreling at us on our side of the road. Thank God for luck and near misses. U128 was not engineered for a lot of heavy truck traffic. Many of the corners are too sharp for semi-trucks to make the turn without going over the centerline. To avoid tragic accidents, I recommend that heavy truck traffic to the site be scheduled for noon to four o'clock, and 9P.M. to dawn. These hours are when there is the least car traffic. It would be helpful if they could post these hours on the road so others could plan their travel to avoid the big trucks. They should be especially careful to avoid meeting the school bus on the road. The school bus to castle valley has had many near misses meeting big semi's on the road, and we must safeguard our children.

Comment # 3 Noise

—Castle Valley is a community of people who cherish

Castle Valley

River Ranchos

Property Owners Association

P.O. Box 815, Moab, Utah 84532

Also related to access is the required contingency plan for evacuation in the event of well instability or hydrogen sulfide gas danger. Such a plan could be unrealistic or impractical considering the proposed well siting along the only viable evacuation route, on Pace Hill. We are concerned, in this regard, that any presence of hydrogen sulfide gas could create an unacceptable risk for valley residents, above and beyond the anticipated level of anxiety it would present.

Other concerns that have been addressed by residents thus far include:

- 24-hour visual impact of facilities, flood lighting, and traffic;
- 24-hour noise impact of drilling operations, traffic, and power generating equipment;
- Air pollution impacts from generating equipment and fugitive dust emissions;
- Containment of waste materials or water encountered during drilling;
- Appropriation and use of water on-site, with possible water rights conflicts in an already over-allocated system;
- Realistic ability to reclaim particular areas in question, to their natural state, with proper drainage;
- Sufficiency of present bonding, considering not only reclamation problems, but the extreme potential for liability;
- Probability of helicopter operations and valley overflights, which have been a problem in the past;
- Concerns (discussed below) regarding ultimate level of development and impacts.

We note also that a significant number of families reside within one mile of the proposed operations.

Although we recognize that certain short-term economic benefits could result from this project, we are concerned that the long-term effects, especially considering future, developmental scenarios, could drastically reduce property values in Castle Valley and the local area. Water rights could similarly be adversely affected (as well as water quality). Tourism, presently southern Utah's most stable economy, could also be seriously disrupted under developmental scenarios, as Rt. 128 and the La Sal Mountain Loop Road through Castle Valley are major routes for tourists, hunters, river-runners, and other recreational users.

We have already been informed by Conoco that in the event of any discovery of a pool, additional wells would be drilled, spaced one per section (640 acres) as required, to delineate the extent of the pool. If the size of the pool warranted development, a major pipeline would

③ Aesthetic Considerations

Will close-abiding residents be subject to constant noise from generators, or will there be provision for periods of quiet? How much night lighting will there be?

Perhaps these questions are being answered already, & I would appreciate a response to let me know what the proposals are.

Thanks For listening.

Sincerely,
Alice M. Drogin



CASTLE CANYON VINEYARD KEN DROGIN

BOX 2106 CVSR MOAB, UTAH 84532

(801) 259-8274

ORCHARD/VINEYARD DEVELOPMENT
IRRIGATION SYSTEMS DESIGN AND INSTALLATION

Public Comments on the Conoco Castle Valley Project Page 2

peace and quiet. The major source of noise from this drill rig will be the diesel generators. Conoco's proposed drill site is right next to a three phase Utah Power and Light transmission line. Life in Castle Valley will be a lot more pleasant if they gave generators a rest and hooked up to U.P. and L.

Comment #4 Danger of Hydrogen Sulfide leak

This drill rig is proposing to drill deeper than any rig has drilled in this area before. No one knows what is the probability of a Hydrogen Sulfide leak. Should a major gas leak occur and drift into Castle Valley hundreds of people could be killed. Should the gas drift down to the river, the Hydrogen Sulfide would react with the water and form Sulfuric acid. In the winter only a few people and a lot of wild life would be killed, but in the summer time several hundred rafters float by where the drill rig will be. What are their safeguards against a disastrous gas leak?

Comment #5 Long range Plans

Conoco should be required to file a long range plan open to public comment before they are allowed to undertake such a massive project. How many, and where do they plan to drill additional wells. If Conoco does find oil or gas what kind of facilities will be needed for production? How will the oil or gas be transported from Castle Valley? Is a pipeline going to be needed? Will tanker trucks congest our road for the next Twenty years? The residents of Grand County who will have to live with project on multiple use public land should be allowed to examine their plans and offer constructive criticism to avoid future problems. Communication fosters cooperation.

Sincerely
Ken Drogin

A handwritten signature in cursive script that reads "Ken Drogin". The signature is written in dark ink and is positioned below the typed name.



UTAH
BLM
BUREAU OF LAND MANAGEMENT
UNITED STATES

FOR RELEASE Immediately
CONTACT Mary Plumb, PAO
Moab District Office 259-6111

News Release

DEPARTMENT OF THE INTERIOR
Grand Resource Area

DEC 18 1984

The BLM announced today that an application has been received to drill a "rank wildcat" well on Pace Hill near the base of Parriot Mesa.

Colin P. Christensen, Grand Resource Area Manager, stated that Conoco Inc. of Casper, Wyoming has submitted plans for a 12,000 ft. oil well in Sec. 31, T.24S., R.23E. The proposed pad site is located approximately 1,200 ft. east-southeast of the Castle Valley road. The well pad and associated area would be approximately 350 ft. X 450 ft. Drilling is planned to be completed in 150-175 days.

Based on requests from local residents, the public is being given the opportunity to comment in 2 separate comment periods. Comments will be accepted on the proposal, as described in this announcement, through January 2, 1985, for incorporation into a Draft Environmental Assessment (EA). The Draft EA will also be available for public comment, beginning on January 9, and ending on January 23, 1985. All written comments will be addressed in the Final EA and Record of Decision, scheduled for release on January 30, 1985.

For further information contact either the Moab District office at 259-6111 or the Grand Resource Area office at 259-8193.

HYDROGEN SULFIDE
CONTINGENCY PLAN

CONOCO, INC.
Conoco Federal 31-1
Sec. 31, T 24 S, R 23 E
Grand County, Utah

oilind SAFETY

oilind

SAFETY

DIVISION OF TCO RESOURCES CORP.

Great-West Life Tower • Suite 2030 • 1675 Broadway • Denver, Colorado 80202 • (303) 825-1506

HYDROGEN SULFIDE
CONTINGENCY PLAN

CONOCO, INC.
Conoco Federal 31-1
Sec. 31, T 24 S, R 23 E
Grand County, Utah

1979' FSL 1980' FEL

oilind

SAFETY

DIVISION OF TCO RESOURCES CORP.

Great-West Life Tower • Suite 2030 • 1675 Broadway • Denver, Colorado 80202 • (303) 825-1506

HYDROGEN SULFIDE
CONTINGENCY PLAN

CONOCO, INC.
Conoco Federal 31-1
Sec. 31, T 24 S, R 23 E
Grand County, Utah

1972' FSL 1973' FEL

OF PROGRAM

PROCEDURES

PROGRAM

S

THE WELL

T A B L E O F C O N T E N T S

1.	GENERAL	1
	- H ₂ S Table of Toxicity	2
	- H ₂ S First Aid Procedures	4
2.	PURPOSE OF PROGRAM	7
3.	OPERATING PROCEDURES	8
4.	PROCEDURE PROGRAM	11
5.	H ₂ S EMERGENCY PROCEDURES	13
6.	IGNITING THE WELL	14
7.	EQUIPMENT LIST	17
8.	EMERGENCY PHONE NUMBERS	18
	- AREA RESIDENTS AND/OR ANY FREQUENT USERS OF THE TWO MILE RADIUS	
9.	MAPS, ECT.	Attachments

PLEASE NOTE: The following checklist (#1-8 and #11-15) have been covered within this Contingency Plan on the pages noted.

Checklist for Drilling or Workover in H₂S Environment (pending approval of proposed NTL-10)

Items 1-4 to be shown on site layout diagram (part 9 of NTL-6 13-point checklist).

1. Two safety briefing areas at least 200 feet from wellhead and arranged so that at least one area will always be upwind of the well at all times. SITE PLAN (opt.)
2. Direction of prevailing winds. SITE PLAN (opt.)
3. Wind sock locations. (Minimum of 2) (NTL-10, II-A (4)) SITE PLAN (opt.)
4. A second emergency escape route from the location. (Flagged trail minimum) PG 12 and SITE PLAN
5. Number, types, and storage locations of H₂S respirators for personnel, and number of personnel to be expected at any one time. PAGE 8 and SITE PLAN (opt.)
6. H₂S detector locations (should at least include cellar or bell nipple and mud tanks at shale shaker). Type and location of audible, visual alarm to be used. (NTL-10, II-A(3)) PG 12 and SITE PLAN
7. H₂S evacuation and emergency training procedures and frequency. (NTL-10, II-A-(1)(b)) PG. 7, 9, & 10
8. Area residents within a two-mile radius, and agencies to be notified in an emergency (contingency plan). (NTL-10, I-D) PAGE 20
9. Types and quantities of mud additives and scavengers to be available at location for H₂S operations.
10. Design features and operational procedures to be used to protect the drill string, casing strings, wellhead, BOP's, choke lines and manifold and other well-killing equipment in H₂S environments. (A certification by the operator on the APD that all equipment meets standards for H₂S service is acceptable for compliance.)
11. Appropriate warning signs and flags on all access roads to location. (NTL-10, II(4)) SITE PLAN (opt)
12. Provision for blocking or monitoring access to location during critical operations. PG 12
13. Ventilation fan under rig floor. PAGE 12
14. In event of uncontrolled blowout, which local official has authority to ignite flow? PG 14-15
15. Swabbing or drillstem testing fluids containing H₂S should be through a separator to permit flaring of gas. Flare should have continuous pilot light to ensure ignition of all such gas. Pg 1

NOTE: This checklist was designed by the USGS and is in the stages of final ratification; some changes may follow.



GENERAL

DESCRIPTION OF HYDROGEN SULFIDE GAS:

H₂S is a colorless gas which smells similar to rotten eggs in low concentrations. In large concentrations or over long periods of exposure, the sense of smell may be paralyzed. H₂S is extremely toxic gas that must be treated with extreme care to prevent injury to people. H₂S is heavier than air (specific gravity = 1.19) and on still days tends to accumulate in low places. This accumulation could build up and lead to dangerous concentrations. However, if the H₂S gas is warmer than air, it will tend to rise until cooled off and could affect workers above the escaping source.

TOXICITY

Hydrogen Sulfide is extremely toxic (poisonous). It is almost as toxic as hydrogen cyanide. It produces irritation to the eyes, throat and respiratory tract. The sense of smell can be lost in 2 - 15 minutes in low concentrations due to paralysis of the olfactory nerve. The sense of smell can be lost in 60 seconds or less, at higher concentrations. Susceptibility to H₂S poisoning varies according to the number of exposures. The second exposure being more dangerous than the first.

The result of inhalation of H₂S may be strangulation in a few seconds of exposure to high H₂S concentrations. This produces symptoms such as panting, pallor, cramps,

paralysis of the pupil, and loss of speech. This is generally followed by immediate loss of consciousness. Death may occur quickly from respiratory and cardiac paralysis. One deep sniff of high concentration can cause death. Coughing, eye burning and pain, throat irritation, and sleepiness come from exposure to low concentrations.

The two following charts list some of the toxic characteristics of H₂S.

(SEE FOLLOWING PAGE)

TOXICITY OF HYDROGEN SULFIDE GAS

	<u>Grains/100</u>		
	<u>Std. Cu. Ft.</u>		
10 ppm = 1/1000 of 1%	0.65		Can smell Safe for 8 hours exposure
100 ppm = 1/100 of 1%	6.48		Kills smell in 3 to 15 minutes May sting eyes and throat
200 ppm = 2/100 of 1%	12.96		Kills smell shortly Stings eyes and throat
500 ppm = 5/100 of 1%	32.96		Loses sense of reasoning and balance Respiratory paralysis in 30 to 45 minutes Needs prompt artificial resuscitation Will become unconscious quickly (15 minutes maximum)
700 ppm = 7/100 of 1%	45.36		Breathing will stop and death result if not rescued promptly Immediate artificial resusci- tation
1,000 ppm = 1/10 of 1%	64.80		Unconscious at once PERMANENT BRAIN DAMAGE MAY RESULT UNLESS RESCUED PROMPTLY

TOXICITY OF HYDROGEN SULPHIDE TO MEN

H ₂ S PER CENT (PPM)**	0-2 MINUTES	2-15 MINUTES	15-20 MINUTES	30 MINUTES 1 HOUR	1-4 HOURS	4-8 HOURS	8-48 HOURS
0.005 (50) 0.020 (100)				Mild Conjuncti- vitis; respira- tory tract irri- tation			
0.010 (100) 0.015 (150)		Coughing; irritation of eyes; loss of sense of smell	Disturbed respiration; pain in eyes Sleepiness	Throat irrita- tion	Salivation and mucuous discharge; sharp pain in eyes; coughing	Increased symptoms*	Hemorrhaging and death
0.015 (150) 0.020 (200)		Loss of sense of smell	Throat and eye irrita- tion	Throat and eye irrita- tion	Difficult breathing; blurred vision; light shy.	Serious irritating effects	Hemorrhaging and death
0.025 (250) 0.035 (350)	Irritation of eyes; loss of sense of smell	Irritation of eyes	Painful secretion of tears; weariness	Light shy; nasal catarrh pain in eyes; difficult breathing	Hemorrhage and death*		
0.035 (350) 0.045 (450)		Irritation of eyes; loss of sense of smell	Difficult respiration coughing; irritation of eyes	Increased irritation of of eyes and nasal tract; dull pain in head; weariness; light shy	Dizziness; weakness; increased irritation; death	Death*	
0.050 (500)	Coughing	Respiratory	Serious ey	Severe pain in			
0.070 (700)	unconscious- ness; death*	unconsciousness; death*					
0.080 (800)							
0.100 (1000)							
0.150 (1500)							

* Data derived from experiments of dogs which have a suscepti-

ble to men ** PPM - parts per million

H₂S FIRST AID PROCEDURES

TREATMENT

1. Victim should be removed to fresh air immediately by rescuers wearing respiratory protective equipment. Protect yourself while rescuing.
2. If the victim is not breathing, begin immediately to apply artificial respiration. (See page 6 for the chances for life after breathing has stopped.) If a resuscitator is available let another employee get it and prepare for use.
3. Treat for shock, keep victim warm and comfortable.
4. Call a doctor. In all cases, victim of poisoning should be attended by a physician.

ARTIFICIAL RESPIRATION

Recommended by the American National Red Cross

1



If victim is not breathing, begin some form of artificial respiration at once. Wipe out quickly any foreign matter visible in the mouth, using your fingers or a cloth wrapped around your fingers.

Mouth-to-Mouth (Mouth-to-Nose) Method

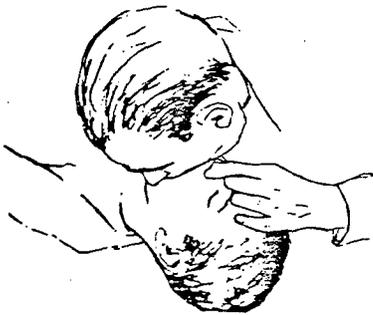
2



Tilt victim's head back (Fig. 1). Pull or push the jaw into a jutting-out position (Fig. 2).

If victim is a small child, place your mouth tightly over his mouth and nose and blow gently into his lungs about 20 times a minute. If victim is an adult (see Fig. 3), cover the mouth with your mouth, pinch his nostrils shut, and blow vigorously about 12 times a minute.

3



If unable to get air into lungs of victim, and if head and jaw positions are correct, suspect foreign matter in throat. To remove it, suspend a small child momentarily by the ankles or place child in position shown in Fig. 4, and slap sharply between shoulder blades.

If the victim is adult, place in position shown in Fig. 5, and use same procedure.

4



5



D O Y O U K N O W

THERE IS NO TIME TO WASTE
WHEN BREATHING STOPS!

RESCUE BREATHING MUST
BE STARTED FAST!!

After Breathing is Stopped for: The Chances for Life are:

1 Minute	98 out of	100
2 Minutes	92 out of	100
3 Minutes	72 out of	100
4 Minutes	50 out of	100
5 Minutes	25 out of	100*
6 Minutes	11 out of	100*
7 Minutes	8 out of	100*
8 Minutes	5 out of	100*
9 Minutes	2 out of	100*
10 Minutes	1 out of	100*
11 Minutes	1 out of	1,000*
12 Minutes	1 out of	10,000*

* Irreparable brain damage starts at about the fifth minute.

L E A R N H O W T O U S E
L I F E S A V I N G E Q U I P M E N T

HYDROGEN SULFIDE CONTINGENCY PLAN

CONOCO, INC.

Conoco Federal #1-1
Sec. 31, T 24 S, R 23 E
Grand County, Utah

This plan provides for personnel safety programs, precautionary measures, safety equipment and emergency procedures, and sets forth responsibilities and duties pertaining to drilling in a sour gas area.

To be effective, the plan requires the cooperation and effort of each person participating in the drilling of an H₂S well. Each person participating in the drilling and duties in regard to normal drilling operations as well as emergency and safety procedures. He should thoroughly understand and be able to use with accuracy all safety equipment while performing his normal duties, if the circumstance should arise. He should therefore familiarize himself with the location of all safety equipment and check to see that it is properly stored, easily accessible at all times, and routinely maintained.

It is the intention of Conoco, Incorporated and the drilling contractor to make every effort to provide adequate safeguards against harm to persons on the rig and in the immediate vicinity from the effects of hydrogen sulfide, which may be released into the atmosphere under emergency conditions. However, the initiative rests with the individual in utilizing the safeguards provided. The ideas and suggestions of the individuals involved in the drilling of these wells are highly welcomed and act as a fundamental tool for providing the safest working conditions possible.

The drilling foreman is required to enforce these procedures. They are set up for your safety and the safety of all others.

PURPOSE

It is Conoco, Incorporated's intent to provide a safe working place, not only for its employees, but also for those of other firms who are aiding in the drilling of this well.

There is a possibility of encountering toxic hydrogen sulfide gas. Safety procedures must be adhered to in order to protect all personnel connected with the operation, as well as people living within the area.

Conoco Incorporated's drilling foreman must enforce what may seem to be stringent requirements. This job will become easier by a careful study of the following pages and the use of COMMON SENSE.

OPERATING PROCEDURES

GENERAL

Before this H2S contingency plan becomes operational, the drilling contractor's personnel, necessary service company personnel, and the operator's personnel shall be thoroughly trained in the use of *breathing equipment, emergency procedures, responsibilities and first aid.

Conoco Incorporated shall have a list of all personnel who have been through the special training programs on the drill site. This list shall be supplied by the safety company as personnel are trained.

*THROUGHOUT THIS CONTINGENCY PLAN, BREATHING APPARATUS SHALL BE UNDERSTOOD TO MEAN: 1) SCOTT PRESSURE-DEMAND SELF-CONTAINED AIR BREATHING APPARATUS (Scott Presur-PakII/Back-Pac Style) OR 2) SCOTT SKA-PAC EMERGENCY ESCAPE UNIT (Hip-Pac).

PRIOR TO SPUD

The area within a two mile radius will be checked and phone numbers of residents will be recorded.

A list of emergency stations and phone numbers of in case of an emergency will be posted at the following locations:

1. Conoco Incorporated's Drilling Foreman's trailer on the rig.
2. Drilling Contractor's Toolpusher Office.

All safety equipment and H₂S related hardware must be set up as required by Conoco Incorporated, such as location of briefing areas, breathing equipment and etc. All safety equipment must be inspected periodically with particular attention to resuscitators and breathing air facilities.

All personnel on the drill site will be assigned breathing apparatus and if needed, lead acetate ampules. Operator and drilling contractor personnel required to work in the following areas will be provided with breathing equipment connected to a cascade bottled air supply.

- A. rig floor
- B. mud pit
- C. derrick
- D. shale shaker
- E. mud hopper and bulk hopper
- F. any location that anyone will have to work in H₂S.

All service companies to be needed on the drill site will be notified of the potential hazard and will furnish safety equipment for their personnel. No service company employee will be allowed to work on the drill site without having breathing equipment.

The Oilind Safety advisor will be responsible for rigging up and monitoring all H₂S continuous recording monitoring-type detectors. These units must be tested and, if necessary as required recalibrated by the Oilind advisor during drilling conditions. In the event that H₂S is detected, or when drilling in a zone containing H₂S, the units will be tested at least once every 12 hours.

DRILLS

Drills will be held as often as necessary to acquaint the crews and service company personnel with their responsibilities and the proper procedures to shut-in a well. After Conoco, Incorporation's drilling foreman is satisfied with drill procedures, a drill will be conducted periodically with each crew.

An Oilind Safety advisor will be on duty when drilling begins or as otherwise deemed necessary. He will conduct safety talks and drills, maintain the safety equipment, and advise and carry out the instructions of the drilling foreman. All personnel allowed on the drill site during drilling or testing operations will be instructed in the use of breathing equipment until supervisory personnel are satisfied that they are capable of using it.

After familiarization, each rig crew should perform a drill with breathing equipment. The drill should include getting the breathing equipment, putting it on, and a short work period. A record shall be kept of the crew members drilled and the date of the drill.

Rig crews and service company personnel shall be made aware of the location of spare air bottles, the resuscitation equipment, portable fire extinguishers, and H₂S detectors. Knowledge of the location of the H₂S monitor is vital in determining a sour gas location and the severity of the emergency situation. In addition, key personnel shall be trained in the use of a resuscitator.

H₂S detector ampules shall be available for use by all working personnel. After H₂S has been initially detected by any device, periodic inspections of areas of poor ventilation shall be made with a portable H₂S detector instrument.

PROCEDURE PROGRAM

SAFETY PROGRAM

A. DRILL SITE

1. The drilling rig should be located to allow prevailing winds to blow across the rig toward the reserve pit.
2. Briefing stations will be provided with a safety equipment trailer at one or more stations. Personnel will assemble at the most upwind station under alarm conditions, or when so ordered by Conoco, Incorporation's foreman or the Oilind Safety advisor. Wind socks or streamers will be located for easy view from the rig floor and around the location.
3. Warning signs will be posted on the access road to the location. "NO SMOKING" signs will be posted as well.
4. Swabbing or drillstem testing fluids containing H₂S be through a separator to permit flaring of gas. There will be a pilot light for any possible flared gas.

5. One multi-channel automatic H₂S monitor will be provided by Oilind Safety and the detector heads will be at the shale shaker, bell nipple, mud hopper, and the rig floor. Should the alarm be shut off to silence the siren, the blinker light must continue to warn of H₂S presence. The safety representative will continuously monitor the detectors and will reactivate the alarm, if H₂S concentrations increase to a dangerous level.
6. An escape road should be provided which is to be used only in an emergency.
7. Explosion proof electric fans (bug blowers) will be positioned to insure adequate circulation at all critical locations if necessary.
8. If available, commercial telephone service will be provided.
9. A rig intercommunication system will be provided.
10. Road barricades will be used if necessary to block access to the location at all entrances at a safe distance from the well site. Under critical drilling and testing operations, gate guards will be used.

B. GENERAL

1. The Conoco, Incorporation's drilling foreman, residing at the well site, will have complete charge of the rig operation and will take whatever action is deemed necessary to insure personnel safety to protect the well, and to prevent property damage.
2. An Oilind Safety advisor should be on location at all times when drilling at the depth H₂S may be expected.

H₂S EMERGENCY PROCEDURES

The emergency procedures outlined in this section will be implemented under the following operating conditions:

CONDITION EXTREME DANGER TO LIFE

If, at any time, as much as 20 ppm of H₂S is detected, the following steps will be taken:

- A. The driller shall shut down mud pumps and put on his mask.
- B. The following personnel shall immediately put on their breathing equipment:
 - 1. All personnel on the rig floor
 - 2. All personnel at the mud pits.
 - 3. All personnel required to work below and down wind of the rig floor.
- C. Notify the Conoco, Incorporation's drilling foreman and toolpusher that you have H₂S S on the monitoring system.
- D. The mud engineer shall run a sulfide determination from the mud flowline.
- E. Immediately begin to ascertain the source of the H₂S and take steps to suppress the H₂S S. Drilling will not proceed until the source is determined and the well is circulated. Rig floor and mud pit personnel will keep breathing equipment on while monitoring this circulation.

- F. The supervisors shall make sure all non-essential personnel are out of the potential danger areas. All persons who remain in potential danger areas must utilize the "Buddy System".
- G. Have all personnel to check their safety equipment to see that it is working properly and in the proper location.
- H. Check all gas monitoring devices and increase gas monitoring activities with the portable hand operated H2S and gas detector units.

DO NOT PANIC ! ! !

The Conoco, Incorporation's drilling foreman will assess the situation and assign duties to each person to bring the situation under control.

EMERGENCY PROCEDURES AT THE DRILLING RIG

When the H2S monitors activate the siren and blinker light, toxic gas is present. DO NOT PANIC ! ! !

- A. Put on Your Gas Mask !
- B. Render Assistance !
- C. Follow Instructions !

IGNITING THE WELL

A. RESPONSIBILITY

- 1. The decision to ignite the well is the responsibility of the Conoco drilling foreman.

In his absence or incapacity, the contractor's toolpusher will assume his responsibilities. In their absence or incapacity, the contract driller will be in charge.

2. The decision to ignite the well is to be made as a last resort when it is clear that...
 - a. There is a definite threat to human life and property.
 - b. There is no hope of containing the well under prevailing conditions.
 - c. Time and circumstances permitting, an attempt should be made to notify the area office. If human life is threatened, the decision must not be delayed.

B. INSTRUCTIONS FOR IGNITING THE WELL

1. Two people are required for the actual igniting operation. Both men will wear self-contained breathing units and will have 200 foot retrieval ropes tied around their waists. One man is responsible for checking the atmosphere for explosive gases with an explosimeter. The other is responsible for lighting the well. Keep personnel not assigned special duties within the "Safe Briefing Area". Those in the "Safe Briefing Area", will be alert to the needs of the two men assigned to ignite the well. Should either of these men be overcome by fumes, they will immediately pull him to safety by the retrieval ropes.

2. The primary method for igniting the well is a 25 mm metortype flare gun. It has a range of approximately 500 feet. If this method fails or well conditions are such that a safer or better method is apparent, then the alternate should be used.

3. If the well is ignited, the burning hydrogen sulfide will be converted to sulfur dioxide which is also poisonous. Therefore, DO NOT ASSUME THAT THE AREA IS SAFE AFTER THE GAS IS IGNITED. CONTINUE TO OBSERVE EMERGENCY PROCEDURES AND FOLLOW THE INSTRUCTIONS OF SUPERVISORS.

CHECK LIST FOR HYDROGEN SULFIDE DRILLING

H₂S warning signs
Resuscitators
Contour map of 2 mile radius area (with wind direction noted)
Map noting location of houses, roads, etc.
List of persons to be evacuated in emergency
Wind socks and poles
Telephone service for rig
List of phone numbers - Sheriff, Ambulance, Hospitals, Doctor
Pressure demand work and rescue packs
Spare 300 cubic foot cylinders and cascade manifold system for
recharging work and rescue packs
Hand operated H₂S detectors
Audio and visual alarm system
Additional location lighting
BOP's dressed for H₂S service
Choke manifold for H₂S service built and annealed in shop
Briefing areas
Sulphur Dioxide detector
First aid kits, additional
Cleaning material for air masks
Flare gun and shells
H₂S inhibitors or scavengers for mud system
Four channel continuous H₂S monitor with sensor probes at the
shale shaker, bell nipple, mud hopper and one channel for
testing.
Explosion proof electric ventilating fans

EQUIPMENT

Hydrogen Sulfide Respiratory Drill Site Unit

- 1 Safety trailer with a cascade system of 15/300 cu. ft. bottles of compressed breathing air complete with high pressure manifolds
- 8 40 cu. ft. self contained breathing apparatus (SCOTT)
- 9 Airline breathing apparatus complete with 7 cu. ft. egress cylinders
- 1 Resuscitator or inhalator
- 1 H₂S pump type gas detector
- 12 1/4" breathing air hose with quick connects
- 300' 3/4" breathing air hose low pressure
- 2 Wind Socks
- 1 Flare gun with cartridges
- 1 Stretcher
- 1 First Aid Kit
- 2 H₂S warning signs
- 1 4' x 4' condition code warning sign with warning flags
- 1 Eyewash Station
- 1 Three channel continuous H₂S monitor c/w sensing heads and cables
- 1 Siren - Explosion Proof
- 1 Warning Light - Explosion Proof

NOTE: Also know, equipment will be supplied to satisfy the number of people on location at any one time.

MAXIMUM NUMBER OF PEOPLE 17 AT ANY ONE TIME.

EMERGENCY NUMBERS

Conoco, Inc.
907 Rancho Road
Casper, Wyoming 82601

(307) 234-7311

Andy Efthim,
Division Drilling Superintendent

(307) 234-7311

Glenn Schaff

(307) 234-7311

Tom Tainter

(307) 234-7311

Mike Mitchell, Drilling Engineer

(307) 234-7311

EMERGENCY NUMBERS

Grand County, Utah

Moab, Utah

Sheriff's Department	.....	801/ 259-8115
Police Department	.....	801/ 259-8938
Fire	.....	801/ 259-5551
Hospital (Allen Memorial Hospital)	.....	801/ 259-7191
Ambulance	.....	801/ 259-7403
FLIGHT FOR LIFE, Air Ambulance.....		1-800/ 525-4224 (St. Mary's Hospital, Grand Junction, Colorado)
Medical Clinic (The Medical Center)	.....	801/ 259-7121
Veterinarian	.....	801/ 259-5216
Utah Highway Patrol	.....	801/ 259-5441

EMERGENCY NUMBERS

Continued....

OILIND SAFETY

Evanston, Wyoming office
91 Independent Circle, # E & F
Evanston, Wyoming 82930

307/ 789-9791

Ross Argyle

Corporate office

Denver, Colorado

303/ 825-1506

1675 Broadway
Suite 2030
Denver, Colorado 80202

Bill Myers
Rob Clark

EMERGENCY NUMBERS

AREA RESIDENTS (Within a two mile radius)

Pace Ranch

Unlisted number

Section 6
Southwest of location

White Ranch

CONFIDENTIAL

Section 35
Due West of location

STOCK OWNERS (Within a two mile radius)

Common Name	Chemical Formula	Specific Gravity (SG) SG Air = 1	Threshold ¹ Limit	Hazardous ² Limit	Lethal ³ Concentration
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H ₂ S	1.18	10 ppm ⁴ 20 ppm ⁵	250 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21	5 ppm	----	1000 ppm
Chlorine	Cl ₂	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO ₂	1.52	5000 ppm	5%	10%
Methane	CH ₄	0.55	90,000 ppm (9%)	Combustible above 5% in Air	----

¹Threshold Limit - concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.

²Hazardous Limit - concentration that may cause death.

³Lethal Concentration - concentration that will cause death with short-term exposure.

⁴Threshold Limit = 10PPM - 1972 ACGIH (American Conference of Governmental Industrial Hygienists).

⁵Threshold Limit = 20PPM - 1966 ANSI acceptable ceiling concentration for eight-hour exposure (based on 40-hour week) is 20 PPM. OSHA Rules and Regulations (Federal Register, Volume 37, No. 202, Part II, dated October 18, 1972.)

The above quoted table is from American Petroleum Institute, API-RP-49 "Recommended Practices for Safe Drilling of Wells Containing Hydrogen Sulfide".

EMERGENCY PHONE NUMBERS

AMBULANCE _____

DOCTOR(S) _____

POLICE

STATE _____

LOCAL _____

SHERIFF _____

HOSPITAL(S) _____

FIRE

COUNTY _____

CITY _____

OTHER NUMBERS

COMPANY _____

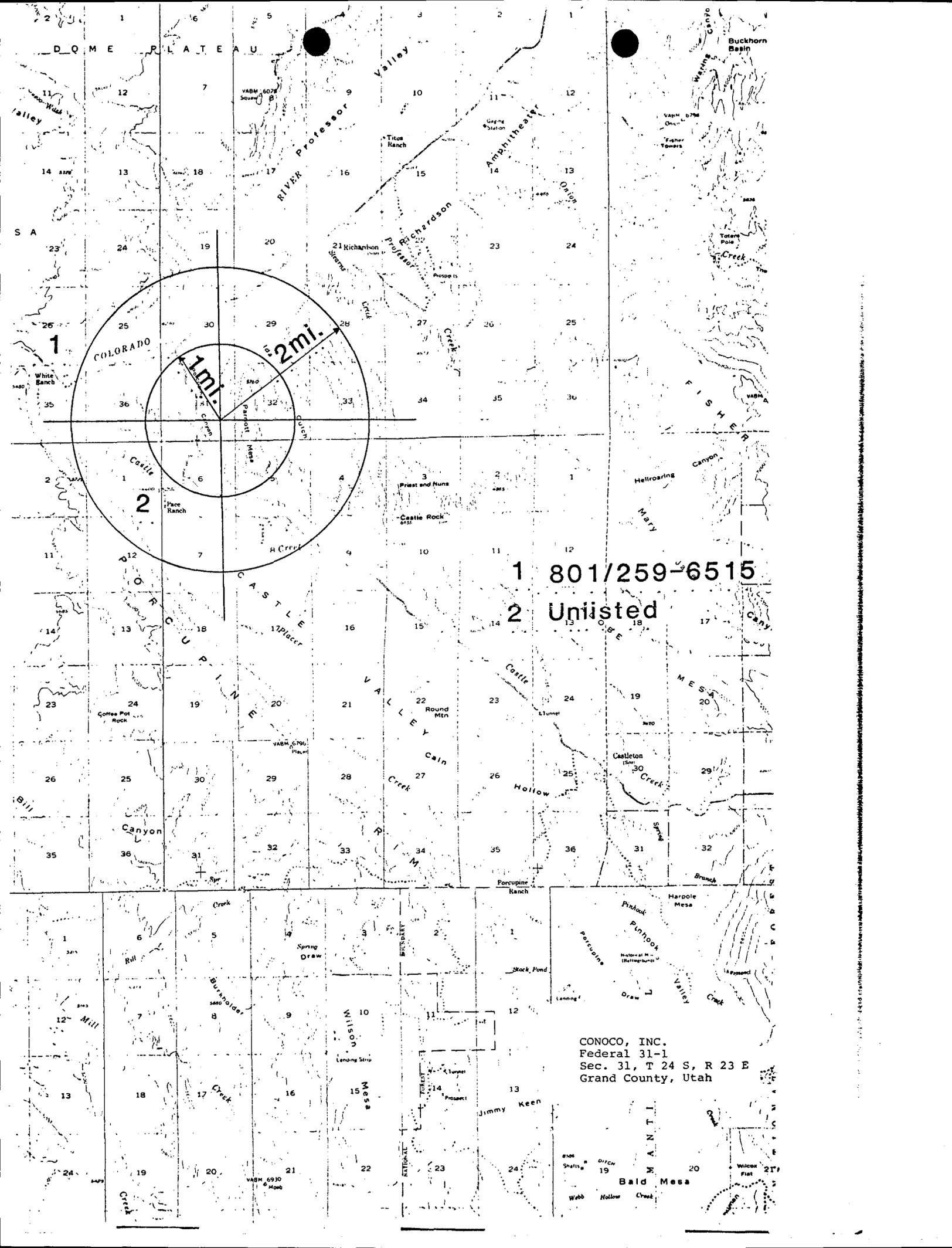
HELICOPTER _____

CIVIL DEFENSE _____

POLLUTION CONTROL _____

VETERINARIAN _____

oilind _____



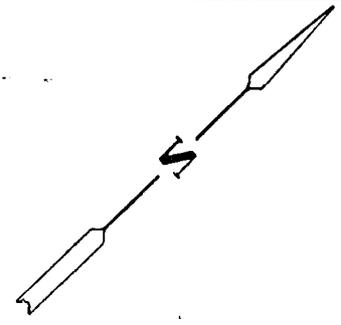
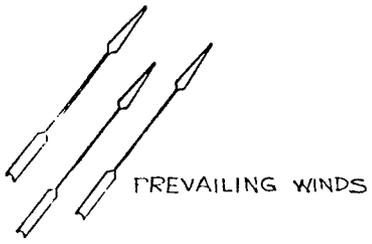
1 801/259-6515

2 Unlisted

CONOCO, INC.
 Federal 31-1
 Sec. 31, T 24 S, R 23 E
 Grand County, Utah

NATIONAL FOREST
 BUCKHORN BASIN

U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 20192-1225



ESCAPE ROUTE

BRIEFING AREA #2

PRIMARY ENTRANCE W/
CONDITION CODE WARNING
SIGN & FLAGS

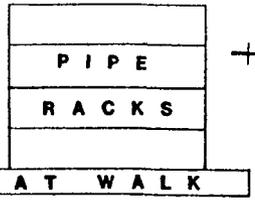
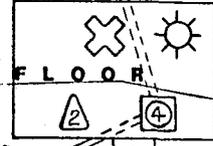
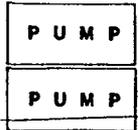
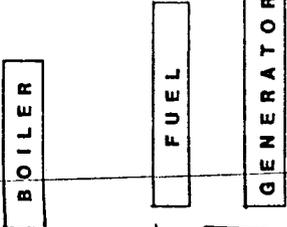
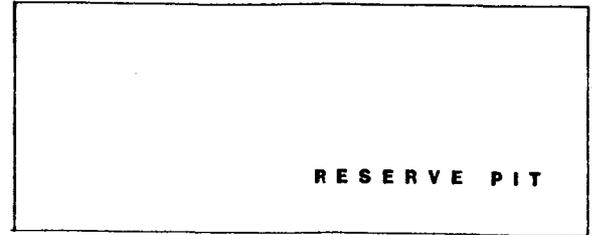
BRIEFING AREA #1

LEGEND

-  30 MIN. BACK PACKS
-  AIRLINE BREATHING APPARATUS W/ MANIFOLD
-  WIND SOCK
-  LOW PRESSURE MANIFOLD
-  1/2" LOW PRESSURE HOSE W/ HOOK TO CASCADE
-  SAFETY TRAILER W/ CASCADE AIR SYSTEM
-  ALARM SIREN
-  ALARM FLASHING LIGHT
-  AIR MOVERS
-  RESUSCITATOR
-  ALTERNATE OR ADDITIONAL CASCADE AIR SUPPLY

TOOLPUSH CO.REP

TYPICAL SITE PLAN OF
SAFETY EQUIP'T FINAL PLAN
TO FOLLOW SPUD.



NOTE

- CONTINUOUS H2S MONITORING HEADS LOCATED
- AT: A. RETURN AIRLINE WHILE AIR DRILLING
- B. SHAKER WHILE MUD DRILLING
- C. FLOOR
- D. SUBSTRUCTURE, BELL NIPPLE
READOUT INSTRUMENT IN DOG HOUSE

CONOCO INC	
NAME CONOCO FED # 31-1 LOC. SEC. 31 T24S R23E STATE UTAH CO. GRAND	Site Plan of Safety Equipment
OILIND SAFETY	

APPENDIX III
ENVIRONMENTAL ASSESSMENT WORKSHEETS

CHECKLIST FOR ENVIRONMENTAL ASSESSMENT

EA No: _____ Project: Conoco Inc., Pace Hill Wildcat Well

The following mandatory items have been considered in this Environmental Assessment. Items which may be impacted have been discussed within the Environmental Assessment; the remainder will not be affected and are not discussed.

Proposed Action: Conoco proposes to drill 12,000 ft. exploratory well near the base of Pariott Mesa. Drilling would take 150-175 days. H₂S contingency plan required.

<u>May Be Impacted</u>	<u>Will Not Be Affected</u>		<u>Specialist Signature/ Date</u>
1. a. []	<input checked="" type="checkbox"/>	Threatened or Endangered Species - Plants	<u>Murray P. Larson 12-18-84</u>
b. []	<input checked="" type="checkbox"/>	Threatened or Endangered Species - Animals	<u>Beverly de Gaultier 12-18-84</u>
2. []	<input checked="" type="checkbox"/>	Floodplains and Wetlands	<u>Beverly de Gaultier 12-18-84</u>
3. []	<input checked="" type="checkbox"/>	Wilderness Values	<u>David C. Minia 12-18-84</u>
4. []	<input checked="" type="checkbox"/>	Areas of Critical Environmental Concern	<u>David C. Minia 12-18-84</u>
5. []	<input checked="" type="checkbox"/>	Visual Resource Management	<u>David C. Minia 12-18-84</u>
6. []	<input checked="" type="checkbox"/>	Water Resources	<u>Les E. Dobson 12-18-84</u>
7. []	<input checked="" type="checkbox"/>	Air Quality	<u>Les E. Dobson 12-18-84</u>
8. []	<input checked="" type="checkbox"/>	Cultural or Historic Resources	<u>Bruce D. Southan 12-18-84</u>
9. []	<input checked="" type="checkbox"/>	Paleontological Resources	<u>Bruce D. Southan 12-18-84</u>
10. []	<input checked="" type="checkbox"/>	Prime or Unique Farmlands	<u>Murray P. Larson 12-18-84</u>
11. []	<input checked="" type="checkbox"/>	Wild and Scenic Rivers	<u>David C. Minia 12-18-84</u>

The above project has been analyzed for conformance with BLM plans and consistency with local government plans. Significant discrepancies are discussed in the body of the Environmental Assessment.

BLM Plan and date: Castle Valley URA-MFP 1973 (Amended 1975).

Local government plans and date: Grand County Master Plan for Development - 1979.

ENVIRONMENTAL ASSESSMENT WORKSHEET

1. Action

Wildcat oil well, 12,000 ft - 1,200 ft access rd., 350 x 450 ft drill pad

2. Stages of implementation

1. Construction (pad, ac. rd.), 2. move rig, 3. drill, 4. Reclaim or produce

3. DISCRETE OPERATIONS

Construction
Traffic
Drilling
Reclaim
Production

4. COMPONENTS, SUBCOMPONENTS, AND ELEMENTS IMPACTED 5. ANTICIPATED IMPACTS 6. REMARKS

I. NON-LIVING COMPONENTS	A. AIR		5. ANTICIPATED IMPACTS					6. REMARKS
	quality	H ₂ S	-L	0	-L	-L	0	
	quality		-L	0	-L	-L	0	fugitive dust will be controlled w/ water
	H ₂ S		0	0	X	0	0	H ₂ S plan will provide controls against H ₂ S reaching the surface.
	B. LAND							
	Right of way		0	0	0	0	0	Assignment -
	Lease (O&G)		0	0	0	0	+M	value of lease may increase or decrease
	Soils		-L	0	0	+L	-L	may disturb soils - bad lands - no topsoil
	Archaeology		X	X	X	X	X	arch. clearance required no cultural resources were found.
	other minerals		0	0	0	0	0	
	C. WATER							
	quality		L	0	0	L	0	may slightly increase sediment loads in intermittent drainage
	quantity		-L	0	-L	0	0	- State authorized water permit
	degradation		-L	0	0	+L	0	may disrupt overland flow patterns
	subsurface		0	0	-0	0	0	mitigated by casing requirements
	II. LIVING COMPONENTS							
	A. PLANTS (Aquatic)							
	N/A							

construction
traffic
drilling
reclaim
ductwork

	COMPONENTS, SUBCOMPONENTS, AND ELEMENTS IMPACTED	ANTICIPATED IMPACTS					REMARKS
II. LIVING COMPONENTS (Con.)	B. PLANTS (Terrestrial)						
	<i>grasses</i>	-L	0	0	+M	-L	<i>plants would be lost during drilling activity but replaced with reclamation</i>
	<i>shrubs</i>	-L	0	0	+M	-L	
	C. ANIMALS (Aquatic)						
	<i>N/A</i>						
	D. ANIMALS (Terrestrial)						
	<i>Raptors</i>	-L	-L	-L	+L	-L	<i>wildlife is expected to be displaced temporarily during the project</i>
	<i>Rodents</i>	-L	-L	-L	+L	-L	
<i>Birds</i>	-L	-L	-L	+L	-L		
<i>Livestock</i>	-L	-L	-L	-L	-L		
III. HUMAN VALUES	A. LANDSCAPE CHARACTER						
	<i>Visual</i>	-M	0	-M	+L	-M	<i>Rig visible from scenic road C. Valley Road and River - most want like view some may enjoy seeing Rig in this setting</i>
	B. SOCIOCULTURAL INTERESTS						
	<i>Land values (C. Valley)</i>	0	0	X	X	X	<i>may increase - may decrease depending on buy</i>
IV. INTERRELATIONSHIPS	<i>Recreation</i>	-L	-M	-L	+L	0	
	<i>Grazing</i>	-L	-L	0	+L	0	<i>plants lost by grazing - increase rd. kills</i>
	<i>Safety</i>	-L	-M	-L	L		<i>traffic increases has possibility</i>
	<i>Socioeconomic</i>	+L	X	+M	+L	+M	<i>increase local jobs</i>
	A. ECOSYSTEM PROCESSES, STRUCTURES, AND FUNCTIONS						

INSTRUCTIONS

- Action** - Enter action being taken, analytic step for which worksheet is being used, environmental viewpoint of impact, and any assumptions relating to impact.
 - Worksheet is normally used to analyze "Anticipated Impacts" of action, however it may be used to analyze "Residual Impacts." Worksheets may also be used to compare impacts before and after mitigating measures are applied.
 - State viewpoint that best describes environmental impact. For example, a fence viewed down the fence line has greater impact than the same fence viewed over an entire allotment. Generally, narrow viewpoints better illustrate specific impacts than will broad viewpoints.
 - Assumptions may be made to establish a base for analysis (e.g. estimated time periods, season of year, etc.).
- Stages of Implementation** - Identify different phases of proposed project (e.g. a road project consists of survey, construction, use, and maintenance stages).
- Discrete Operations** - Identify separate actions comprising a particular stage of implementation (e.g. the construction stage of the road project has the discrete operations of clearing, grading, and surfacing).
- Elements Impacted** - Enter under appropriate heading all environmental elements susceptible to impact from action and alternatives. Relevant elements not contained in the digest should also be entered. See H.M. Manual 1791, Appendix 2, Environmental Digest.
- Anticipated Impact** - Evaluate anticipated impact on each element and place an entry in the appropriate square indicating degree of impact as low (L), medium (M), high (H), no impact (0), or unknown or negligible (X). Precede each entry by a plus (+) or minus (-) sign indicating a beneficial or adverse type of impact. If type of impact reflects a matter of opinion or is not known, do not precede with a sign. For example, construction of a wind mill on open range has a definite visual impact; however, to some people the effect is detrimental while to others it is an improvement. Do not enter a plus (+) or minus (-) sign the worksheet is kept factual and unbiased. If both degree and type of impact are unknown, place an (x) in the appropriate square.
 - The measures of impact (e.g. low, medium, and high) are relative and their meaning may vary slightly from action to action. The term "low" should not be applied to impacts of a negligible nature. For example, we know that a pickup truck driving down a proposed fence line laying wire has some impact on air quality. However, the significance of this impact is not normally great enough to warrant even a "low" rating. In cases like this, the impact will usually be marked "0" or the element left off the worksheet.
 - It is recognized that some environmental elements may defy accurate measurement or in-depth analysis within current Bureau capabilities or expertise. The nature of the action as well as type and degree of impact should guide in the decision to seek outside expertise or assistance.
- Remarks** - Enter clarifying information.

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

2. NAME OF OPERATOR

Conoco Inc.

3. ADDRESS OF OPERATOR

907 N. Poplar, Casper, WY 82601

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

At surface
1,972' FSL, 1,973' FEL, NW/SE
At proposed prod. zone Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Approx. 19 miles NE of Moab, Utah

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

1,972'

16. NO. OF ACRES IN LEASE

640

17. NO. OF ACRES ASSIGNED TO THIS WELL

160

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

None

19. PROPOSED DEPTH

11,715'

20. ROTARY OR CABLE TOOLS

Rotary: 0'-T.D.

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

4,369' GL

22. APPROX. DATE WORK WILL START*

Jan. 1, 1985

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20"	94 lb.	300'	785 sacks Class "G"
17 1/2"	13 3/8"	61 lb.	3,000'	2,080 sacks Class "E" & Light
12 1/4"	7"	23 to 32 lb.	11,715'	1,580 sacks Class "H" with additives

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 [Signature] TITLE Admin. Supervisor DATE Nov. 27, 1984

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY /s/ GENE NODINE TITLE DISTRICT MANAGER DATE 06 FEB 1985

CONDITIONS OF APPROVAL, IF ANY:

BLM-Moab(3) UOGCC(2) WIO File 3708
~~FLARING OR VENTING OF~~

CONDITIONS OF APPROVAL ATTACHED

DATED 1/1/80

*See Instructions On Reverse Side

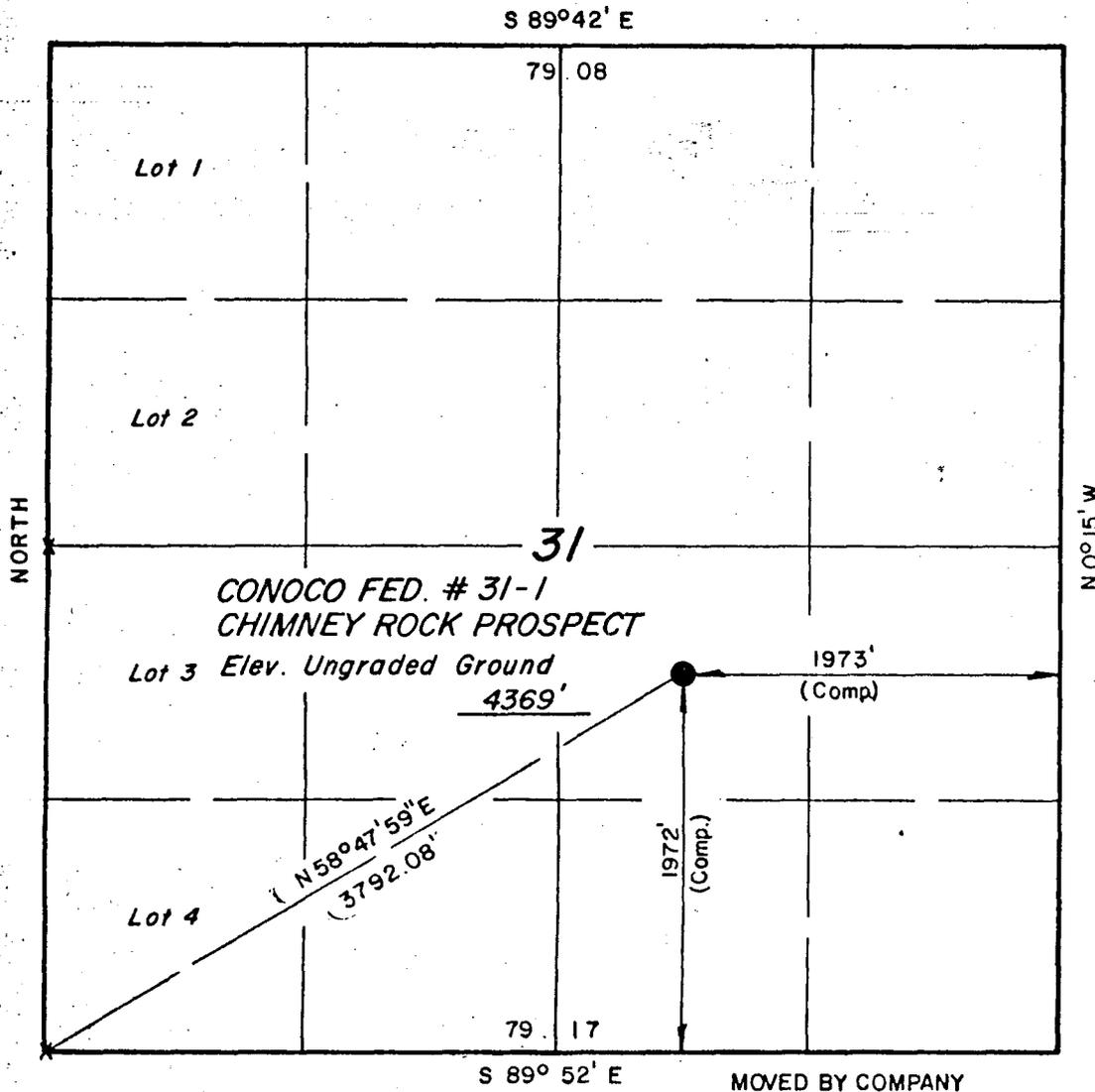
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

RECEIVED
FEB 11 1985
DIVISION OF OIL
GAS & MINING

T 24 S, R 23 E, S.L.B.&M.

PROJECT
CONOCO INC.

Well location, *CONOCO FED.*
 # 31-1 CHIMNEY ROCK PROSPECT,
 located as shown in the NW 1/4
 SE 1/4 Section 31, T 24 S, R 23 E,
 S.L.B. & M. Grand County, Utah.



N 0° 15' W



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. Marshall

REGISTERED LAND SURVEYOR
 REGISTRATION NO 2454
 STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
 P. O. BOX Q - 85 SOUTH - 200 EAST
 VERNAL, UTAH - 84078

SCALE 1" = 1000'	DATE 9 / 27 / 84
PARTY G.S. K.R. J.H. BFW	REFERENCES GLO Plat
WEATHER	FILE

X = Section Corners Located

STIPULATIONS

EA No: UT-068-85-45

Project: Conoco Inc.,
Pace Hill Wildcat Well

Applicant: Conoco Inc., Casper Wyoming

Description of Action Considered: Conoco Proposes to Drill a 12,000 ft.

Exploratory well near the base of Pariott Mesa. Drilling will take

150-175 days. H₂S Contingency Plan required.

The following stipulations have been developed through the above referenced Environmental Assessment to mitigate the environmental impacts of this action. The action referenced is described fully in the Environmental Assessment.

Supplemental Stipulations

A. Pre-Construction, General

All lease operations will be conducted in such a manner that full compliance is made with 43 CFR 3160, all Onshore Oil and Gas Orders, NTLs, approved plan of operations, and all applicable state and federal laws. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

Conoco, Inc., will present an evacuation plan for Castle Valley River Rancho's to the Bureau of Land Management (BLM), Grand Resource Area Manager prior to ████ proceeding with drilling operations.

The operator will contact the Grand Resource Area manager at 801-259-8193, at least forty-eight (48) hours prior to beginning any dirt work on this location.

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

In accordance with BLM Onshore Oil and Gas Order No. 1, this well will be reported on "Monthly Report of Operations" (BLM Form 3160-6), starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report will be filed directly with the BLM District Office, P. O. Box 970, Moab, Utah 84532.

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

There will be no deviation from the proposed drilling and/or workover program without prior approval from the District Manager. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned, will be identified in accordance with 43 CFR 3162.2.

"Sundry Notice and Report on Wells" (BLM Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3164.

The dirt contractor and all subcontractors will be provided with an approved copy of the APD.

A cultural resource clearance permit will be required before any construction begins. If any cultural resources are found during construction, all work will stop and the Grand Resource Area Manager will be notified.

This permit will be valid for a period of one (1) year from the date of approval. After permit termination, a new application will be filed for approval for any future operations.

The well site will be identified as per 43 CFR 3162.6 prior to pad construction.

The appropriate encroachment and oversize highway load permits will be obtained from the Utah Department of Transportation in Price, Utah, prior to moving any equipment to the location. All conditions of such permit(s) will be followed by Conoco and their contractors throughout the full operation.

B. Required Inspections

A pre-construction onsite inspection will be held prior to pad or access road construction. Required participants will be BLM, Conoco, and dirt contractor.

A pre-spudding or pre-drilling inspection will be held prior to rig mobilization to inspect the pad, access road, pit, and pit liner. All participants listed above will be present.

A pre-rehabilitation inspection will be held prior to any reclamation efforts with the above listed participants.

If production is obtained a pre-production inspection will be required to approve production facilities prior to installation.

Other inspections will be held during the life of the project to insure compliance with this permit and all applicable stipulations, laws, and regulations.

C. Construction

Top soil stock pile will be protected from erosion with a plastic or similar cover and marked: "Top soil - Do not use for non-rehabilitation purposes" or a similar sign, and with drainage ditches around the stockpile to contain run off and sediment loss.

Hay or straw bales will be used as sediment filters where sediment from cut or fill areas enters major channels including wash crossings, culvert placement, and at the base of fill slopes.

Wash crossings, culvert locations, and fill slopes adjacent to ephemeral drainages will be rip-rapped with rock 1-2 ft. in diameter to protect these areas from impact by stream flow or run off.

D. Drilling

All fresh water and prospectively valuable minerals (as described by BLM at onsite) encountered during drilling will be recorded by depth, cased and cemented. All oil and gas shows will be tested to determine commercial potential.

Blooiie line will be misted to reduce fugitive dust when air drilling.

The BOP's will be capable of actuation by all of the following: (1) manual control for valves, (2) hydraulic controls on the rig floor and at a remote station, and (3) an accumulator system.

The drilling contractor shall conduct regular blowout prevention drills, periodic pressure tests (e.g. at the time of installation, prior to drilling out each casing show, and at least every 30 days), and regular maintenance of the BOP's and related controls. In addition, the pipe and blind rams should be activated at the midpoint of each round trip.

Immediate Report: Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be promptly reported to the Grand Resource Area manager in accordance with requirements of NTL-3A.

E. Production/Completion

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM 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 3164. 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 "Well Completion and Recompletion Report and Log" (BLM Form 3160-4). Samples (cutting, fluids, and/or gases) will be submitted when requested by the BLM Moab District Manager.

The spud date will be reported orally to the Grand Resource Area Manager at least 24 hours prior to spudding. Written notification in the form of a "Sundry Notice" (BLM Form 3160-5) will be submitted to the District Office within 24 hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular work day.

If a completion rig is contemplated for completion operations, a "Sundry Notice" (BLM Form 3160-5) will be filed for prior approval of the District Manager. All conditions of the approved drilling plan are applicable during operations conducted with the completion rig. In emergency situations, verbal approval to bring on a completion rig will be approved by the District Petroleum Engineer.

Should the well be successfully completed for production, the District Manager will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, 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 Grand Resource Area manager will coordinate the field conference.

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

The access road will be rehabilitated or brought to Resource (Class III) Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the Grand Resource Area Manager will be notified so that temporary drainage control can be installed along the access road.

All permanent (onsite for 6 months or longer) production structures (including oil well pump jacks) will be painted a flat, nonreflective, earth tone color to match the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within six (6) months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded. Colors will be as follows: Largo Red (2.5 R 5/6)

If a tank battery is constructed on this lease, it will be surrounded by a dike of sufficient capacity to contain 1-1/2 times the storage capacity of the battery.

All loading lines and valves will be placed inside the berm surrounding the tank battery.

Form 3160-3
Conoco Federal 31 No. 1
Nov. 27, 1984
Page Two

An archeological survey of the well site and access road was made on September 25, 1984 by the AERC Corporation of Bountiful, Utah.

It is expected that H₂S will be encountered during the drilling of this well. An H₂S contingency plan has been prepared and is hereto attached. Conoco Inc. and its contractors will adhere to this plan in order to ensure the safety of all employees and to protect the environment of the area.

Attachments:

- 1) Survey plat
- 2) 10-point drilling program w/addendum
- 3) BOP Diagram
- 4) 13-point surface use plan w/maps and site layout
- 5) H₂S contingency plan

Attached to Form 3160-3

10-POINT DRILLING PROGRAM
CONOCO FEDERAL 31 NO. 1
GRAND COUNTY, UTAH

1. The geologic name of the surface formation:

Permian Cutler

2. Estimated tops of important geologic markers:

Formations

Drilled Depth

Subsea Depth

CONFIDENTIAL

3. Waterbearing zones:

None anticipated.

4. Proposed casing program:

All new casing.

See Form 3160-3 for cementing program. Conoco will ensure that all potentially productive hydrocarbon zones will be cemented off behind the pipe.

The estimated cement tops will be as follows:

Conductor	-	Cement to surface
Surface	-	Cement to surface
Production	-	TOC @ 9,000'

All casing will be pressure tested after it has been installed. Casing will be tested to the following specifications:

Conductor	-	1,000 psi
Surface	-	1,500 psi
Production	-	1,500 psi

0- 300'	20" 94 lb/ft, H-40 ST&C
0- 3,000'	13 3/8", 61 lb/ft, K-55 ST&C
0-11,715'	9 5/8", 23, 26, 29 & 32 lb/ft, N-80 LT&C

Note: If a salt section is encountered, an alternative casing will be used as outlined in the addendum to this drilling plan.

5. Specifications for pressure control:

Our minimum specifications for pressure equipment will be 5,000 pounds. See attached diagram. The BOP will be tested daily.

6. Proposed circulating medium:

0- 300'	Gelled fresh water 8.5-9.0 ppg., viscosity 40-60 sec/qt.
300- 3,000'	Air/air mist (contingency fluid: Low solids nondispersed mud, 8.5-8.9 ppg, viscosity 35-45 sec/qt, pH 10.0-10.5, water loss 10-15 cc).
3,000-10,700'	Air/air mist/foam (contingency fluid: Low solids nondispersed to lightly dispersed, 8.7-9.1 ppg, viscosity 35-45 sec/qt, water loss 10-15 cc, pH 10.0-10.5).
10,700-T.D.	Low solids dispersed, 8.7-9.1 ppg, viscosity 35-45 sec/qt, water loss less than 12 cc, pH 10.0-10.5 (contingency fluid if salt encountered: salt saturated, low solids dispersed, 10.2-10.5 ppg, viscosity 40-45 sec/qt, water loss less than 12 cc, pH 9.0-9.5, salinity 330,000 ppm).

Sufficient mud materials will be mixed on location to fill hole volume plus an excess of 200 bbl, with sufficient weight to control the bottom hole pressure.

7. Auxiliary equipment:

We will use kelly cocks, floats at the bit, monitoring equipment on the mud system, a sub on the floor with a full opening valve, and a blooie line.

8. Testing, logging, and coring:

No cores will be taken.

Open hole logs:

CONFIDENTIAL

Drill Stem Tests:

Since this is an exploratory well, completion procedures cannot be anticipated at this time. If stimulation is to be attempted, prior approval will be obtained with a sundry notice to the Moab office of the BLM.

10-Point Drilling Program
Conoco Federal 31 No. 1
November 27, 1984
Page Three

9. Abnormal pressures and temperatures:

We do not anticipate encountering any abnormal pressures or temperatures. If encountered, a BOP will be used for control while drilling with mud. Mud weight will be increased if necessary to ensure adequate control. We expect to encounter H₂S in the drilling of this well. The H₂S contingency plan (attached) will be adhered to at all times.

10. Starting date and duration:

The well will be spudded approximately January 1, 1985. It is expected that drilling operations will require 150 days to complete.

ADDENDUM TO 10-POINT DRILLING PROGRAM
CONOCO FEDERAL 31 NO. 1
GRAND COUNTY, UTAH

In the event a salt section is encountered in the drilling of this well, the following change will be made to the casing program:

0- 300'	No change
0- 3,000'	No change
0-10,700'	9 5/8", 40.0 to 53.5 lb/ft, N-80 LT&C
10,000-11,715'	7", 35 lb/ft, P-110 LT&C

The cementing program will change as follows:

0- 300'	No change
0- 3,000'	No change
0-10,700'	630 sacks class H with additives
10,000-11,715'	230 sacks class H with additives

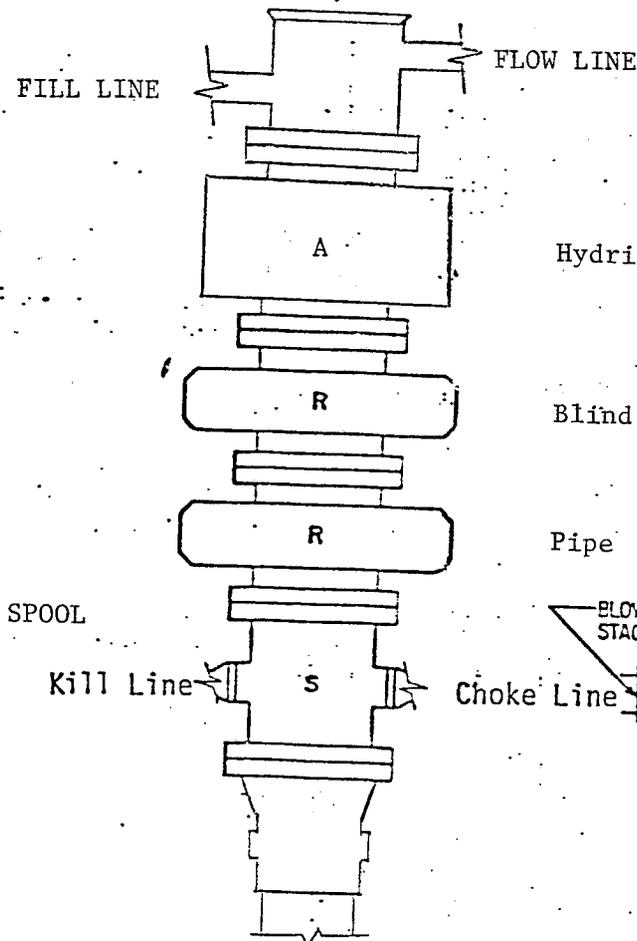
The estimated cement tops will be as follows:

Conductor	-	Cement to surface
Surface	-	Cement to surface
Intermediate	-	TOC @ 9,000'
Liner	-	TOC @ top of Liner

The intermediate string and liner will be pressure tested after installation as follows:

Intermediate	-	1,000 psi
Liner	-	1,500 psi

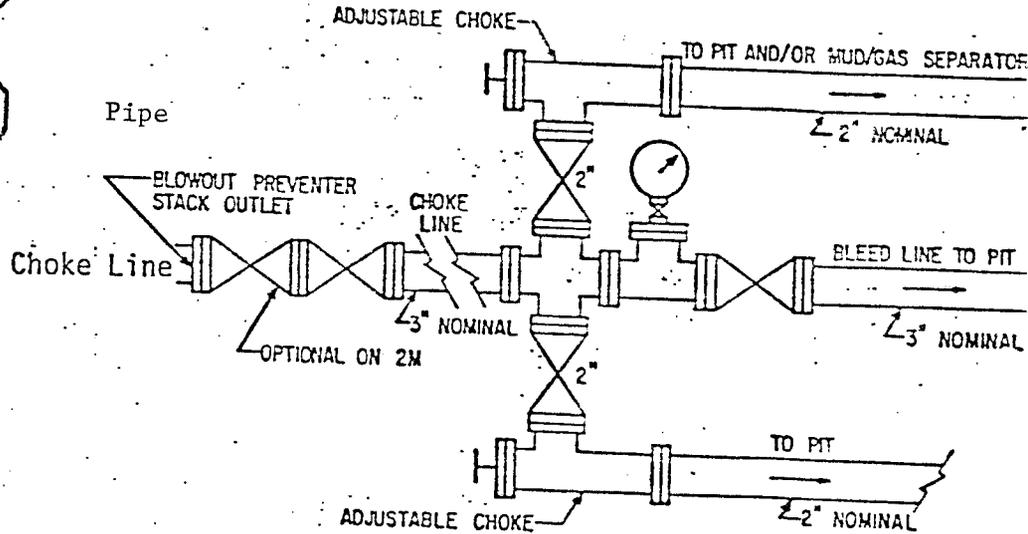
The remainder of the drilling program will remain unchanged.



Hydrill (annular)

Blind

Pipe



DOUBLE RAM TYPE PREVENTERS

Minimum BOP Stack	5,000 psi Working Pressure
One Pipe Ram	5,000 psi Working Pressure - 13 5/8"
One Blind Ram	5,000 psi Working Pressure - 13 5/8"
One Annular	5,000 psi Working Pressure - 13 5/8"
Well Head	5,000 psi Working Pressure 13 5/8" x 13 3/8" Weld-on
Manifold	5,000 psi Working Pressure
Spool	5,000 psi Working Pressure - 13 5/8"

CONOCO FEDERAL 31 #1

Grand Co., Utah

CONOCO INC.
13 POINT SURFACE USE PLAN
FOR
WELL LOCATION

CONOCO FEDERAL #31-1 CHIMNEY ROCK PROSPECT
LOCATED IN
SECTION 31, T24S, R23E, S.L.B.& M.
GRAND COUNTY, UTAH

Attached to Form 3160-3
Conoco Federal #31-1 Chimney Rock Prospect
Section 31, T24S, R23E, S.L.B. & M.

13 Point Surface Use Plan

1. Existing Roads

See attached Topographic Map "A."

To reach CONOCO INC. well location site Conoco Federal #31-1 Chimney Rock Prospect, located in NW/4 SE/4 Section 31, T24S, R23E, S.L.B. & M., Grand County, Utah:

Proceed northerly out of Moab, Utah along U. S. Highway 160 - 2.5 miles to the junction of this Highway and Utah State Highway 128; proceed Northeasterly along Utah State Highway 128 - 17.2 miles more or less to the junction of this Highway and the Castle Valley Road; proceed South along the Castle Valley Road 0.8 miles to its junction with the proposed access road (to be discussed in Item #2).

The highways mentioned above are bituminous surfaced roads to the Castle Valley Road at which point the county road is surfaced with gravel.

The highways mentioned above are state administered and are maintained by their crews, and the county road mentioned above is maintained by county crews.

2. Planned Access Road

See Topographic Map "B."

The planned road leaves the existing road described in Item #1 in the SE/4 NW/4 Section 31, T24S, R23E, S.L.B. & M., and proceeds in a South-easterly direction approximately 1,200' to the proposed location site.

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

The 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 deemed necessary in order to handle any run-off from normal meteorological conditions that are prevalent to the area. The maximum disturbed width will be 30'. The access road will be rehabilitated or brought to Resource (Class III) Road Standards within 60 days of dismantling of the drilling rig. If this time frame cannot be met, the Area Manager will be notified so that temporary drainage control can be installed.

Back slopes along the cut areas of the roads will be 1½ to 1 slopes and terraced.

There will be a 36" culvert required at the first major dry wash crossing, located in the first 100' along this road. There is another dry wash crossing which will require extensive up-grading. Straw bales will be placed along sides of up-grading in both major washes to control erosion.

There will be no turnouts required along this access road.

There are no fences encountered along this access road; therefore, there are no gates or cattleguards required.

The lands involved in this action are under B.L.M. jurisdiction. Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed will require advance approval by the Area Manager.

The terrain that is traversed by this road is relatively broken. It is sparsely vegetated with sagebrush and grasses.

3. Existing Wells:

See Topographic Map "B."

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

4. Location of Existing and Proposed Facilities

There are no other CONOCO INC. tank batteries, production facilities, oil gathering lines, gas gathering lines, injection lines, or disposal lines within a one mile radius of this location site.

A welded steel tank will be placed on the location site to contain liquid hydrocarbons that are produced by this well.

The area will be built, if possible, with native materials and if these materials are not available then the necessary arrangements will be made to get them from private sources. Because this is a wildcat well, the production facilities cannot be anticipated at this time. If production is established, approval to construct necessary facilities will be secured before construction begins. Any production facilities built will be painted non-reflective Largo Red.

If there is any deviation from the above, all appropriate agencies will be notified.

Rehabilitation of disturbed areas no longer needed for operations after construction is completed will meet the requirements of Item #10.

5. Location and Type of Water Supply

See Topographic Map "B."

At the present time, it is anticipated that the water for this well will be purchased from private sources in Moab, Utah.

In the event that this source is not used, an alternate source will be used and all necessary arrangements will be made with the proper authorities.

All appropriate permits will be acquired from the proper authorities.

There will be no water well drilled at this location site.

6. Source of Construction Materials

Construction materials for this location site shall be borrow material accumulated during construction of the location site.

The use of materials under B.L.M. jurisdiction will conform to 43 CFR 3610.2-3. If additional material is required, the Grand Resource Area will be contacted for approval.

7. Methods for Handling Waste Disposal

See location layout sheet.

A reserve pit will be constructed.

The reserve pit will vary in size and depth according to the water table at the time of drilling.

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 and produced fluids, etc.

The reserve pit will be lined with 20 mil plastic, with an underlining of sand or straw. Pit construction will be inspected prior to liner placement and prior to spudding.

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

At the onset of drilling, the reserve pit will be fenced on three sides with a 4-strand barbed wire fence. At the time drilling activities are completed, it will be fenced on the fourth side and allowed to dry completely prior to the time that backfilling and other reclamation activities are attempted.

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

Produced waste water will be confined to a lined pit for a period not to exceed ninety days after initial production. During the ninety day period, an application for approval of a permanent disposal method and location, along with the required waste analysis, will be submitted for the District Manager's approval pursuant to Onshore Oil and Gas Order No. 3 (NTL-2B). Any oil produced during testing will be collected in a portable steel test tank and hauled by truck from the location.

A portable trash basket will be placed on the location site and all trash will be hauled to the nearest Sanitary Land Fill.

The temporary camp on the location will have a closed septic system. Sewage will be hauled from the septic tank and disposed of properly.

8. Ancillary Facilities

There are no ancillary facilities planned now, and none foreseen in the near future.

9. Well Site Layout

See attached location layout sheet .

The B.L.M. Representative will be notified before any construction begins on the proposed location site. Fill areas will be compacted and watered to aid compaction. The northeast corner of the pad will be rounded off and the drainage re-routed around the pad corner.

A trash and burn pit will not be required because a trash bin will be provided on location and all trash will be hauled from the location to a landfill. The blooie line will vent over the reserve pit.

When drilling activities commence, all work shall proceed in a neat and orderly sequence.

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.) Any subsurface material not used in the construction of the location will be stockpiled separately from the topsoil.

Immediately upon completion of drilling, the location and surrounding areas will be cleared of all remaining debris, materials, trash and junk not required for production. Before any dirt work to restore the location and surrounding area, they will be cleared of all remaining debris, materials, trash and junk not required for production. The Operator or his contractor will notify the Grand Resource Area 48 hours before starting reclamation work that involves earthmoving equipment and upon completion of restoration measures.

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. Prior to re-seeding, all disturbed areas, including the access roads, will be scarified and left with a rough surface. Seed will be broadcast or drilled at a time specified by the B.L.M. If broadcast, a harrow or some other implement will be dragged over the seeded area to assure seed coverage. The seed mixture to be used will be determined by the B.L.M. at the time of restoration.

11. Other Information

Surface Ownership

All of the surface land involved in the construction of the access road and location site are Federally owned, and are under the jurisdiction of the B.L.M.

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

The area is a large basin formed by the Book Cliff Mountains to the north and the Lasal Mountains to the south. The Colorado River is located approximately 1 mile to the north of the location site.

The basin floor is interlaced with numerous canyons and ridges formed by the non-perennial streams of the area. The sides of these canyons are steep and ledges formed in sandstone ledges, conglomerate deposits, and shale are common in this area.

The geologic structures of the area that are visible are of the Uinta formation (Eocene Epoch) Tertiary Period in the upper elevations and the cobblestone and younger alluvial deposits are from the Quaternary Period.

Outcrops of sandstone ledges, conglomerate deposits and shale are common in this area.

The topsoils in the area range from a light brownish-gray sandy clay (SM-ML) type soil with poorly graded gravels to a clayey (OL) soil.

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

The Colorado River to the north of this location is the only perennial water that is affected by this location site.

Due to the low precipitation average, climatic 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 primary flow areas of sagebrush, rabbitbrush, some grasses and cacti as the primary flora. This is also true of the lower elevations.

The fauna of the area is sparse and consists predominantly of the mule deer, pronghorn antelope, 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 domestic sheep and cattle.

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

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

Conoco Federal #31-1 Chimney Rock Prospect is located in the bottom of Porcupine Canyon, which is located between Parriott Mesa and Porcupine Ridge.

The terrain in the vicinity of the location slopes from the southeast through the location site to the northwest at approximately a 15% grade.

The vegetation in the immediate area surrounding the location site consists of grasses and sparse amounts of sagebrush.

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

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

12. Miscellaneous

Warning signs will be in place prior to pad and road construction. Signs will be placed 100 yards north and south of access road on the Castle Valley county road and at its junction with Highway 128. At the junction of the access road and the county road, a sign will be in place to identify the area as a limited access area, and only authorized personnel allowed to enter.

There will be no deviation from the proposed drilling program without prior approval from the District Manager. Safe drilling and operating practices will be observed. This well will be identified in accordance with 43 CFR 3162.2.

"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 3164.

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

A cultural resource clearance has been obtained, and a copy sent to the B.L.M. Grand Resource Area office. If any cultural resources are found during construction, all work will stop and the Area Manager will be notified.

13. Lessee's or Operator's Representative

Michael S. Rooney
Conoco Inc.
907 N. Poplar Blvd.
Casper, WY 82601
(307) 234-7311

14. 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

Attached to Form 3160-3
Conoco Federal #31-1 Chimney Rock Prospect
November 27, 1984
Page 8

other work associated with the operation proposed herein will be performed by Conoco Inc. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

11-29-84
Date

for Thomas C. Thompson
Michael S. Rooney

APPENDIX V

OIL AND GAS LEASE U-50694

STIPULATION

Any intrusion in the area of lots 1, 3-6 Sec. 17; lots 1-3, SE $\frac{1}{4}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$ Sec. 19; lots 1-8, 12, 13, N $\frac{1}{2}$ NW $\frac{1}{4}$ Sec. 20; NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 21; NW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec. 29; lots 1, 2, 8-10, 13, 14, SE $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 30, T. 24 S., R. 23 E., SLM, Utah, must not be visible from the Colorado River. This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the District Oil and Gas Supervisor, Minerals Management Service, with the concurrence of the District Manager, Bureau of Land Management.

Edward B. Bergmann

Oil and Gas Lease Stipulation for Non-Conventional Oil Recovery

Under the provisions of Public Law 97-78, this lease includes all deposits of nongaseous hydrocarbon substances other than coal, oil shale, or gilsonite (including all vein-type solid hydrocarbons). Development by methods not conventionally used for oil and gas extraction such as fire flooding and including surface mining will require the lessee to submit a plan of operations and will be subject to regulations governing development by such methods when those rules are issued by the Bureau of Land Management (BLM), the U.S. Geological Survey, and the rules or procedures of the surface managing agency, if other than BLM. Development may proceed only if the plan of operations is approved.

Edward Benjamin

U-50694

Form 3730-1
(December 1975)
(formerly 3500-1)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

POWERSITE STIPULATION

The lessee or permittee hereby agrees:

(a) If any of the land covered by this lease or permit was, on the date the lease or permit application or offer was filed, within a powersite classification, reservation, or project on which an application for a license or preliminary permit is pending before the Federal Power Commission or on which an effective license or preliminary permit had been issued by the Federal Power Commission under the Federal Power Act, or on which an authorized power project (other than one owned or operated by the Federal Government) had been constructed, the United States, its permittees or licensees shall have the prior right to use such land for purposes of power development so applied for, licensed, permitted, or authorized and no compensation shall accrue to the mineral lessee or permittee for loss of prospective profits or for damages to improvements or workings, or for any additional expense caused the mineral lessee as a result of the taking of said land for power development purposes. It is agreed, however, that where the mineral lessee or permittee can make adjustments of his improvements to avoid undue interference with power

development, he will be permitted to do so at his own expense. Furthermore, occupancy and use of the land by the mineral lessee or permittee shall be subject to such reasonable conditions with respect to the use of the land as may be prescribed by the Federal Power Commission for the protection of any improvements and workings constructed thereon for power development.

(b) If any of the land covered by this lease or permit is on the date of the lease or permit within a powersite classification or reservation which is not governed by the preceding paragraph, the lease or permit is subject to the express condition that operations under it shall be so conducted as not to interfere with the administration and use of the land for powersite purposes to a greater extent than may be determined by the Secretary of the Interior to be necessary for the most beneficial use of the land. In any case, it is agreed that where the mineral lessee or permittee can make adjustments to avoid undue interference with power development, he will be permitted to do so at his own expense.

Edward Benjamin

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SURFACE DISTURBANCE STIPULATIONS

Area Oil and Gas Supervisor or
District Engineer (Address, include zip code)
District Oil and Gas Supervisor
Geological Survey
2000 Administration Building
1745 West 1700 South
Salt Lake City, UT, 84104

Management Agency (name)

SEE REVERSE SIDE

Address (include zip code)

SEE REVERSE SIDE

1. Notwithstanding any provision of this lease to the contrary, any drilling, construction, or other operation on the leased lands that will disturb the surface thereof or otherwise affect the environment, hereinafter called "surface disturbing operation," conducted by lessee shall be subject, as set forth in this stipulation, to prior approval of such operation by the Area Oil and Gas Supervisor in consultation with appropriate surface management agency and to such reasonable conditions, not inconsistent with the purposes for which this lease is issued, as the Supervisor may require to protect the surface of the leased lands and the environment.

2. Prior to entry upon the land or the disturbance of the surface thereof for drilling or other purposes, lessee shall submit for approval two (2) copies of a map and explanation of the nature of the anticipated activity and surface disturbance to the District Engineer or Area Oil and Gas Supervisor, as appropriate, and will also furnish the appropriate surface management agency named above, with a copy of such map and explanation.

An environmental analysis will be made by the Geological Survey in consultation with the appropriate surface management agency for the purpose of assuring proper protection of the surface, the natural resources, the environment, existing improvements, and for assuring timely reclamation of disturbed lands.

3. Upon completion of said environmental analysis, the District Engineer or Area Oil and Gas Supervisor, as appropriate, shall notify lessee of the conditions, if any, to which the proposed surface disturbing operations will be subject.

Said conditions may relate to any of the following:

- (a) Location of drilling or other exploratory or developmental operations or the manner in which they are to be conducted;
- (b) Types of vehicles that may be used and areas in which they may be used; and
- (c) Manner or location in which improvements such as roads, buildings, pipelines, or other improvements are to be constructed.

Edward B Benjamin

Oil and Gas Lease - Surface Disturbance Stipulations
Surface Management Agencies

- () Cedar City District Office, Bureau of Land Management, 1579 North Main,
P.O. Box 729, Cedar City, Utah 84720
- () Moab District Office, Bureau of Land Management, 125 West 2nd South,
P.O. Box 970, Moab, Utah 84532
- () Richfield District Office, Bureau of Land Management, 150 East 900 North,
P.O. Box 768, Richfield, Utah 84701
- () Salt Lake District Office, Bureau of Land Management, 2370 South 2300 West,
Salt Lake City, Utah 84119
- () Vernal District Office, Bureau of Land Management, 91 West Main,
P.O. Box F, Vernal, Utah 84078
- () Forest Supervisor, Ashley National Forest, 437 East Main, Vernal
Utah 84078
- () Forest Supervisor, Dixie National Forest, 500 South Main Street,
Cedar City, Utah 84720
- () Forest Supervisor, Fishlake National Forest, 170 North Main,
Richfield, Utah 84701
- () Forest Supervisor, Uinta National Forest, 88 West 100 North,
P.O. Box 1428, Provo, Utah 84601
- () Forest Supervisor, Manti-LaSal National Forest, 350 East Main,
Price, Utah 84501
- () Forest Supervisor, Wasatch National Forest, 4438 Federal Building,
125 South State Street, Salt Lake City, Utah 84111
- () Regional Director, Bureau of Reclamation, P.O. Box. 11568,
Salt Lake City, Utah 84147
- () Regional Director, Bureau of Reclamation, Boulder City, Nevada 89005
- () Superintendent, Uintah & Ouray Agency, Bureau of Indian Affairs,
Fort Duchesne, Utah 84025
- () Navajo Area Office, Bureau of Indian Affairs, P.O. Box 128,
Window Rock, Arizona 86515

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

SUBMIT IN TRIPLICATE*
(Other instructions on re-verse side)

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

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

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

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

Sec. 31, T24S, R23E

12. COUNTY OR PARISH | 13. STATE

Grand

Utah

1. OIL WELL GAS WELL OTHER

2. NAME OF OPERATOR

Conoco Inc.

3. ADDRESS OF OPERATOR

907 North Poplar, Casper, WY 82601

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

1,972' FSL & 1,973' FEL, NW/SE

14. PERMIT NO.

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

4,369' GL

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Conoco proposes to amend the Application for Permit to Drill this well as follows:

10-Point Drilling Program, Item 4:

The conductor pipe will be pressure tested to 150 psi instead of 1,000 psi as shown.

13-Point Surface Use Plan, Item 7:

The reserve pit will be lined with reinforced 8-mil plastic instead of the 20-mil un-reinforced plastic as originally planned.

**ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING**

DATE: 3/18/85

BY: John L. Base

Federal approval of this action is required before commencing operations.

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

SIGNED

J. C. Thompson

TITLE Administrative Supervisor

DATE

3-07-85

(This space for Federal or State office use)

APPROVED BY _____

TITLE _____

DATE _____

CONDITIONS OF APPROVAL, IF ANY:

BLM, Moab (3), UOGCC (2), AFE File 3708

*See Instructions on Reverse Side

DIVISION OF OIL, GAS AND MINING

SPUDDING INFORMATION

API #43-019-31180

NAME OF COMPANY: CONOCO

WELL NAME: CONOCO FEDERAL 31 #1

SECTION NW SE 31 TOWNSHIP 24S RANGE 23E COUNTY Grand

DRILLING CONTRACTOR Parker

RIG # 116

SPUDDED: DATE 3-17-85

TIME 1:30 PM

HOW Rotary

DRILLING WILL COMMENCE _____

REPORTED BY Steve Erwin

TELEPHONE # 307-234-7311

DATE 3-18-85 SIGNED JRB

BIT RECORD

WELL NAME: 31 #1 FEDERAL ELEVATION: GL 4361 - KB 4387
 CO. NAME: CONOCO SECTION: 31 - T24S - R23E
 CONTRACTOR: PARKER DRLG RIG# 116 CO. & STATE: GRAND CO., UT
 SPUD DATE: 3/17/85 T.D. DATE: 7/7/85

BIT RECORD								FT PER/DAY			DEVIATION SURVEYS	
RUN	SIZE	MAKE	TYPE	XXXX OUT	FTG	HOURS	FT/HR	DATE	DEPTH	FT	DEPTH	DEV.
1	17 1/2	HTC	X-22	1430	1335	84 1/2	15.8	4/1/85	3030	-0-	3306	1 1/2
2	"	STC	3JS	3030	1600	99 1/4	16.1	4/2	"	10	3591	2 1/4
3	12 1/4	DGJ	DGJ	3136	106	5 3/4	18.4	4/3	3040	224	3886	2 3/4
4	"	STC	F-3	5443	2307	103 1/4	22.3	4/4	3265	751	4083	3
5	"	"	F-4	5632	189	11 1/4	16.8	4/5	4015	80	4261	3 3/4
6	"	MILLED STC	JUNK TO F-3	5635 6308	3 673	1 1/4 71 1/2	12 9.4	4/6 4/7	4085 4537	452 310	4423	3 3/4
7	"	"	F-4	6619	311	28 3/4	10.8	4/8	4847	416	4609	4
8	"	PLUGGED STC	BACK to DTJ	6274 6346	TO SIDET 72	TRACT HOLE 10 3/4	6.7	4/9 4/10	5263 5493	230 139	4763	3 3/4
9	"	REED	Y-13	6375	29	13 1/2	2.1	4/11	5632	-0-	4912	"
10	"	HTC	HDST- 130	6415	40	17 1/4	2.3	4/12	5632	"	5063	4
11	"	REED	Y-13J	6416	1	2	.5	4/13	"	"	5218	4 1/4
RR#8	"	STC	DTJ	6421	5	1	5	4/14			5372	5
12	"	"	F-4	6563	142	13	10.9	4/15			5562	4 1/4
RR#9	"	REED	Y-13	REAM TO BOT	6563			4/16	5737	70	5743	4 1/2
13	"	STC	F-4	6745	182	11 3/4	15.5	4/17	5807	241	5908	5
14	"	HTC	J-33	7343	598	58 3/4	10.2	4/18	6048	170	6065	5 1/4
15	"	VAREL	V617	7501	158	27 3/4	5.7	4/19	6218	90	6212	6
16	"	STC	F-3	8126	625	103 1/2	6.0	4/20	6308	109	6324	6
17	"	HTC	J-33	8714	588	105	5.6	4/21	6417		6786	5 1/2
18	"	STC	F-2	9681	967	125 1/2	7.7	4/22	6619	-0-	PLUG BACK TO 6346	
19	"	"	"	10494	813	166	4.9	4/23	6619	"	6496	2 1/2
20	8 3/4	HTC	J-33H	---	---	---	---	4/24	6619	"	6588	2
RR#18	12 1/4	STC	F-2	REAM HOLE				4/25	6619	"	6647	1 1/2

BIT RECORD (CONT)

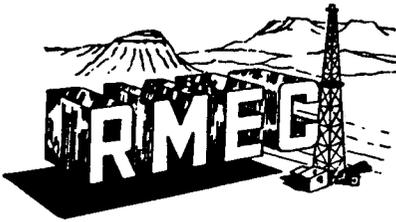
WELL NAME: CONOCO 31-1 FED. ELEVATION: _____
 CO. NAME: _____ SECTION: _____
 CONTRACTOR: _____ RIG# _____ CO. & STATE: _____
 SPUD DATE: _____ T.D. DATE: _____

BIT RECORD								FT PER/DAY			DEVIATION SURVEYS	
RUN	SIZE	MAKE	TYPE	XXX OUT	FTG	HOURS	FT/HR	DATE	DEPTH	FT	DEPTH	DEV.
RR#16	12 ¼	STC	F-2	REAM HOLE				4/26 - 4/27	6619 (PLUG BACK TO	0- 6274)		
21	8 3/4	"	V2HJ	10517	23	5 3/4	4.0	4/28	6317	33	6832	1
22	"	HTC	J-33	10781	269	10 ½	25.1	4/29	6350	37	7099	2
23	"	STC	F-3	11140	359	39	9.2	4/30	6387	28	7342	4 ¼
24	"	"	F-4	11300	160			5/1	6415	6	7439	4
								5/2	6421	42	7682	4
								5/3	6563	-0-	4928	4 ½
								5/4	6563	1	8175	"
								5/5	6564	179	8422	4 3/4
								5/6	6745	150	8670	5
								5/7	6895	92	8921	4 3/4
								5/8	6987	156	9168	"
								5/9	7143	-0-	9420	5
								5/10	7143	181	9658	4 3/4
								5/11	7324	19	9938	"
								5/12- 5/17	7343	-0-	10184	5
								5/18	7343	12	10431	4 ½
								5/19	7355	80	10564	"
								5/20	7435	48	10769	1 3/4
								5/21	7483	41	11016	2 ½
								5/22	7524	208		
								5/23	7732	69		
								5/24	7801	203		

BIT RECORD

WELL NAME: CONOCO 31-1 FED ELEVATION: _____
 CO. NAME: _____ SECTION: _____
 CONTRACTOR: _____ RIG# _____ CO. & STATE: _____
 SPUD DATE: _____ T.D. DATE: _____

BIT RECORD								FT PER/DAY			DEVIATION SURVEYS	
RUN	SIZE	MAKE	TYPE	IN OUT	FTG	HOURS	FT/HR	DATE	DEPTH	FT	DEPTH	DEV.
								5/23	8004	103		
								5/26	8107	56		
								5/27	8163	167		
								5/28	8330	104		
								5/29	8434	78		
								5/30	8512	190		
								5/31	8702	58		
								6/1	8760	222		
								6/2	8982	248		
								6/3	9230	184		
								6/4	9414	83		
								6/5	9497	169		
								6/6	9661	15		
								6/7	9681	126		
								6/8	9807	205		
								6/9	10012	57		
								6/10	10069	145		
								6/11	10214	129		
								6/12	10343	55		
								6/13	10398	48		
								6/14	10446	52		
								6/15- 6/25	10494	-0-		
								6/26	10494	32		



ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY CONOCO

WELL NO. 31 #1 FED.

LOCATION S31-T34S-R23E, GRAND COUNTY, UTAH

ZONE OF INTEREST NO. 1

INTERVAL: From 10669 To 10679

DRILL RATE: Abv 7-13 m/ft Thru 4-5 m/ft Below 7

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C ₁	C ₂	C ₃	C ₄	C ₅	OTHER
Before	2-3 U	555	TR				
During	42	7150	650	180	150	155	NO CO ₂ or H ₂ S
After	6	1000	TR	TR			

Type gas increase: Gradual Sharp

Gas variation within zone: Steady Erratic Increasing Decreasing

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = _____ Sensitivity: Poor Fair Good

FLUO: Mineral Even Spotty CUT: None Streaming
 None % in total sample _____ Poor Slow
 Poor Fair Mod
 Fair % in show lithology _____ Good Fast
 Good COLOR: _____ COLOR: _____

STAIN: None Poor Fair Good Live Dead Residue Even Spotty Lt. Dk.

POROSITY: Poor Fair Good Kind INTRXL

LITHOLOGY DOLO ltbrn-tan suc-fxln blk occ blk DD OIL STN NEC

SAMPLE QUALITY GOOD

NOTIFIED _____ @ _____ HRS. DATE: _____

REMARKS 38 UNITS DTG AETER SHORT TRIP (45 MIN)

ZONE DESCRIBED BY JAY CARTER



ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY CONOCO

WELL NO. 31 #1 FED.

LOCATION S31-T24S-R23E - GRAND CO., UTAH

ZONE OF INTEREST NO. 2

INTERVAL: From 10732 To 10770

DRILL RATE: Abv 7½ m/ft Thru 2½ Below 9

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C ₁	C ₂	C ₃	C ₄	C ₅	OTHER
Before	4	750	20	TR			
During	88	15725	1100	330	310	310	CO ₂ =200 ppm
After	4	700	30	TR			

Type gas increase: Gradual Sharp

Gas variation within zone: Steady Erratic Increasing Decreasing

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = _____ Sensitivity: Poor Fair Good

FLUO: Mineral Even Spotty CUT: None Streaming
 None % in total sample 15 Poor Slow
 Poor % in show lithology _____ Fair Mod
 Fair Good COLOR: ltgrn mnrl Fast
 Good COLOR: _____

STAIN: None Poor Fair Good Live Dead Residue Even Spotty Lt. Dk.

POROSITY: Poor Fair Good Kind INTRXLN

LITHOLOGY DOLO ltbrn-tan suc fxln occ calc

SAMPLE QUALITY

NOTIFIED JOHN KLINE @ 2:00 PM HRS. DATE: 6/30/85

REMARKS slt overall weak FLOR (prob mnrl); no odor or cut

ZONE DESCRIBED BY JAY CARTER



STATE OF UTAH
NATURAL RESOURCES
Water Rights

Scott M. Matheson, Governor
Temple A. Reynolds, Executive Director
Dee C. Hansen, State Engineer

1636 West North Temple • Salt Lake City, UT 84116 • 801-533-6071

January 11, 1985

RECEIVED

MAR 22 1985

**DIVISION OF OIL
GAS & MINING**

Conoco Inc.
907 North Poplar
Casper, WY 82601

	N	H		N	H		N	H
MKM			BRB			TGT		
TRP			RNB			JIB		
JAU			WJD			KLK		
B.BD.	JAN 15 1985						BL	
APE			JVS			REA	CF	
JTC			DWA			ABS		
DAS			JKW			SLP		
MSR			BGA			DFK		

Dear Applicant:

RE: TEMPORARY APPLICATION
NUMBER 05-2125 (T60552)

Enclosed is a copy of approved Temporary Application Number 05-2125 (T60552). This is your authority to construct your works and to divert the water for the uses described.

While this approved application does give you our permission to divert and use water, it does not grant easements through public or private lands in order to gain access to the source nor to convey the water to the place of use, nor does this approval eliminate the need for such other permits as may be required by this Division or any other agency in implementing your diversion.

This application will expire June 1, 1985, and it is expected that no diversion or use of the water will be done after that date unless another proposal has been made and approved.

Your contact with this office, should you need it is with the Area Engineer, Mark Page. The telephone number is (801)637-1303.

Yours truly,

Carl M. Staker
FOR Dee C. Hansen, P. E.
State Engineer

DCH:slm

Encl.: Copy of approved Temporary Application

TEMPORARY

APPLICATION TO APPROPRIATE WATER

STATE OF UTAH

Application No. T60552

05-2125

RECEIVED

DEC 10 1985

NOTE:—The information given in the following blanks should be free from explanatory matter, but when necessary, a complete supplementary statement should be made on the following page under the heading "Explanatory."

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, for uses indicated by (X) in the proper box or boxes, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

- 1. Irrigation Domestic Stockwatering Municipal Power Mining Other Uses

2. The name of the applicant is Conoco Inc.

3. The Post Office address of the applicant is 907 N. Poplar, Casper, WY 82601

4. The quantity of water to be appropriated --- second-feet and/or eight acre-feet

5. The water is to be used for oil well drilling from Jan. 1, 1985 to June 1, 1985
(Major Purpose) (Month) (Day) (Month) (Day)

other use period NA from _____ to _____
(Minor Purpose) (Month) (Day) (Month) (Day)

and stored each year (if stored) from NA to _____
(Month) (Day) (Month) (Day)

6. The drainage area to which the direct source of supply belongs is _____
(Leave Blank)

7. The direct source of supply is* Castle Creek
(Name of stream or other source)

which is tributary to Colorado River, tributary to Gulf of California

*Note.—Where water is to be diverted from a well, a tunnel, or drain, the source should be designated as "Underground Water" in the first space and the remaining spaces should be left blank. If the source is a stream, a spring, a spring area, or a drain, so indicate in the first space, giving its name, if named, and in the remaining spaces, designate the stream channels to which it is tributary, even though the water may sink, evaporate, or be diverted before reaching said channels. If water from a spring flows in a natural surface channel before being diverted, the direct source should be designated as a stream and not a spring.

8. The point of diversion from the source is in Grand County, situated at a point*
Sec. 35, T24S, R22E, Lot No. 1

S. 1440 ft. & W. 1350 ft. from NE Cor. Sec. 35, T24S, R22E, 1LB&M.
(2 miles NW of Castle Valley) Castle Valley Quad

*Note.—The point of diversion must be located definitely by course and distance or by giving the distances north or south, and east or west with reference to a United States land survey corner or United States mineral monument, if within a distance of six miles of either, or if at a greater distance, to some prominent and permanent natural object. No application will be received for filing in which the point of diversion is not defined definitely.

9. The diverting and carrying works will consist of water transport trucks

10. If water is to be stored, give capacity of reservoir in acre-feet _____ height of dam _____
area inundated in acres _____ legal subdivision of area inundated _____

11. If application is for irrigation purposes, the legal subdivisions of the area irrigated are as follows:

_____ Total _____ Acres

12. Is the land owned by the applicant? Yes _____ No X If "No," explain on page 2.

13. Is this water to be used supplementally with other water rights? Yes _____ No X
If "yes," identify other water rights on page 2.

14. If application is for power purposes, describe type of plant, size and rated capacity. _____

15. If application is for mining, the water will be used in _____ Mining District at
the _____ mine, where the following ores are mined _____

16. If application is for stockwatering purposes, number and kind of stock watered _____

17. If application is for domestic purposes, number of persons _____, or families _____

18. If application is for municipal purposes, name of municipality _____

19. If application is for other uses, include general description of proposed uses To be used for
drilling and completion of Conoco Federal 31 No. 1, an oil well.

20. Give place of use by legal subdivision of the United States Land Survey for all uses described in paragraphs 14 to 19, incl. NW/SE of Sec. 31, T24S, R23E
Grand County, Utah

21. The use of water as set forth in this application will consume eight ~~second-feet and/or~~ acre-feet of water and None second feet and/ or acre feet will be returned to the natural stream or source at a point described as follows: _____

FEEES FOR APPLICATIONS TO APPROPRIATE WATER IN UTAH

Flow rate — c.f.s.	Cost	
0.0 to 0.1	\$ 15.00	
over 0.1 to 0.5	30.00	
over 0.5 to 1.0	45.00	
over 1.0 to 15.0	45.00	plus \$7.50 for each cfs above the first cubic
over 15.0	150.00	foot per second.
 Storage — acre-feet		
0 to 20	22.50	
over 20 to 500	45.00	
over 500 to 7500	45.00	plus \$7.50 for each 500 a.f. above the first
over 7500	150.00	500 acre feet.

(This section is not to be filled in by applicant)

STATE ENGINEER'S ENDORSEMENTS

1. Dec 10, 1984 Application received by mail over counter in State Engineer's office by SP
2. Priority of Application brought down to, on account of
3. 12-28-84 Application fee, \$15.00, received by an Rec. No. 17162
4. Application microfilmed by Roll No.
5. 12-31-84 Indexed by an Platted by
6. 12-11-84 Application examined by SP
7. Application returned, or corrected by office
8. Corrected Application resubmitted by mail over counter to State Engineer's office.
9. Application approved for advertisement by
10. Notice to water users prepared by
11. Publication began; was completed
Notice published in
12. Proof slips checked by
13. Application protested by
14. Publisher paid by M.E.V. No.
15. Hearing held by
16. Field examination by
17. 12-11-84 Application designated for approval SP S.G.
rejection
18. 1/11/85 Application copied or photostated by slm proofread by
19. 1/11/85 Application approved
~~rejected~~
20. **Conditions:**

This Application is approved, subject to prior rights, as follows:

- a. Actual construction work shall be diligently prosecuted to completion.
- b. Proof of Appropriation shall be submitted to the State Engineer's office by NPR
- c. **TEMPORARY APPROVAL -- EXPIRES June 1, 1985.**

Carl M. Staker
FOR Dee C. Hansen, P.E., State Engineer

21. Time for making Proof of Appropriation extended to
22. Proof of Appropriation submitted.
23. Certificate of Appropriation, No., issued

TEMPORARY Application No. T 60552
05-2125

WATER RIGHTS DATA BASE
ENTERED - DATE 1/11/85 BY SLM
VERIFIED - DATE 1/11/85 BY SLM

EXPLANATORY

The following additional facts are set forth in order to define more clearly the full purpose of the proposed application:

This temporary permit to appropriate water is respectfully submitted for approval. The water will be used to facilitate the drilling of the Conoco Federal 31 No. 1, an exploratory oil well located in the SE 1/4 of Sec. 31, T24S, R23E, Grand Co., Utah. The water will be diverted from the Castle Creek, at a point in the NE 1/4 of Sec. 35, T24S, R22E, and hauled by truck over existing and proposed roads to the wellsite location. No water removed from the subject creek will be returned to the creek or any other waterway. All fluids, including water, remaining in the reserve pits at the completion of the project will be hauled off and disposed of properly or cleaned up in accordance with BLM surface use standards. No pumping facilities will be installed at the point of diversion. Surface ownership of land at both the point of diversion and point of use is Federal.

Lined area for additional text or notes.

(Use page 4 if additional explanatory is needed.)

The quantity of water sought to be appropriated is limited to that which can be beneficially used for the purpose herein described

Thomas C. Thompson

Signature of Applicant*

*If applicant is a corporation or other organization, signature must be the name of such corporation or organization by its proper officer, or in the name of the partnership by one of the partners, and the names of the other partners shall be listed. If a corporation or partnership, the affidavit below need not be filled in. If there is more than one applicant, a power of attorney, authorizing one to act for all, should accompany the Application.

DECLARATION OF CITIZENSHIP

STATE OF UTAH, }
County of..... } ss

On the day of 19....., personally appeared before me, a notary public for the State of Utah, the above applicant who, on oath, declared that he is a citizen of the United States, or has declared his intention to become such a citizen.

My commission expires:

YAMBOURNA (SEAL)

Notary Public

RECEIVED

June 28, 1985

JUL 02 1985

DIVISION OF OIL
GAS & MINING

TEMPORARY

Inc. Conoco
907 North Poplar
Casper, WY 82601

Dear Applicant:

RE: TEMPORARY APPLICATION
NUMBER 05-2144 (T60948)

Enclosed is a copy of approved Temporary Application Number 05-2144 (T60948). This is your authority to construct your works and to divert the water for the uses described.

While this approved application does give you our permission to divert and use water, it does not grant easements through public or private lands in order to gain access to the source nor to convey the water to the place of use, nor does this approval eliminate the need for such other permits as may be required by this Division or any other agency in implementing your diversion.

This application will expire September 1, 1985, and it is expected that no diversion or use of the water will be done after that date unless another proposal has been made and approved.

Your contact with this office, should you need it is with the Area Engineer, Mark Page. The telephone number is (801)637-1303.

Yours truly,

Robert L. Morgan, P.E.
State Engineer

RLM:slm

Encl.: Copy of approved Temporary Application

TEMPORARY APPLICATION TO APPROPRIATE WATER STATE OF UTAH

Application No. T 60947

05-2144

031022

RECEIVED

MAY 31 1985

WATER RIGHTS PRICE

NOTE:—The information given in the following blanks should be free from explanatory matter, but when necessary, a complete supplementary statement should be made on the following page under the heading "Explanatory."

For the purpose of acquiring the right to use a portion of the unappropriated water of the State of Utah, for uses indicated by (X) in the proper box or boxes, application is hereby made to the State Engineer, based upon the following showing of facts, submitted in accordance with the requirements of the Laws of Utah.

1. Irrigation Domestic Stockwatering Municipal Power Mining Other Uses

2. The name of the applicant is Conoco Inc.

3. The Post Office address of the applicant is 907 North Poplar, Casper, WY 82601

4. The quantity of water to be appropriated --- second-feet and/or eight acre-feet

5. The water is to be used for oil well drilling from March 17, 1985 to Sept. 1, 1985
(Major Purpose) (Month) (Day) (Month) (Day)

other use period --- from --- to ---
(Minor Purpose) (Month) (Day) (Month) (Day)

and stored 102 (if stored) from NA to ---
(Month) (Day) (Month) (Day)

6. The drainage area to which the direct source of supply belongs is DRIVER FOR GAS & MINING
(Leave Blank)

7. The direct source of supply is* Castle Creek
(Name of stream or other source)

which is tributary to Colorado River, tributary to Gulf of California

*Note.—Where water is to be diverted from a well, a tunnel, or drain, the source should be designated as "Underground Water" in the first space and the remaining spaces should be left blank. If the source is a stream, a spring, a spring area, or a drain, so indicate in the first space, giving its name, if named, and in the remaining spaces, designate the stream channels to which it is tributary, even though the water may sink, evaporate, or be diverted before reaching said channels. If water from a spring flows in a natural surface channel before being diverted, the direct source should be designated as a stream and not a spring.

8. The point of diversion from the source is in Grand County, situated at a point* Section 35, T24S, R22E, Lot No. 1

S 1,440' and W 1,350' from NE corner Section 35, T24S, R22E, SLB&M, Castle Valley Quad
(2 miles NW of Castle Valley)

*Note.—The point of diversion must be located definitely by course and distance or by giving the distances north or south, and east or west with reference to a United States land survey corner or United States mineral monument, if within a distance of six miles of either, or if at a greater distance, to some prominent and permanent natural object. No application will be received for filing in which the point of diversion is not defined definitely.

9. The diverting and carrying works will consist of water transport trucks

10. If water is to be stored, give capacity of reservoir in acre-feet _____ height of dam _____
area inundated in acres _____ legal subdivision of area inundated _____

11. If application is for irrigation purposes, the legal subdivisions of the area irrigated are as follows:

_____ Total _____ Acres

12. Is the land owned by the applicant? Yes _____ No X If "No," explain on page 2.

13. Is this water to be used supplementally with other water rights? Yes _____ No X
If "yes," identify other water rights on page 2.

14. If application is for power purposes, describe type of plant, size and rated capacity. _____

15. If application is for mining, the water will be used in _____ Mining District at the _____ mine, where the following-ores are mined _____

16. If application is for stockwatering purposes, number and kind of stock watered _____

17. If application is for domestic purposes, number of persons _____, or families _____

18. If application is for municipal purposes, name of municipality _____

19. If application is for other uses, include general description of proposed uses To be used for drilling and completion of Conoco Federal 31 No. 1, an oil well.

20. Give place of use by legal subdivision of the United States Land Survey for all uses described in paragraphs 14 to 19, incl. NW/SE of Section 31, T24S, R23E, Grand County, Utah
43-019-31180 PA

21. The use of water as set forth in this application will consume eight ~~second-feet and/or~~ acre-feet of water and none second feet and/ or acre feet will be returned to the natural stream or source at a point described as follows: _____

EXPLANATORY

The following additional facts are set forth in order to define more clearly the full purpose of the proposed application:

This temporary permit to appropriate water is respectfully submitted for approval. The water will be used to facilitate the drilling of the Conoco Federal 31 No. 1, an exploratory oil well located in the SE 1/4 of Section 31, T24S, R23E, Grand County, Utah. The water will be diverted from the Castle Creek, at a point in the NE 1/4 of Section 35, T24S, R22E, and hauled by truck over existing and proposed roads to the wellsite location. No water removed from the subject creek will be returned to the creek or any other waterway. All fluids, including water, remaining in the reserve pits at the completion of the project will be hauled off and disposed of properly or cleaned up in accordance with BLM surface use standards. No pumping facilities will be installed at the point of diversion. Surface ownership of land at both the point of diversion and point of use is Federal.

Lined area for additional text or notes.

(Use page 4 if additional explanatory is needed.)

The quantity of water sought to be appropriated is limited to that which can be beneficially used for the purpose herein described

Handwritten signature of the applicant.

Signature of Applicant*

*If applicant is a corporation or other organization, signature must be the name of such corporation or organization by its proper officer, or in the name of the partnership by one of the partners, and the names of the other partners shall be listed. If a corporation or partnership, the affidavit below need not be filled in. If there is more than one applicant, a power of attorney, authorizing one to act for all, should accompany the Application.

DECLARATION OF CITIZENSHIP

STATE OF UTAH, }
County of..... } ss

On theday of, 19....., personally appeared before me, a notary public for the State of Utah, the above applicant who, on oath, declared that he is a citizen of the United States, or has declared his intention to become such a citizen.

My commission expires:



Notary Public

FEES FOR APPLICATIONS TO APPROPRIATE WATER IN UTAH

Flow rate — c.f.s.	Cost	
0.0 to 0.1	\$ 15.00	
over 0.1 to 0.5	30.00	
over 0.5 to 1.0	45.00	
over 1.0 to 15.0	45.00	plus \$7.50 for each cfs above the first cubic
over 15.0	150.00	foot per second.

Storage — acre-feet		
0 to 20	22.50	
over 20 to 500	45.00	
over 500 to 7500	45.00	plus \$7.50 for each 500 a.f. above the first
over 7500	150.00	500 acre feet.

(This section is not to be filled in by applicant)

STATE ENGINEER'S ENDORSEMENTS

1. May 31, 1985 Application received by mail ~~XXXXXXXXXXXX~~ in State Engineer's office by [Signature]
2. Priority of Application brought down to, on account of
3. 6-13-85 Application fee, \$15.00, received by [Signature] Rec. No. 18267
4. Application microfilmed by
5. Indexed by Platted by
6. 6-10-85 Application examined by [Signature]
7. Application returned, or corrected by office
8. Corrected Application resubmitted by mail over counter to State Engineer's office.
9. Application approved for advertisement by
10. Notice to water users prepared by
11. Publication began; was completed
12. Notice published in
13. Proof slips checked by
14. Application protested by
15. Publisher paid by M.E.V. No.
16. Hearing held by
17. 6-10-85 Application designated for approval ~~rejection~~ [Signature] S.G.
18. 6/28/85 Application copied or photostated by slm proofread by
19. 6/28/85 Application approved ~~rejected~~
20. Conditions:

This Application is approved, subject to prior rights, as follows:

- a. Actual construction work shall be diligently prosecuted to completion.
- b. Proof of Appropriation shall be submitted to the State Engineer's office by NPR
- c. TEMPORARY APPROVAL -- EXPIRES September 1, 1985.

[Signature]
Robert L. Morgan, P.E., State Engineer

21. Time for making Proof of Appropriation extended to
22. Proof of Appropriation submitted.
23. Certificate of Appropriation, No., issued

TEMPORARY

Application No. T 66948

115-2194

WATER RIGHTS DATA BASE
 ENTERED - DATE 6/11/85 BY MLK
 VERIFIED - DATE 6/11/85 BY MLK

CONOCO, INC.
Federal 31 #1
Grand County, Utah

CUSTOMER : CONOCO, INC.

WELL # : FEDERAL 31 # 1

LOCATION : GRAND COUNTY UTAH

DATE : 4-2-85

JOB TYPE : GYRO-MONITOR

JOB # : GS-2221

SURVEYOR : ALAN HARBERT

DEPTHS : 0-?

DECL. : 13 DEGREES EAST

ELEV. : 0'

FILE # : RM-B13S

METHOD : RADIUS OF CURVATURE

SECTION : S52.56W

```

*****
* THIS SURVEY IS CORRECT TO THE *
* BEST OF MY KNOWLEDGE AND IS *
* SUPPORTED BY ACTUAL FIELD DATA.*
* *
* ----- *
* DIG REPRESENTATIVE *
* *
*****

```

FINAL STATION DATA!

MEASURED	INCL.	HOLE	COURSE	TRUE	VERTICAL	VERTICAL	RECTANGULAR	DOG-LEG
DEPTH	ANGLE	DIRECTION	LENGTH	DEPTH	SECTION	COORDINATES	SEVERITY	
FEET	DEGS.	DEGS.	FEET	FEET	FEET	N/S feet E/W	DG/100FT	
11300.00	3.00	S 48.00 E	45.00	11279.27	499.62	303.72 S 396.71 W	0.00	

MEASURED DEPTH FEET	INCL. ANGLE DEGS.	HOLE DIRECTION DEGS.	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES	DOG-LEG SEVERITY DG/100FT
						N/S feet E/W	
0.00	0.00	N 00.00 E	0.00	0.00	0.00	0.00 N 0.00 E	0.00
100.00	1.00	S 18.00 W	100.00	99.99	.72	.83 S .27 W	1.00
200.00	3.10	S 14.00 W	100.00	199.93	3.59	4.27 S 1.26 W	2.10
300.00	2.60	S 14.00 W	100.00	299.80	7.48	9.09 S 2.46 W	.50
400.00	2.40	S 09.00 W	100.00	399.71	10.77	13.37 S 3.33 W	.30
500.00	2.00	S 09.00 W	100.00	499.63	13.55	17.16 S 3.93 W	.40
600.00	1.70	S 08.00 W	100.00	599.58	15.87	20.35 S 4.41 W	.30
700.00	1.30	S 08.00 W	100.00	699.55	17.73	22.94 S 4.77 W	.40
800.00	1.20	S 10.00 W	100.00	799.52	19.31	25.10 S 5.11 W	.11
900.00	1.10	S 10.00 W	100.00	899.50	20.79	27.07 S 5.46 W	.10
1000.00	1.10	S 10.00 W	100.00	999.48	22.21	28.96 S 5.79 W	0.00
1100.00	1.10	S 08.00 W	100.00	1099.46	23.60	30.86 S 6.09 W	.04
1200.00	1.00	S 08.00 W	100.00	1199.45	24.90	32.67 S 6.35 W	.10
1300.00	.90	S 06.00 W	100.00	1299.43	26.06	34.32 S 6.55 W	.11
1400.00	.90	S 03.00 E	100.00	1399.42	27.05	35.89 S 6.59 W	.14
1500.00	.80	S 08.00 W	100.00	1499.41	28.00	37.37 S 6.66 W	.19
1600.00	.90	S 00.00 E	100.00	1599.40	28.98	38.85 S 6.76 W	.15
1700.00	.90	S 03.00 E	100.00	1699.39	29.90	40.42 S 6.72 W	.05
1800.00	.90	S 07.00 E	100.00	1799.38	30.75	41.98 S 6.58 W	.06
1900.00	.80	S 00.00 E	100.00	1899.36	31.57	43.46 S 6.49 W	.14
2000.00	.80	S 03.00 W	100.00	1999.35	32.45	44.86 S 6.53 W	.04
2100.00	.90	S 12.00 E	100.00	2099.34	33.26	46.33 S 6.41 W	.24
2200.00	1.00	S 01.00 E	100.00	2199.33	34.11	47.98 S 6.22 W	.21
2300.00	1.00	S 08.00 E	100.00	2299.31	35.06	49.71 S 6.09 W	.12
2400.00	1.00	S 06.00 E	100.00	2399.30	35.94	51.45 S 5.87 W	.03

MEASURED DEPTH FEET	INCL. ANGLE DEGS.	HOLE DIRECTION DEGS.	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES N/S	RECTANGULAR COORDINATES E/W	DOG-LEG SEVERITY DG/100FT
2500.00	1.00	S 08.00 E	100.00	2499.28	36.82	53.18 S	5.66 W	.03
2600.00	1.00	S 02.00 E	100.00	2599.27	37.76	54.92 S	5.51 W	.10
2700.00	1.00	S 05.00 E	100.00	2699.25	38.73	56.66 S	5.40 W	.05
2800.00	1.10	S 06.00 E	100.00	2799.24	39.70	58.48 S	5.23 W	.10
2900.00	1.10	S 04.00 W	100.00	2899.22	40.84	60.40 S	5.19 W	.19
2932.00	1.10	S 02.00 W	32.00	2931.21	41.24	61.01 S	5.23 W	.12
3306.00	1.50	S 09.00 E	374.00	3305.12	45.97	69.47 S	4.71 W	.13
3591.00	2.25	S 02.00 W	285.00	3589.96	51.17	78.76 S	4.14 W	.29
3836.00	2.75	S 03.00 W	245.00	3834.73	58.03	89.44 S	4.61 W	.20
4083.00	3.00	S 01.00 E	247.00	4081.42	65.73	101.82 S	4.82 W	.13
4269.00	3.75	S 03.00 W	186.00	4267.09	72.54	112.77 S	5.01 W	.42
4423.00	3.75	S 04.00 W	154.00	4420.76	79.14	122.82 S	5.63 W	.04
4609.00	4.00	S 08.00 W	186.00	4606.34	87.78	135.32 S	6.94 W	.20
4763.00	3.75	S 08.00 W	154.00	4759.98	95.19	145.63 S	8.39 W	.16
4912.00	3.75	S 16.00 W	149.00	4908.67	102.59	155.15 S	10.42 W	.35
5063.00	4.00	S 34.00 W	151.00	5059.32	111.60	164.36 S	14.71 W	.82
5218.00	4.25	S 40.00 W	155.00	5213.92	122.34	173.26 S	21.42 W	.32
5372.00	5.00	S 64.00 W	154.00	5367.42	134.66	180.85 S	31.13 W	1.34
5562.00	4.25	S 67.00 W	190.00	5556.80	149.59	187.20 S	45.07 W	.41
5743.00	4.50	S 72.00 W	181.00	5737.27	162.80	192.04 S	58.00 W	.25
5908.00	5.00	S 75.00 W	165.00	5901.70	175.56	195.92 S	71.10 W	.34
6065.00	5.25	S 73.00 W	157.00	6058.07	188.61	199.78 S	84.58 W	.20
6212.00	6.00	S 82.00 W	147.00	6204.36	201.66	202.90 S	98.63 W	.79
6264.00	6.00	S 80.00 W	52.00	6256.08	206.44	203.75 S	104.00 W	.40
6324.00	6.00	S 72.00 W	60.00	6315.75	212.19	205.26 S	110.08 W	1.39

MEASURED DEPTH FEET	INCL. ANGLE DEGS.	HOLE DIRECTION DEGS.	COURSE LENGTH FEET	TRUE VERTICAL DEPTH FEET	VERTICAL SECTION FEET	RECTANGULAR COORDINATES N/S	E/W	DOG-LEG SEVERITY DG/100FT
6496.00	2.50	S 77.00 W	172.00	6487.25	224.01	208.67 S	122.36 W	2.04
6544.00	2.00	S 75.00 W	48.00	6535.21	225.74	209.13 S	124.19 W	1.05
6588.00	2.00	S 82.00 W	44.00	6579.19	227.12	209.43 S	125.69 W	.55
6647.00	1.50	N 85.00 W	59.00	6638.16	228.57	209.48 S	127.49 W	1.08
6832.00	1.00	N 67.00 W	185.00	6823.11	231.08	208.51 S	131.39 W	.34
7099.00	2.00	S 61.00 W	267.00	7090.02	236.65	208.86 S	138.13 W	.60
7342.00	4.25	S 59.00 W	243.00	7332.64	249.78	215.48 S	149.60 W	.93
7439.00	4.00	S 60.00 W	97.00	7429.39	256.71	219.02 S	155.61 W	.27
7682.00	4.00	S 63.00 W	243.00	7671.80	273.45	227.11 S	170.51 W	.09
7928.00	4.25	S 64.00 W	246.00	7917.16	290.82	235.01 S	186.34 W	.11
8175.00	4.50	S 66.00 W	247.00	8163.44	309.22	242.97 S	203.42 W	.12
8422.00	4.75	S 69.00 W	247.00	8409.64	328.46	250.59 S	221.82 W	.14
8670.00	5.00	S 73.00 W	248.00	8656.74	348.45	257.45 S	241.74 W	.17
8921.00	4.75	S 75.00 W	251.00	8906.83	368.30	263.33 S	262.24 W	.12
9168.00	4.75	S 83.00 W	247.00	9152.98	386.60	267.23 S	282.31 W	.27
9420.00	5.00	S 78.00 W	252.00	9404.07	405.52	270.76 S	303.42 W	.20
9658.00	4.75	S 78.00 W	238.00	9641.21	423.78	274.97 S	323.20 W	.11
9938.00	4.75	S 80.00 W	280.00	9920.25	444.54	279.39 S	345.96 W	.06
10184.00	5.00	S 83.00 W	246.00	10165.36	462.83	282.48 S	366.64 W	.15
10431.00	4.50	S 80.00 W	247.00	10411.51	480.73	285.50 S	386.86 W	.23
10564.00	4.50	S 82.00 W	133.00	10544.10	489.91	287.14 S	397.17 W	.12
10769.00	1.75	S 74.00 W	205.00	10748.78	499.99	289.46 S	408.09 W	1.35
11016.00	2.50	S 71.00 E	247.00	10995.60	504.33	296.36 S	408.27 W	1.64
11255.00	3.00	S 48.00 E	239.00	11234.33	500.05	302.14 S	398.46 W	.50
11300.00	3.00	S 48.00 E	45.00	11279.27	499.62	303.72 S	396.71 W	0.00

CLOSURE DISTANCE = 499.62 FEET.
CLOSURE DIRECTION = S 52 56 W

CONOCO, INC.

WELL # :
 FEDERAL 31 # 1

LOCATION :
 GRAND COUNTY UTAH

DATE :
 4-2-65

JOB TYPE :
 GYRO-MONITOR

JOB # :
 GC-2221

SURVEYOR :
 ALAN HANBERT

DEPTHS :
 0-7

DECL. :
 13 DEGREES EAST

ELEV. :
 0'

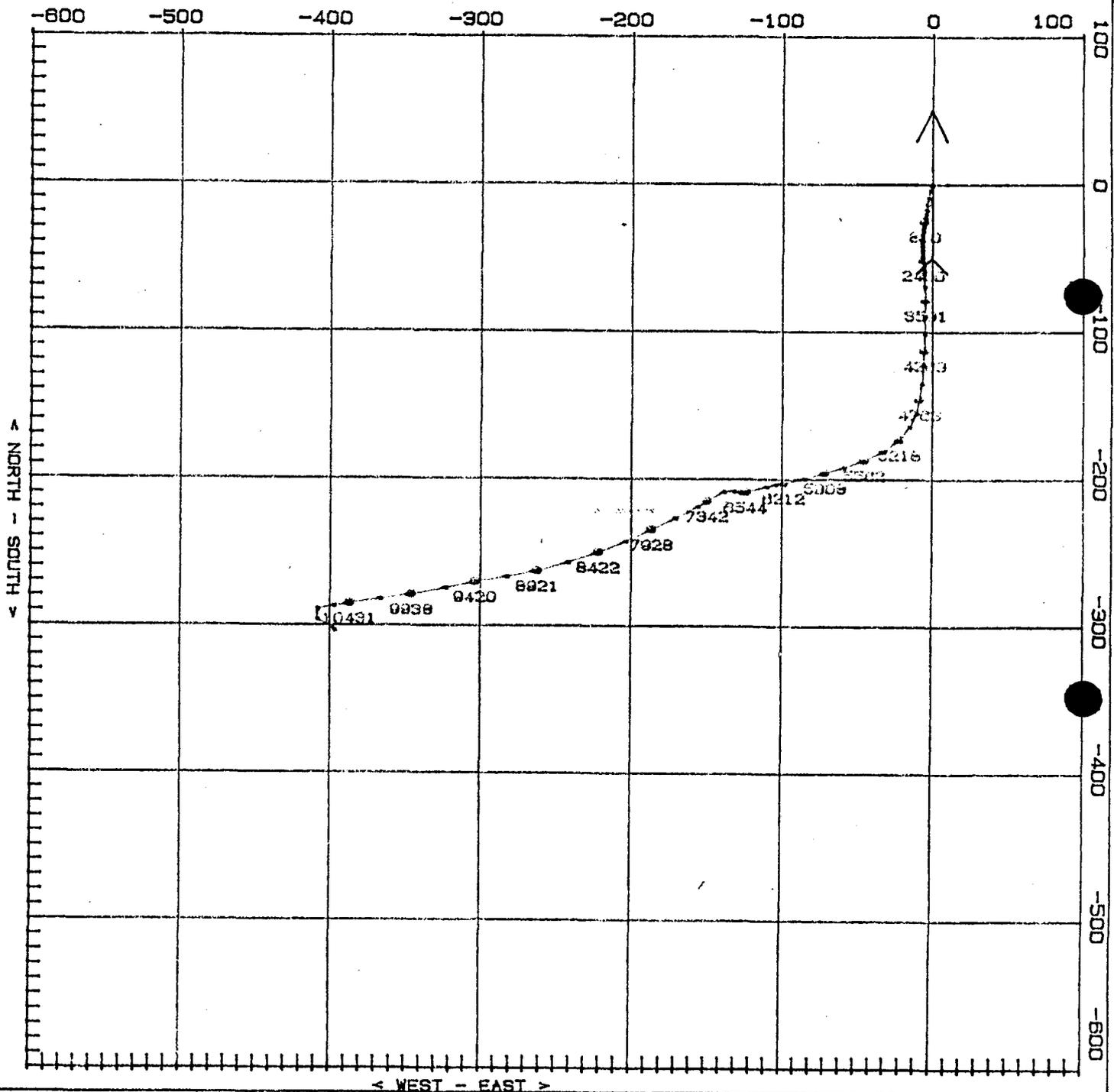
FILE # :
 RM-8133

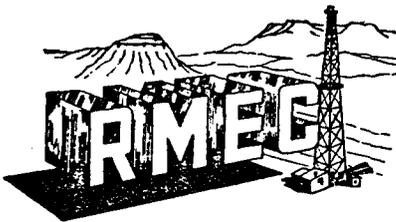
FINAL STATION DATA:

MD. 11300.00
 TVD. 11279.27
 N/S -303.72
 E/W -398.71

CLOSURE DISTANCE
 499.62 FEET
 CLOSURE DIRECTION
 S 52.58 W

1 IN. = 100 FT.





ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL SITE GEOLOGY — MUD LOGGING

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81505

TIGHT HOLE
CONFIDENTIAL

CONOCO, INC.

31-#1 FEDERAL

SECTION 31-T24S-R23E

GRAND COUNTY - UTAH

GEOLOGIC REPORT

BY

CUSH COPELAND

WELL SUMMARY

OPERATOR: CONOCO, INC.
WELL NAME: 31 - #1 FEDERAL
LOCATION: SECTION 31, T24S, R23E
COUNTY: GRAND
STATE: UTAH
SPUD DATE: 12 MARCH, 1985
TOTAL DEPTH DATE: 7 JULY, 1985
ELEVATION: GL 4361' - KB 4387'
TOTAL DEPTH: 11,300' DRILLER'S
CONTRACTOR: PARKER BROTHERS, RIG #116
DRILLING FLUID: AIR TO 7343'; SALT BASED MUD TO 10,494';
GEL TO T.D.
MUD COMPANY: MILCHER
ENGINEERS: DAN REED & PAT SWIGART
HOLE SIZE: 12¼" TO 10,494; 8½" TO T.D.
CASING RECORD: 13 7/8" TO 3029'; 9 5/8" TO 10,475
MUD LOGGING: ROCKY MOUNTAIN GEO-ENGINEERING COMPANY
LOGGER/GEOLOGIST: CUSH COPELAND & JAY CARTER
DST: JOHNSTON - SCHLUMBERGER
ELECTRIC LOGS: SCHLUMBERGER
WELL STATUS: UNKNOWN AT TIME OF REPORT

CONOCO, INC.
 31-#1 FEDERAL
 SECTION 31-T24S-R23E
 GRAND COUNTY - UTAH

SAMPLE DESCRIPTIONS

3050-3060	60% 40%	SLTST SH	rdbrn-org,slsdy,mica,n-vslcalc,blk,frm-vfrm rdbrn,slty,mica,abnt cly,blk,mfrm-sft
3060-3070	50% 50%	SLTST SH	AA AA
3070-3080	50% 50% TR	SLTST SH QTZ	rd-orgbrn, mica, arg, vslcalc, blk,frm rd-orgbrn,slty,abnt cly,blk,sft rdbrn,clr,c-fg,wrdd-ang
3080-3090	60% 40%	SLTST SH	AA occ grd to slty SH AA
3090-3100	60% 40%	SLTST SH	AA /smbrn, /sm vmica AA (powder) pred washed thru 60 mesh screen
3100-3110	55% 45%	SLTST SH	rd-orgbrn,arg,cly,sdy ip,blk,frm rd-orgbrn,mbrn,slty,slcalc,sdy,blk,sft
3110-3120	60% 40% TR	SH SLTST QTZ	AA AA lse grs,rdbrn-clr,c-fg,wrdd-ang
3120-3130	50% 50%	SH SLTST	rdbrn,slty,sdy ip,vsl-ncalc,blk,sft rd-orgbrn-mbrn,arg,cly,mica,occ v mica,vsl-ncalc,blk,frm-mfrm
3130-3140	60% 40%	SLTST SH	AA incrg mbrn AA sm grd to SLTST
3140-3150	65% 35%	SLTST SH	AA AA
3150-3160	60% 40%	SLTST SH	rdorgbrn-mbrn,arg,mica,vslcalc,cly,blk,frm
3160-3190			NS due to obstruction in flow line
3190-3200	60% 40%	SLTST SH	rdbm,n-vslcalc,arg,occ sdy,vsft-sft rdbrn-mbrn,slty vsft
3200-3220	55% 45%	SLTST SH	AA rd-orgbrn AA rd-mbrn
3220-3230	55% 45%	SH SLTST	rd-mbrn,slty,slmica,vsl-ncalc,blk,sft AA incrg abnt arg
3230-3240	55% 45%	SLTST SH	rd-orgbrn,arg,cly,mica,sl-ncalc,blk,frm AA
3240-3260	60% 40%	SLTST SH	AA AA

CONOCO 31-#1 FEDERAL
SAMPLE DESCRIPTION CONT.

3260-3270	80% 20%	SLTST SH	rdbnr,arg,mica,n-vslcalc,blky,sft-slfrm AA
3270-3280	75% 25%	SLTST SH	AA /sm cly occ sdy AA plty,sft
3280-3290	70% 30%	SLTST SH	rd-orgbrn,arg,cly,mica,vsl-ncalc,sft-slfrm rdbnr,slty,sdy ip,occ grdg to SLTST,plty-blky,sft-slfrm
3290-3300	80% 20%	SLTST SH	AA dcrg mica, occ sdy AA
3300-3310	70% 30%	SLTST SH	AA AA
3310-3330	80% 20%	SLTST SH	NOTE: DUE TO RAPID DRILL RATE, CATCHING 30' SAMPLES - QUALITY THE SAME AA AA (99% SH spl cont to wash thru 60 mesh screen, inferred to be shale)
3330-3360	65% 55%	SLTST SH	rd-orgbrn,arg,cly,mica,occ sdy,blky,mfrm-frm rdbnr,slty,occ sdy,sm grdg to SLTST,vsft
3360-3390	60% 40%	SH SLTST	AA AA mica,sm vmica
3390-3420	70% 30%	SH SLTST	rdbnr-rd-org,calc,slty,sm mica,abnt cly vsft AA
3420-3450	75% 25%	SH SLTST	AA incrg mica rd-orgbrn,arg,abnt cly,mica,occ sdy,blky,frm
3450-3480	70% 30%	SH SLTST	AA rdbnr,sm slcalc,arg,sm mica,frm
3480-3510	80% 20%	SH SLTST	AA sm mbrn-rdbnr rd-orgbrn,arg,cly,sdy,n-vslcalc,blky,sft,slfrm
3510-3540	90% 10%	SH SLTST	AA AA
3540-3570	80% 20%	SH SLTST	rd-mbrn-orgbrn,slty,sdy,vsl-ncalc,blky-plty,sft AA
3570-3690	NOTE: NS - BLOWN OUT OF BUCKET - ASSEMBLING NEW SPL LINE TO IMPROVE QUALITY & QUANTITY OF SAMPLES		
3690-3720	80% 20% TR	SH SLTST SS	rd-orgbrn,slty,calc-slcalc,blky,sft-vsft,mica rdbnr,cly,sdy,mica,blky,sft, NSFOC rdbnr,vfg,sbrd,calc,uncons,mica,grdg to SLTST,mcmt,psrt,
3720-3750	85% 15%	SH SLTST	AA occ grdg to SLTST orgbrn,arg,sm vsdy,sl-ncalc,blky,sft-slfrm
3750-3780	70% 30%	SH SLTST	AA decr mica rd-orgbrn,mica,arg,calc,grdg to slty SS,blky,sft-slfrm
3780-3810	50% 50%	SH SLTST	AA AA

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

	TR	SS	clr-rdbrn,vfg,sbrd-sbang,grdg to SLTST,calc,mica,mcmt,mwsrt
3810-3840	50%	SH	AA
	35%	SLTST	AA NSFOC
	15%	SS	rdbrn,f-vfg,sbrd,slty,mica,calc,grdg to SLTST,mcmt,psrt
3840-3900	50%	SLTST	AA
	35%	SH	AA
	15%	SS	
	TR	LS	m-ltgy,vf-micxl,slty,shly,blky,frm, NSFOC
	TR		carb material
3900-3930	60%	SH	AA grdg to SLTST, occ sdy
	25%	SLTST	AA
	15%	SS	AA /sm clr-ltgn,sbrd-sbang, NFSOC
	TR	QTZ	lse grs,fros-c-fg,sbrd-sbang,occ ang
3930-3960	60%	SLTST	rd-orgbrn,mica,slty,grdg to SH,calc,blky,sft
	40%	SH	rd-orgbrn,mica,slty,grdg to SLTST,calc,blky,sft
3960-3990	50%	SH	AA
	35%	SLTST	AA, incrg grdg to SS
	15%	SS	rd-orgbrn-clr,vfg,sbang-sbrd,tt,calc,slty,mica,grdg to SLTST,mcmt,m-psrt, NFSOC
3990-4020	50%	SH	AA
	40%	SLTST	AA
	10%	SS	AA
	TR	QTZ	lse grs,rdbrn,fg,sbrd-sbang,occ ang
4020-4050	50%	SLTST	rd-orgbrn,mica,arg,sm grdg to slty SH,blky,sft-slfrm
	35%	SH	AA
	15%	SS	AA
	TR	QTZ	lse grs,clr-rd,f-cg,sbang-ang,occ sbrd
4050-4080	50%	SH	AA
	50%	SLTST	AA
	TR	LS	rdbrn,vfxl,shly,grdg to lmy SH,blky,frm, NFSOC
4080-4110	60%	SLTST	rdbrn-brn,vslcalc,mica (bio),arg,sdy,blky,mfrm
	40%	SH	rdbrn-orgbrn,n-vslcalc,mica,slty,sft
4110-4140	50%	SLTST	AA
	50%	SH	AA (pred cont to wash thru 60 mesh screen)
4140-4170	40%	SH	AA
	40%	SLTST	AA
	20%	SS	org,vfg,slty-arg,n-vslcalc,mica,m-wcmt,msrt, NFSOC
	TR	QTZ	lse grs clr-fros-ltorg,mg,wrdd
4170-4200		NS	
4200-4230	60%	SLTST	rdbrn-mbrn,smgngy,arg,n-vslcalc,mica (bio),sdy,blky,frm
	40%	SH	AA
4230-4260	40%	SLTST	AA
	40%	SH	rdbrn,slty,mica,occ grdg to SLTST,vslcalc,blky,sft-slfrm
	20%	SS	lse QTZ grs rdbrn-fros,m-fg,sbang-sbrd,arg-slty,mica(bio) calc,m-pcmt,psrt, NFSOC
4260-4290	50%	SLTST	rdbrn-brn AA,incr mica(bio & musc),sdy,n-vslcalc,blky,sft-frm
	40%	SH	AA
	10%	SS	AA p-mcmt,msrt NFSOC

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

4290-4320	50% 50%	SLTST SH	AA rdbrn-orgbrn,slty,brn,cly,ncalc,blky-plty,mfrm-frm
4320-4350	50% 40% 10%	SLTST SH SS	rdbrn-orbrn,mica (bio+musc),sdy,n-vslcalc,blky,sft-frm AA <u>lse QTZ grs:rdbrn-clr-fros,f-mg,sbrd-sbang,slty,mica (bio), pcmt,msrt, NFSOC</u>
4350-4380	60% 25%	SLTST SH	AA,incr mica rdbrn-occ orgbrn,slty,mica,occ grd g to SLTST,vsl-ncalc,blky sft
	15%	SS	AA
4380-4410	50% 40% 10%	SLTST SH SS	AA, w/s ark incl rd-orgbrn,slty,mica,grdg to SLTST,vsl-ncalc,sdy ip,blky,frm <u>lse QTZ grs:rdbrn-fros,f-mg,sbang-rdd,pcmt,m-wsrt, NFSOC</u>
4410-4440	40% 40% 20%	SLTST SH SS	AA,incr musc,decr bio AA <u>lse QTZ grs:fros-ltrd-clr,mcg/occ fg,sbrd-sbang,occ rdd,ark ip pcmt,m-wsrt, NFSOC</u>
4440-4470	60% 30% 10%	SS SLTST SH	<u>lse QTZ grs:fros-ltrd-clr,m-cg,sbrd-sbang,ark,pcmt,msrt,NSFOC</u> rd-orgbrn,cly,sdy,vsl-ncalc,mica (pred musc),blky,frm AA
4470-4500	55% 30% 15%	SS SLTST SH	AA,decr lse QTZ grs,occ mcmt,NFSOC AA AA
4500-4520	50% 25% 25%	SLTST SS SH	AA frm-hd,occ sft AA AA
4520-4540	60% 30% 10%	SH SLTST SS	rd-orgbrn-mbrn,mica,slty,occ grd g to SLTST,vslcalc,blky-plty rd-orgbrn,arg,cly,sdy,grdg to SH,blky,frm AA
4540-4560	50% 30% 20%	SS SH SLTST	<u>lse QTZ grs:ltrd-clr-fros,f-mg,sbrd-sbang,pcmt,msrt, NFSOC</u> AA AA
4560-4580	50% 30% 20%	SH SLTST SS	AA AA AA
4580-4600	40% 30% 30%	SLTST SS SH	AA AA, NFSOC AA
4600-4620	40% 30% 30%	SS SLTST SH	<u>lse QTZ grs:fros-ltpk,m-fg,sbang-sbrd,pred lse w/s mcmt, ncalc,NSFOC</u> rd-orgbrn,arg,sdy,mica (bio & musc),ncalc,blky,frm rd-orgbrn-mbrn,slty,sdy,occ mica,n-vslcalc,blky-plty,sft- sl frm
4620-4640	40% 30% 30%	SS SLTST SH	AA, NFSOC rdbrn-brn,arg,n-vslcalc,sdy,mica(bio/musc),blky,frm-mfrm AA
4640-4660	50% 25% 25%	SS SH SLTST	<u>lse QTZ grs:clr-ltrd-rdbrn,f-mg,occ cg,sbang-sbrd,occ rdd</u> rdbrn-brkred,slty,abnt cly,ncalc,mica (bio/musc),blky,mfrm AA

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONTINUED

4660-4680	40% SS	AA occ arg incl,NFSOC
	40% SH	AA
	20% SLTST	AA sm ark incl
4680-4700	40% SH	AA
	30% SS	AA, NSFOC
	30% SLTST	AA
4700-4720	60% SS	<u>1se QTZ grs</u> :rd-fros-ltpk,m-fg,occ cg,sbrd,pcmt,occ mcmt,m-w srt, NSFOC
	20% SH	AA
	20% SLTST	AA
4720-4740	50% SH	AA
	30% SLTST	rdbrn-brn-orgbrn,mica (pred musc),vsl-ncalc,sdy, sm ark incl,blky,frm
	20% SS	AA, NSFOC
4740-4760	50% SLTST	AA
	40% SH	rdbrn-mbrn-orgbrn,slty,mica,occ grdg to SLTST,sdy,ncalc, blky,sft-frm
	10% SS	AA, NSFOC
4760-4780	60% SH	AA
	30% SLTST	AA
	10% SS	AA
	TR	CHT trns1-clr-fros,conch frac,blky,hd
4780-4800	40% SS	<u>1se QTZ grs</u> :ltrd-clr-fros,m-fg,sbrd-sbang,occ ang,mica,pred <u>1se,p-mcmt, m-wsrt, NSFOC</u>
	40% SLTST	AA
	20% SH	AA
4800-4820	40% SLTST	AA,decr mica
	40% SH	AA
	20% SS	AA
4820-4840	50% SLTST	AA
	35% SH	rdbrn-orgbrn,slty,sdy,occgrdg to slty SS,n-vslcalc,mica, blky-plty,frm-mfrm, s/sft
	15% SS	AA
4840-4860	50% SH	AA
	40% SLTST	org-rdbrn,mica,sdy,occ grdg to slty SS,n-vslcalc
	10% SS	AA
4860-4880	60% SH	AA
	30% SLTST	AA
	10% SS	AA
4880-4900	45% SLTST	rdbrn-brn,arg,abnt mica (pred bio),ncalc,s1sdy,blky.frm
	45% SH	rdbrn-brkrd,slty,ncalc,mfrm
	10% SS	<u>1se QTZ grs</u> :rose-ltrdbrn-clr,c-fg,ncalc cmt,1se mica,mcmt, m-psrt, NSFOC
4900-4920	40% SLTST	rdbrn-brn,AA
	40% SH	AA
	20% SS	<u>1se QTZ grs</u> :fros-ltrdbrn-clr,sm/lty,AA

CONOCO 31-#1 FEDERAL
SAMPLE DESCRIPTION CONT.

4920-4940	40% SLTST	rdbnr-brn AA, incr mica
	45% SH	rdbnr,brkrd,AA
	15% SS	<u>lse QTZ grs AA s/ltygn</u>
4940-4960	50% SLTST	AA,decr mica
	50% SH	AA
	TR SS	<u>lse QTZ grs:fros-ltrdbnr-clr-lty AA</u>
4960-4980	55% SH	AA
	45% SLTST	AA
	TR SS	AA
4980-5000	40% SS	<u>lse QTZ grs:fros-ltrdbnr-clr-ltygn,m-fg,occ cg,sbrd-ang,</u> <u>lse w/s mcmt, ncalc, mica,msrt, NFSOC</u>
	30% SH	rdbnr,slty,mica,ncalc,blky,mfrm
	30% SLTST	rdbnr-brn,arg,mica,ncalc,blky,frm
5000-5020	NOTE: CATCHING WET SPLS (WATER USED TO SUBDUE DUST) FROM END OF BLOOIE LINE	
	40% SH	rdbnr-brn-gy,mica,ncalc,slty,blky,frm
	30% SS	<u>lse QTZ grs:fros-ltrdbnr-clr-gy,f-mg AA</u>
	30% SLTST	rdbnr-brn,arg,mica,ncalc,blky,frm
5020-5040	40% SH	AA,decr mica
	30% SLTST	AA,decr mica
	30% SS	AA
5040-5060	60% SLTST	rdbnr,arg,mica,ncalc,blky,frm
	20% SH	rdbnr-brkrd,cly,slty,ncalc,grdg to SLTST,blky,mfrm
	20% SS	AA s/dkgy-blk incl
5060-5080	60% SLTST	AA s/brn
	30% SH	AA
	10% SS	AA
5080-5100	60% SLTST	AA,incr brn
	25% SH	AA
	15% SS	AA
5100-5120	40% SLTST	pred rdbnr AA
	30% SH	rdbnr-brkrd-orgrd AA
	30% SS	AA
	TR ANHY	wh-orgwh,amor,intbd w/SH & SLTST,plty-blky,sft
5120-5140	40% SS	<u>lse QTZ grs:fros-clr-ltpk,f-mg,sbrd-sbang,occ ark incl,pcmt,</u> <u>msrt, NSFOC</u>
	30% SH	AA
	30% SLTST	AA
	TR ANHY	wh-orgwh,amor,intbd w/SH & SLTST,plty-blky,sft
5140-5160	40% SH	rdbnr,slty,abnt cly,mica,blky,mfrm
	30% SS	AA
	30% SLTST	AA rdbnr
5160-5180	40% SS	AA
	30% SH	AA w/sm brn
	30% SLTST	AA w/sm brn

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

5180-5200	40%	SLTST	rdbnrn-mbrn,mica,arg,sdy,blky,frm
	40%	SS	AA lse QTZ grs:occ ark incl,cht incl,m-psrt, s/wcmt,NSFOC
	20%	SH	AA
	TR	ANHY	wh-orgwh,amorp,sft
5200-5220	40%	SS	AA
	40%	SH	rdbnrn-brkrd,slty,sdy,mica,grdg to SLTST,n-vslcalc,blky-plty, frm-mfrm
	20%	SLTST	AA occ dkgygn intbd
5220-5240	45%	SS	AA w/s wrdd
	35%	SH	AA
	20%	SLTST	AA w/s dkgn-dkgygn
5240-5260	50%	SS	AA
	30%	SH	AA w/s gy,blky,mfrm
	20%	SLTST	rdbnrn-brn-dkbrn AA
5260-5280	40%	SH	rdbnrn-orgbrn,slty,slmica,grdg to SLTST,sdy,occ ANHY,blky-plty,frm
	30%	SLTST	AA
	30%	SH	AA
5280-5300	50%	SS	lse QTZ grs:fros-clr-ltgy,m-fg,occ cg,sbang-wrdd,ncalc, mica,arg,pcmt,m-psrt,NSFOC
	30%	SLTST	rdbnrn-brn,arg,mica,n-vslcalc,blky,mfrm
	20%	SH	rdbnrn,slty,mica,abnt cly,blky,mfrm
5300-5320	80%	SLTST	orgbrn-rdbnrn-brn,arg,mica,n-vslcalc,blky,mfrm-frm
	10%	SS	AA
	10%	SH	AA
5320-5340	80%	SLTST	AA,incr brn
	10%	SS	AA
	10%	SH	AA
5340-5360	60%	SLTST	brn-rdbnrn,incr mica (pred bio),n-vslcalc,arg,blky-plty,frm
	20%	SS	AA
	20%	SH	rdbnrn-brn,s/gygn,abntcly,mica,ncalc,blky,frm-mfrm
5360-5380	70%	SLTST	pred brn AA decr mica
	15%	SS	AA
	15%	SH	AA
5380-5400	60%	SH	rdbnrn-gygn,s/purpbrn,slty,mica,slcalc,cly,blky-plty,mfrm-frm
	20%	SLTST	brn-rdbnrn,arg,mica,n-vslcalc,blky,frm, NSFOC
	20%	SS	lse QTZ grs:fros-clr-ltrdbnrn,m-vfg,occ cg,sbang,ncalc,mpsrt
	TR	LS	lt-ltgy,crpxl,dns,blky,hd
5400-5420	40%	SLTST	AA
	40%	SH	AA
	20%	SS	AA
	TR	ANHY	wh,amorp,sft, & TR LS AA,incrg
5420-5440	60%	SLTST	AA pred brn
	30%	SH	AA,sm/brkred
	10%	SS	AA
	TR	ANHY	AA

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

5440-5460	30%	LS	wh-ofwh-crm,mic-vxln,chk ip, sdy ip,blky,frm-mfrm, w/yel mnr1 <u>FLOR</u> , NCOS
	30%	SLTST	AA
	30%	SH	AA
	10%	SS	AA
5460-5480	30%	SLTST	AA
	30%	SH	AA
	25%	SS	AA
	15%	LS	AA /s ltpk,yel minr1 <u>FLOR</u> , NCOS
5480-5500	35%	SLTST	AA
	30%	SH	AA
	25%	SS	<u>lse QTZ grs</u> :ltred-ltpk-fros,m-fg,sbrd-rdd,mica,occ dk mnr1 incl,pcmt,occm-wcmt,p-msrt,NSFOC
	10%	LS	AA
5500-5520	45%	LS	crm-ltpk-wh-ltgy,crpxl,occ micxl,frac,sdy,chk ip,blky,frm
	30%	SH	AA
	25%	SS	AA
5520-5540	40%	SLTST	rdbrn-purpbrn,calc,arg,mica,sdy ip,blky,mfrm
	30%	LS	AA s/gygn,slty,occ mnr1 <u>FLOR</u> , NSOC
	30%	SS	AA
5540-5560	45%	SLTST	rdbrn-purpbrn AA,s/slty
	45%	SH	rdbrn,slty,mica,ncalc,blky-plty,mfrm-frm
	10%	LS	AA
5560-5580	50%	SH	AA
	40%	SLTST	AA
	10%	LS	AA s/ltpk
5580-5600	60%	SLTST	AA
	40%	SH	AA
	TR	LS	AA
5600-5620	70%	SLTST	AA
	30%	SH	AA
5620-5640			NS (Bit broken @ 5332') -Fishing for 2 cones,shanks,mill junk to 5335
5640-5660	60%	SLTST	mrdbrn,mica,s/vmica,sdy,arg,blky,frm
	20%	LS	ltgy-wh-crm,mic-vfxl,slty,blky,frm
	20%	SS	<u>lse QTZ grs</u> ,occ m-wcmt,mica,p-msrt,NFSOC
5660-5680	50%	SLTST	AA
	35%	SS	AA
	15%	LS	AA
5680-5700	80%	SS	<u>lse QTZ grs</u> ,ltrdbrn-fros-clr,f-cg,mica,slcalc,pcmt-lse,m-p srt,NFSOC
	20%	SLTST	brn-rdbrn-gn,abnt mica (bio,musc & chl),n-vs1calc,arg,blky,frm
	TR	LS	ltbrn,crpxl,dns,hd,occ mnr1 <u>FLOR</u> , NSOC
5700-5720	70%	SS	AA
	30%	SLTST	AA
	TR	LS	AA
5720-5740	90%	SLTST	dkgy,mica-vmica,dol-calc,blky-plty,frm-hd
	5%	SS	AA
	5%	LS	brn-ltbrn,micxl,arg,shly,dns,blky,hd TWISTED OFF @ 5738' - RECOVERED PIPE
5740-5760	70%	SLTST	dkgy,mcalc-calc,arg,blky,mfrm
	30%	LS	gy-mott,micxl,dns,blky,hd
	TR	SS	<u>lse QTZ grs</u> :fros-ltredbrn,f-mg,pred lse,sbang
5760-5780	95%	SLTST	brn-dkbrn,calc-vcalc,mica-vmica,blky,mfrm-frm
	5%	LS	AA
5780-5799	100%	SLTST	AA, s/gy
	TR	LS	AA TWISTED OFF @ 5799', RECOVERED PIPE

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

CATCHING 10' SAMPLES @ 5800'

5800-5810 90% SLTST dkgy-brn-rdbrn, abnt mica (pred musc), calc, arg, blk, frm-mfrm
 5% SS lse QTZ grs: fros-clr, m-vfg, sbang-sbrd
 5% LS gy-ltbrn-mott, micxl, dns

5810-5820 95% SLTST AA s/org
 5% LS AA
 TR SS AA

5820-5830 95% SLTST pred brn, s/dkgy-rdbrn, abnt mica (umsc), sl-ncalc, arg, blk, frm-mfrm
 5% LS AA ltbrn-brn

5830-5840 100% SLTST brn AA, incr arg
 TR LS AA

CATCHING 20' SPLS @ 5840' (Faster drlg & not enough spl collecting in bucket)

5860-5880 40% SH AA, s/gygn
 30% SLTST AA
 30% LS ltgy-wh-mot-ltbrn, mic-crpxl, micro-foss, dns, hd

5880-5900 70% SH dkgy, slty, ncalc, sm/slcalc, blk-plty, mfrm-frm
 30% LS AA, pred ltbrn

5900-5920 90% SH AA, dkgy
 10% LS AA, ltbrn

5920-5940 80% SS lse QTZ grs: clr-fros-ltorg, f-cg, sbang-sbrd, occdkgn-dkgy incl
 20% SH dkgy-brn-dkgn, abnt mica, blk-plty, mfrm-frm
 TR LS ltbrn, micxl, foss, dns, hd

5940-5960 60% SLTST brn-gy, ltgy, arg, sdy, mica, calc, blk-plty, frm
 25% LS ltgy-mott, micxl, dns, hd
 10% SH brn, mica-vmica, slcalc, blk-plty, frm
 5% SS lse QTZ grs AA

5960-5980 80% SLTST dk-mbrn, m-dkgy, arg, sdy, mica, blk, frm
 10% LS AA
 10% SS lse QTZ grs: redbrn-clr-fros, f-mg, occ m-wcmt, msrt, NSFOC

5980-6000 80% SS lse QTZ grs: clr-ltrd-fros-pk, m-cg, occ fg, sbrd-sbang, occ rdd, pred lse grs, occ m-wcmt, msrt
 10% LS dk-mgy, s/ltgy, vf-crpxl, shly ip, crinoid frags, blk, hd
 10% SLTST AA

6000-6020 50% SS AA s/wcmt, occ blk mnrl incls, s/ark incl
 30% SLTST dk-mbrn, dkgy, arg, sdy, occ mica, grdg to SS, blk, frm
 20% LS AA

6020-6040 50% SLTST AA
 35% SS AA occ tt, s/mica, pred lse
 15% LS AA s/shly

6040-6060 50% SLTST AA/occ grdg to slty LS
 35% LS dk-mbrn-ltbrn, c-fxl, occ vfxl, shly, grdg to calc SLTST, sdy, blk, hd
 15% SS AA w/occ m-wcmt, mica, NFSOC

6060-6080 80% SLTST AA
 15% SH brn, slty, mic-mica, blk, mfrm
 5% LS AA

6080-6100 90% SLTST AA pred brn
 10% SH AA brn
 TR LS AA

6100-6120 90% SS lse QTZ grs: clr-fros-ltorg, f-cg, sbang-sbrd, mcmt-lse, m-psrt, mica, NFSOC
 5% SH AA
 TR SLTST AA

6120-6140 80% SLTST brn-rdbrn, arg, sdy, abnt mica, blk, frm, slcalc
 10% SH AA
 10% SS AA

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

6140-6160	40%	LS	dk-ltgy,dkbrn,f-vfxl,chk ip,sdy ip,blky
	20%	SS	AA
	30%	SLTST	AA s/dk-mgy
	10%	SH	AA
6160-6180	60%	LS	dk-ltgy-brn,f-vfg,chk ip,slty ip,blky,frm-hd
	20%	SLTST	AA
	20%	SS	lse QTZ grs:clr-fros,f-cg,sbrd,mcmt,wsrt
6180-6200	60%	LS	dk-ltgy,vfxl,blky-plty,hd
	40%	SS	clr-fros-org,f-cg,sbrd,sle,msrt
6200-6220	80%	SLTST	dkgy,blky-plty,frm,org,calc,mica
	20%	LS	ltgy-gy,dns,hd,s/suc,mcrxl
6220-6240	90%	SLTST	AA dkgy
	10%	LS	AA pred ltgy
6240-6260	50%	SS	lse QTZ grs:clr-fros-ltorg,pred fg w/s mg,pcmt-lse,slcalc cmt,msrt,sbang
	30%	SLTST	AA
	20%	LS	AA w/ABNT MICA lse (musc)
6260-6280	60%	SS AA	
	30%	SLTST	AA
	10%	LS	AA W/MICA AA
6280-6300	50%	SS	AA w/incr ltorg
	40%	SLTST	AA w/s grngy,sdy
	10%	LS	AA gy-ltgy
			TWIST OFF @ 6308 (IN BHA) RECOVERED FISH
6300-6320	80%	SLTST	ltbrn-ltgy-gy-ltrdbrn-ltgn,blky-plty,frm-mfrm,s/slcalc,arg, s/mic-mica,
	10%	SS	lse QTZ grs:clr-fros,m-fg,pcmt-lse,slcalc cmt,mica,occ dkgy- dkbrn incl,msrt,sbang,sbrd
	10%	SH	dkgy-dkngy,blky-plty,slty,mic-mica,ncalc,mfrm
6320-6340	80%	SLTST	ltbrn-ltgy-gy-ltrdbrn-ltgn,blky-plty,frm-mfrm,s/slcalc,arg, sdy,shly,mica
	10%	SS	AA w/slcalc cmt,mica,occ dkgy-dkgn incl,msrt,sbang-sbrd
	10%	SH	dkbrngy-blk,blky-plty,slty,calc,hd
6340-6380	70%	SLTST	gy-ltgy-fros-ltbrn-gn,sdy ip,occ incl,mica,slcalc
	20%	SS	lse QTZ grs:fros-clr-org-pk,sbang-sbrd,calc-slcalc,frm, w-psrt,sl mica
	10%	SH	brn-gy,plty-blky,mica,slcalc,mfrm
6380-6400	80%	SLTST	dkgy-gy-ltgy w/blk incl,sdy ip,shly ip,mfrm-frm,slcalc
	10%	SH	blk-gy,blky-plty,slty,frm
	10%	SS	lse QTZ grs:clr-pk,ncalc,w-psrt,sbang-sbrd
6400-6420	50%	SLTST	dk-ltgy,calc,blky-plty
	40%	SH	dkgy-blk,slcalc,frm-hd,blky-plty
	10%	SS	ofwh-pk,psrt,calc,sbang-sbrd
6420-6440	90%	SLTST	AA dkgy
	10%	SH	AA dkgy
6440-6460	80%	LS	brngy mott,dns,mcr-crpxl,hd,s/pyr,arg,slty-sdy
	20%	SLTST	AA dkgy
6460-6500	100%	LS	AA brngy pred crpxl
		TR	CHT ltbrn,transl,v hd,ang w/occ calc wh,crs xln
6500-6520	90%	LS	AA
	10%	SLTST	dkgy,blky-plty,frm,calc,arg
		TR	CHT AA w/occ calc AA
6520-6540	85%	LS	pred gy AA w/incr slty
	15%	SLTST	AA
		TR	CHT AA
6540-6560	60%	LS	dk-ltgy-brn,blk incl,hd,arg,sdy ip
	20%	SLTST	ltgy,blky-plty,frm
	10%	SS	lse QTZ grs,clr-pk,psrt,slcalc,mcmt
	10%	SH	dkgy-blk,ncalc,slty ip

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

6560-6580 60% LS AA
 20% SLTST AA
 15% SS ofwh-fros,vfg,tt,v mica,slcalc
 5% CHT brn,op,vhd,ang,sb conc frac,plty
 6580-6600 50% SS ofwh-s&p,vfg,fri,vmica,wsrt,grdg to SLTST,ncalc,rdd,pcmt
 30% SLTST lt-dkgy,w/s grdg to SS,mica,ncalc,blky
 20% LS AA
 6600-6619 80% SS lse QTZ grs, clr-fros-pk,vmica,ncalc,sbang-sbrd
 20% SH blk-brn,frm-hd,blky-plty,ncalc

NOTE: BIT BROKE UP @ 6619 (fishing for & milling on 3 cones & shanks)RECOVER CONE
 & SOME SCRAPS, OTHERS NONRECOVERABLE. HOWCO SET PLUG @ 6619-6346, DRESS IT
 TO 6316 & START SIDETRACK #1

6460-6480 100% LS gy-brngy,dns,hd,mcrxl,fxl,s/suc,s/slty-arg,occ indist foss
 debris
 6480-6500 100% LS AA w/s ltbrn,occ wh,calc vns w/
 TR CHT ltbrn,trnsl,ang,v hd
 6500-6540 100% LS AA pred brngy-ltbrn,crpxl w/
 TR CHT AA
 6540-6560 75% LS AA
 15% SLTST gy,blky,frm-hd,ang,mica,slcalc
 10% SS lse QTZ grs:ltbrn-s&p-fros,f-vfg,m-psrt,m-wcmt,slcalc cmt,
 ang-sbrd
 TR CHT AA
 6580-6600 75% LS gy-dkgy-ltgy,dns,hd,mcrxln,f-vfxl,ang,s/slty
 15% SLTST gy-ltgy,blky,frm-hd,ang,mica,slcalc
 10% SS ltgy-wh,fg,m-wcmt,vsllcalc cmt,msrt,mica
 6600-6620 50% LS AA
 30% SLTST AA
 20% SS AA
 TR CHT ltbrn,trnsl,ang,vhd w/abnt cvgs
 6620-6640 40% LS pred ltgy-ltbrngy AA w/s sl dolo
 30% SS wh-s&p-ltgy,f-vfg,slty,m-wcmt,slcalc cmt,m-psrt,mica-vmica,
 s/glauc,sbang-sbrd
 30% SLTST pred ltgy-wh AA
 TR CHT AA
 6640-6660 100% LS gy-ltbrn,mcr-crpxl,dns,hd,s/slty,s/arg,s/dolo,s/pyr w/
 TR CHT incr ltbrn,trnsl,ang,vhd
 6660-6680 100% LS AA
 TR CHT AA
 TR SLTST gy-ltgy,blky,hd,vsllcalc,mic
 TR SS wh-s&p,f-vfg,m-wcmt,vsllcalc cmt,mica,m-psrt,sbang-sbrd
 6630-6720 100% LS pred gy-dkgy w/s incr slty-arg
 6720-6740 100% LS pred dkgy AA s/pyr
 6740-6760 50% LS AA
 35% SS clr-fros,sbang-ang,occsbrd,fg,mica,calc,occ grdg to sdy LS,
 w-mcmt,msrt
 15% SLTST AA, s/rdbn-brkrd (poss cvgs)
 6760-6780 70% LS m-dkgy-mbrn,f-vfxl,sdy,mica ip, s/CHT INCL,blky,s/plty frm-hd
 20% SS AA
 10% SLTST AA
 6780-6820 85% LS m-dkgy,m-dkbrn,f-vfg,occ crpxl,slty,chk ip,sdy,occ grdg to
 lmy SS,blky,hd
 15% SS AA pred vfg,occ fg, s/glauc,s/lse grs
 6820-6840 50% LS AA pred brn,vfxl
 50% SLTST gy-ltgy,blky,strmg-frm,calc,s/sdy,s/slarg
 TR SS AA

CONCORD 31-71 FEDERAL
 SAMPLE DESCRIPTION CONT.

6840-6860	80%	SLTST	AA dkgy-gy-ltgy
	20%	LS	AA dkgy-brn
6860-6880	75%	SLTST	AA
	15%	DOLO	wh,dns,crpxl,slty
	10%	LS	AA
	TR	SS	QTZ /fros-clr,m-vfg,rdd,lse grs
6880-6900	75%	SLTST	AA dkgy
	15%	SS	lse QTZ grs, wh-clr-fros-ltgy,m-vfg,mcmt-sle,vsl calc cmt, m-psrt,ang-rdd
	10%	LS	AA pred brn
6900-6920	80%	SS	lse QTZ grs AA w/s cg s/mica, s/gn incl (glauc?)
	20%	SLTST	AA dkgy-brn-gy
	TR	LS	AA
6920-6940	85%	SS	lse QTZ grs/incr glauc AA
	15%	SLTST	AA/decr calc
6940-6960	80%	SS	AA
	20%	SLTST	AA w/s gn,sdy
6960-6980	50%	SS	lse QTZ grs:clr-fros-ltgy,f-mg,occ cg,sbrd-sbang,sl-ncalc, mica,w-pcmt,msrt,NFSOC
	30%	LS	m-dkgy,vf-fxl,slty,w/s grd to SLTST,CHT,blky,hd
	20%	SLTST	AA
6980-7020	40%	SS	AA w/occ lse grs,tt slcalc,grdg to sdy LS
	40%	SH	AA
	20%	SLTST	AA,abnt CUTLER CVGS after trip @ 6985',dk-mgy,arg,sdy,mica, grdg to slty SS,slcalc,blky,hd
7020-7040	85%	SLTST	gy-brn-ltbrn-ltgy,blky-plty,mfrm,arg,mica-vmica,slcalc,s/sdy
	15%	SS	lse QTZ grs: fros-s&p-ltgy-clr,m-vfg,mcmt,ncalc cmt, m-psrt, arg-slty,ang-sbrd,abnt intgran mica (pred musc)
	TR	LS AA	gy-brn
7040-7060	65%	SLTST	AA
	20%	SH	gy-ltgy,blky-plty,mfrm-frm,slty,ncalc
	15%	SS	lse QTZ grs AA w/s glauc s/cg,ang
7060-7080	40%	SS	AA
	40%	SLTST	AA /incrg mica
	20%	SH	AA gy-ltgy
7080-7100	80%	SLTST	AA w/s ltbrn-ltgngy-rdbrn
	10%	SS	AA
	10%	SH	AA
7100-7120	90%	SLTST	ltgy-ltgngy,blky,mfrm-frm,vslcalc,s/sdy
	10%	SS	lse QTZ grs: ltgy-ofwh,f-vfg,m-wcmt,ncalc cmt,m-wsrt,sbang-sbrd,mica
7120-7140	100%	SLTST	AA ltgy-gy
7140-7160	50%	SLTST	dkgy,blky-plty,frm,calc,arg
	40%	LS	ltbrn,dns,hd,mcrxln,cxln,foos,sl dolo
	10%	SH	dkgy,blky,mfrm,slcalc,slty w/abnt cvgs after 2 TRIPS @ 7143'
7160-7180	100%	SLTST	pred dkgy AA w/s ltgy /occ wh-clr calc vns,bcmg incr calc
7180-7200	70%	SLTST	brn-dkgy-ltgy,blky-plty,frm,calc-vcalc,arg
	30%	LS	brn-ltbrn,dns,hd,mcr-crpxl,slty,arg
	TR	CHT	ltbrn,transl,ang,vhd
7200-7220	70%	SLTST	AA
	20%	LS	AA
	10%	SS	lse QTZ grs:fros,fg,ang-sbang,slcalc,m-wcmt,msrt,NFSOC
	TR	CALCITE	FRAC FL
7220-7240	60%	SLTST	dk-mgy-blk,arg,sdy,calc,grd to slty LS,w/occ mica,blky,hd-frm
	30%	LS	AA
	10%	SS	AA NSFOC
7240-7260	55%	SLTST	AA
	45%	LS	dk-mgy,dkbrn,vf-crpxl,occ fxl,slty,grdg to SLTST,sdy,occ calcite vns,blky,hd
	10%	SS	AA

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

7260-7280	70%	LS	m-ltgy-dkgy,mbrn,f-vfxl,dolo,grd to lmy dolo,sdy,sh mica, blk,hd
	30%	SLTST	AA
7280-7300	70%	LS	m-dkbrn,m-dkgy,vf-fxl,occ micxl,slty,smdolo,sdy,grdg to SS, blk,hd
	15%	SLTST	dk-mgy,arg,sdy,calc,grdg to slty LS,blk,hd
	15%	SS	clr-fros-ltgy,f-vfg,sbrd-sbang,tt,occ lse
7300-7320	90%	LS	AA
	10%	SS	AA/sm glauc incl
7320-7340	70%	LS	AA
	15%	SLTST	dkgy-blk,arg,grdg to slty LS,blk,hd
	15%	SS	AA
7343' STUCK	- FISHING 5/12 - 5/18 - MUD UP @ 7343; CATCHING 10' SPLS STARTING WITH		
7350-7360	30%	SS	clr-fros-ltgy,f-vfg,ang-sbang,tt,slcalc,dns, w/s uncons,msrt, wcm
	50%	SLTST	AA /sm CUTLER CVGS (rdbrn)
	20%	LS	AA
7350-7380	40%	SLTST	AA ltgy,blk-plty,frm,calc,anhy
	40%	LS	gy-dkbrn,dns,hd,mcrxl,f-vfxl, s/suc s/slty,occ indist foss
	20%	SS	ltgy-wh,f-vfg,m-wcmt,n-slcalc cmt,m-psrt,mic,sbang,anhy w/ abnt cvgs
7380-7390	60%	LS	gy-ltgy AA incr suc
	40%	SLTST	AA ltgy
	TR	ANHY	wh,sft,amor
7390-7435	100%	SALT	(inferred from fast drill rate,increased chlorides-not seen in samples)
7435-7450		NS	Salt inferred AA
7450-7460	40%	LS	m-dkgy-ltgy-wh,mic-fxl,chk,occ slty,blk,hd
	30%	SLTST	rdbrn-brkrd,arg,sdy,sl-ncalc,grdg to SS,blk,frm
	30%	SS	clr-fros,m-ltrd,f-vfg,occ m-cg,sil,sl-ncalc,w/sm slty, grdg to SLTST,mcmt,m-wsrt
	TR	ANHY	wh-ofwh,amor,blk-plty,sft
7460-7470	40%	SLTST	AA
	30%	SS	AA
	30%	LS	AA
7470-7480	40%	SLTST	AA w/sm mica
	35%	SS	AA pred vfg,grdg to LS,occ yel <u>FLOR</u> mlky <u>CUT</u> (poss Diesel CONT)
	25%	LS	AA vf-fxl NSFOC
	TR	CHT	m-ltbrn,crpxl,blk,hd
7470-7490	55%	SS	AA
	30%	LS	AA gy-ltgy
	20%	SLTST	AA/rdbrn-org
	TR	ANHY	dism
7490-7500	40%	SLTST	AA
	40%	LS	AA
	20%	SS	AA ltgy
	TR	ANHY	AA
7500-7510	30%	DOLO	dk-mgy,f-vfgxl,shly ip,lmy,grdg to dolo LS,foss (crinoid), blk,hd-frm
	30%	SLTST	rdbrn-brkrd,dkgy,arg,sdy,grdg to SS,calc-slcalc,blk,frm-slfrm
	20%	SS	AA
	20%	LS	AA grdg to lmy dolo
	TR	ANHY	dism wh-clr,fxl,sft
7510-7520	40%	SH	dkgy-blk,vslty,vcalc,occ grdg to vshly LS, occ calc vns, blk,sft-frm
	25%	LS	AA
	10%	SS	clr-fros-ltrd,f-mg,occ vfg,tt,occ uncons,calc,m-wcmt,msrt

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

	TR	DOLO	AA & ANHY AA/wh-offwh,amor,blky,sft
7520-7530	30%	SS	lse QTZ grs AA
	30%	SH	dkgy,blky-plty,calc grd to arg LS,frm,w/s abnt PYR
	20%	SLTST	ltgy-wh,blky,mfrm,mcalc
	20%	LS	gy-dkgy,mcrxl,vfxl,arg w/s arg pel incr dism ANHY
7530-7540	25%	SS	AA
	25%	SH	AA dkgy
	25%	LS	gy-dkgy AA w/occ wh calc vns dism ANHY
7540-7660	100%	SALT	(inferred from drl rate & C ₁ incr - not seen in spls)
7660-7670	50%	SS	SS clr-fros,f-mg,ang-sbang,tt,occ uncons,wcmt,msrt
	30%	ANHY	wh-ofwh,clr,amor,sh fxl,occ sdy,blky,sft
	20%	SLTST	m-rdbrn,dkgy,arg,sdy,calc,blky,frm
7670-7680	50%	ANHY	AA incr sdy,occ intbd w/SS,dul yel mnrl FLOR/NSOC
	30%	SS	AA
	20%	SLTST	AA
7680-7700	70%	ANHY	AA occ mnrl incl,dul yelgld-gld mnrl FLOR/NSOC
	10%	LS	AA
	10%	SLTST	AA
	10%	SS	AA
7700-7710	50%	ANHY	wh-ofwh,clr,amor,fxl (clr),intbd w/SS, s/mnrl incl,clr fxl ANHY intbd w/wh amor,blky-plty (clr),sft-frm w/dul to bri gld mnrl FLOR/NO CUT OR STN
	20%	LS	dk-mgy,mbrn,vfxl,vshly,grdg to lmy SH,blky,hd
	20%	SLTST	AA
	10%	LS	AA
	TR	SH	dkgy-blk,vshty,vlmy,grdg to shly LS,blky,frm
7710-7720	30%	ANHY	AA w/FLOR AA/NCOS
	30%	LS	AA
	20%	DOLO	dk-mgy,vfgxl,shly,occ lmy,grdg to dolo LS,occ anhy vns,
	20%	SS	AA n-slcalc,s/ anhy cmt
	TR	PYR	
7720-7730	50%	SH	dkgy-blk,vshty,vlmy,grdg to vshly LS,occ sdy,blky,sft-slfrm
	30%	LS	AA,dkgy,grdg to vlmy SH
	10%	SS	AA
	10%	ANHY	AA
7730-7740	60%	SH	gy-dkgy,blky-plty,vsft-frm,anhy, s/slcalc-dolo,s/slshty
	30%	ANHY	lt-drtgy gy-wh,cl-amor,sft
	10%	DOLO	dkgy,blky,mcrxl,f-vfxl,arg,anhyc
7740-7750	80%	SH	AA
	10%	ANHY	AA
	10%	DOLO	AA
7750-7760	70%	SH	AA dkgy
	10%	ANHY	AA
	10%	DOLO	AA
	10%	SLTST	gy,blky,mfrm,arg,anhy
7760-7770	50%	ANHY	pred drty ltgy AA w/occ SH STRGRS
	30%	SH	AA
	10%	DOLO	AA dkgy
	10%	SLTST	AA gy-ltgy
7770-7780	40%	DOLO	wh-ltgy-ltbrn,f-vfxl,occ mxl,lmy,sdy,grdg to DOL SS,blky, hd-frm
	40%	SLTST	m-dkgy,ltgy,arg,calc-slcalc,sdy,blky,frm
	20%	SH	dkgy-blky,slty,lmy,grdg to LS,sdy ip,blky,frm-sft w/
	TR	ANHY	AA
7780-7790	30%	DOLO	AA
	30%	SLTST	AA

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

	10%	ANHY	wh-ofwh,clr,amor,cxl (clr)
	10%	SH	AA
	10%	LS	AA
7790-7800	30%	DOLO	AA
	30%	SLTST	AA
	15%	SH	AA
	15%	ANHY	AA pred amor
7800-7810	10%	LS	AA /sm grdg to lmy SH
	90%	SLTST	gy-ltgy-wh,blky,mfrm,anhy,ncalc
	10%	ANHY	wh-clr,amor-crsxl,vsft-frm
	TR	SH	AA dkgy
7810-7820	70%	SLTST	AA
	30%	SH	dkgy,blky-plty,mfrm,anhy
	TR	ANHY	AA pred amor
7820-7830	80%	SLTST	AA
	20%	SH	AA
7830-8020	100%	SALT	(Inferred from drl rate-not seen in spls) abnt clastic cvgs AA - Mud system not yet salt saturated due to the elevated BHT - 8010-20 spl AA w/tr vis in spl
8020-8030	100%	SALT	wh-clr,crs xln,occ anhy strgrs w/abnt clastic cvgs AA
8030-8060	100%	SALT	wh-clr AA
	TR	ANHY	wh,sft,amor
8060-8070	85%	SALT	AA
	15%	SH	dkgy-gy,blky-plty,mfrm,anhyc
	TR	ANHY	wh,sft,amor
8070-8080	70%	DOLO	m-ltbrn,m-dkgy,f-mxl, /sm vfxl,lmy ip,occ grdg to dolo LS, sdy ip,blky,frm-hd w/du1 ye1 <u>FLOR/CUT</u> mlky crush/NO STN
	15%	SH	AA
	15%	ANHY	wh-ofwh,clr,amor,c-fxl,blky-plty,sft-frm
8080-8090	50%	DOLO	AA w/ <u>FLOR/CUT</u> AA
	20%	LS	dk-mgy,dk-mbrn,f-vfxl,shly,slty,occ pyr incl, w/s dolo, blky,frm
	15%	SH	dkgy-blk,vs1ty,arg,blky,sft-slfrm
	15%	ANHY	AA
8090-8100	45%	DOLO	AA w/ <u>FLOR/CUT</u> are cvgs
	25%	LS	AA
	15%	SH	AA
	15%	ANHY	AA
8100-8110	40%	DOLO	AA w/abnt cvgs
	30%	LS	dk-mgy,m-ltbrn,f-vfxl,dolo grdg to lmy dolo,sdy,vshly,blky, frm-hd
	15%	ANHY	wh-ofwh,clr,amor,c-fxl,xl intbd w/amor,blky-plty (clr + xl),sft-frm
	15%	SH	AA,occ pyr incl
8110-8120	70%	DOLO	gy-ltgy,blky,dns,mfrm-hd
	15%	LS	ltgy-mott,erthy, s/slty
	15%	SH	dkgy,blky-plty,calc-DOLO,s/slty,mfrm
8120-8130	50%	DOLO	AA
	25%	SH	dkgy-blk,vs1ty,calc,grdg to vshly LS,occ anhy vns,blky, sft-frm
	25%	LS	AA,occ grdg to vcalc SH
	TR	ANHY	AA
8130-8140	35%	LS	m-ltbrn,m-dkgy,f-vfxl,dolo,grdg to lmy dolo,sdy,occ calc vns,blky,frm-sft
	35%	DOLO	AA
	30%	SH	AA
8140-8150	50%	LS	AA /incr grdg to DOLO
	20%	DOLO	AA
	30%	SH	AA
	TR	CALC-FRAC	FL

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

8150-8160	50%	LS	AA
	20%	DOLO	AA dk-mgy,vshly,lmy
	20%	SH	AA s/ltn
	10%	ANHY	clr-wh,cxl,occ amor,plty,frm w/abnt metal in spl
8160-8170	25%	LS	gy-mot,dns,mfrm,anhyc
	25%	DOLO	dkgy,blky,dns,frm,s/slcalc,s/anhys,arg
	25%	SH	dkgy,blky-plty,calc-dolo,anhymfrm
	25%	ANHY	wh,sft,amor
8170-8180	35%	ANHY	AA
	25%	DOLO	AA
	25%	SH	AA/dkgy-gy
	15%	LS	AA/gy-ltgy-mot
8180-8190	85%	SALT	clr-wh,cxln
	15%	ANHY	AA
8190-8200		NS	SHAKER DOWN - SPL WASHED OUT OF BUCKET
8200-8380	100%	SALT	clr-wh,vcxln
	TR	ANHY	AA
8380-8390	80%	SALT	AA
	10%	SLTST	ltgy,plty,mfrm,ncalc
	10%	ANHY	AA
8390-8400	40%	DOLO	m-ltbrn,f-vfxl,lmy,grdg to dolo LS,sdy ip,blky,frm
	30%	SLTST	AA
	20%	SH	dkgy-blk,vshly,calc,blky,sft-frm
	10%	ANHY	wh-clr,amor,cxl,blky-plty,frm-sft
8400-8410	70%	DOLO	AA pred gy-dkgy
	15%	SLTST	AA
	15%	ANHY	wh,amor,sft
8410-8420	45%	ANHY	ltbrn-wh,amor-mcxln,sft-vsft
	45%	SH	dkgy,plty-blky,sft-vsft,anhys
	10%	LS	LS gy-drty gy,blky,mfrm,mcxln,vfg
8420-8430	70%	SH	AA dkgy w/s calc
	25%	ANHY	AA ltbrn-wh
	10%	SLTST	ltbrn-ltgy,blky-plty,mfrm,anhyc,calc
8430-8440	80%	SH	AA
	20%	ANHY	AA
8440-8450	85%	SH	dkgy,blky-plty,sft-vsft,anhys/slcalc
	15%	ANHY	ltbrn-wh,amor-mcxln,f-vfxl
8450-8460	60%	SLTST	ltgy,blky-plty,mfrm,dolo-slcalc,sl anhy
	30%	SH	AA
	10%	ANHY	ltbrn-ltgy-wh AA
8460-8470	40%	SH	AA dkgy w/s incr calc
	40%	ANHY	ltbrn-ltgy-wh,amor-mcxln,f-vfxl,s/gran
	20%	SLTST	AA ltgy-ltbrn
8470-8480	50%	SH	AA
	40%	SLTST	AA
	10%	ANHY	AA
8480-8510		NS	-(SALT INFERRED FROM DRL RATE- NOT SEEN IN SMPLS)
8510-8600	100%	SALT	clr-wh,vcxln w/TR ANHY AA
8600-8710	100%	SALT	AA/mot,vcxln
	TR	ANHY	AA
8710-8810	100%	SALT	AA/blky,frm
	TR	ANHY	AA
8810-8820	100%	SALT	AA/occ ANHY strgrs
	TR	ANHY	AA incrg
8820-8850	100%	SALT	AA
	TR	ANHY	wh,sft-vsft,amor
8850-9080	100%	SALT	clr-wh-mot,vcxln,frm,occ ANHY strgrs
	TR	ANHY	AA/wh-ofwh

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT

9080-9240	100%	SALT	AA
	TR	ANHY	wh,sft-vsft,amor
9240-9440	100%	SALT	AA
	TR	ANHY	wh-ofwh,sft-vsft,amor (VPS - ABNT LCM, loosing 1-15 bbls mud/hr to fm)
9440-9450	90%	SALT	AA
	10%	ANHY	wh,sft-vsft,amor
9450-9460	45%	DOLO	ltgy-mot,blky,dns,mcxl-f,s/calc,s/slty
	45%	SH	ltgy,blky,sft,anhyc,slcalc-dolo
	10%	ANHY	AA
9460-9470	60%	DOLO	AA
	30%	SH	AA
	10%	ANHY	AA
9470-9480	70%	DOLO	ltgy-ofwh,suc-fxl,slty ip,sl arg,frm-sl brit
	30%	SH	gy-ltgy,blky-plty,sft,anhyc,slcalc-dolo
9480-9490	75%	SALT	clr-ltbrn,cxl,blky,frm
	15%	DOLO	AA/mot
9490-9500	85%	SALT	AA
	15%	DOLO	AA
9500-9660	100%	SALT	vltrn,f-vfxl,gran,frm-vfrm,variable
9660-9680	50%	DOLO	ltgy-mot,dns w/s chky,mcxl,f-vfxl
	30%	ANHY	wh,sft-vsft,amor
	20%	SH	dkgy,blky-plty,anhyc,slcalc w/abnt salt (poss cvgs)
	NOTE:	VPS	AFTER TOPPING @ 9681-abnt Cutler & Salt Cvgs after reaming to bottom
9680-9690	60%	DOLO	AA
	20%	SH	AA
	20%	SLTST	gy-drtgy,blky,mfrm,slcalc-dolo - VPS
9690-9700	50%	SH	AA /dkgy-blk,sl dolo
	30%	SLTST	ltgy-gy,blky,frm,sl dolo,sl anhy
	20%	DOLO	gy-mot-dkgy,blky,dns,frm,arg
	TR	ANHY	AA w/abn rdbrn CVGS(?) AA
9700-9710	40%	SALT	clr,cubic ip,vfxl ip,occ gran text,frm
	40%	SH	dkgy-blk,ncalc-slcalc,slcarb,frm-vfrm
	20%	DOLO	AA
9710-9720	60%	SALT	AA
	20%	SH	vdkg-blk,blyh-plty,slcalc-dolo,vfrm
	20%	DOLO	AA
9720-9800	100%	SALT	clr-vfxl,gran,text,frm
	TR	SH	AA
9800-9900	100%	SALT	clr-vltrn-wh,gran ip,vcxl ip,vf-cxl,frm
	TR	ANHY	wh,sft,amor
900-10050	100%	SALT	vltrn-clr-wh,gran-fvfxl ip,vcxl ip,frm
	TR	ANHY	wh,sft-vsft,amor
10060-070	70%	DOLO	gy-mot,dns,mfrm,slarg,slanhy
	20%	SH	dkgy-blk,mfrm-sft,blky-plty,anhyc
	10%	ANHY	wh,sft,amor
10070-080	80%	DOLO	AA
	20%	SH	AA VPS, abnt CVGS after trip @ 10065
10080-090	50%	DOLO	AA
	20%	SH	AA
	20%	SLTST	ltgy,blky,mfrm,slcalc-dolo
	10%	ANHY	AA
10090-100			NS coming over shaker - Salt going into solution in unsat mud
10100-190	100%	SALT	clr-vltrn,pred gran,text,cubic ip,f-vfxl,frm
	TR	ANHY	AA
10190-200	30%	SLTST	gy-ltgy,sdy,dolo-calc,arg,frm

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

	25%	SH	m-dkgy,blky,slcalc-dolo,frm
	25%	DOLO	gy-ltgy,sl suc-fxl,sl arg,frm-vfrm
	20%	ANHY	wh,amor-micxl,sft
10200-210	60%	DOLO	lt-gy,suc-fxl,blky-plty,arg,occ brt yel-gn mnrl <u>FLOR/NO CUT</u>
	20%	SH	AA
	20%	SLTST	AA,incrg dolo
10210-220	70%	DOLO	gy-mot,dns,chky,m-fxl,arg,occ anhy
	15%	SH	dkgy,blky-plty,anhy,slcalc-dolo,mfrm
	15%	SLTST	ltgy,blky,frm,slcalc-dolo s/anhy -VPS,abn salt cvgs
10220-310	100%	SALT	clr,cxl,cubic,frm
	TR	ANHY	wh,sft-vsft,amor -VPS,most salt going into solution in mud
10310-320	70%	SALT	AA
	15%	DOLO	lt-mgy,vfxl,arg,frm w/TR <u>FLOR yelgn/NO CUT</u>
	15%	SH	gy-dkgy-blk,slcalc-dolo,carb,plty,occ mot w/wh ANHY,frm
10320-330	50%	DOLO	AA
	20%	SALT	clr,vfxl,gran tex,frm
	20%	SH	AA
	10%	ANHY	wh,amor-mcxl,sft
10330-340	50%	SH	blk,carb,slcalc-ncalc,plty,frm
	20%	SALT	AA
	20%	DOLO	gy,vf-fxl,sl suc ip,arg,blky,vfrm
10340-350	40%	SALT	clr,pred gran text,vfg,frm
	30%	SH	dkgy-blk,blky-plty,sft,carb,anhy,s/dolo-calc
	20%	DOLO	gy-dkgy,blky,dns,frm-hd,f-vfxl,s/suc,arg,s/calc
	10%	ANHY	wh,sft,amor w/occ yelwh mnrl <u>FLOR/NO CUT OR STN</u>
10350-360	40%	SALT	AA w/s cxln cubic
	30%	SH	AA dkgy
	30%	DOLO	dkgy-gy AA w/s brngy,s/incr calc grdg to dolo LS
	TR	ANHY	wh,sft-vsft,amor
10360-370	30%	SALT	AA
	20%	SH	dkgy-blky,plty-blky,mfrm,carb,anhy,slcalc-dolo
	20%	DOLO	AA gy-brngy w/s grdg to dolo LS
	20%	LS	gy-mot,blky,mfrm,s/chky,dolo s/slsly,s/slarg
	TR	ANHY	wh,sft-vsft,amor
10380-390	50%	SH	AA
	25%	DOLO	ltgy-gy,f-vfxl,arg,blky,vfrm
	15%	LS	ltgybrn-brn,fxln,indist foss frags,blky,arg,frm
	10%	ANHY	AA
10390-400	60%	SH	dkgy-blk,blky-plty,mfrm-frm,calc,carb,s/sly,s/sl anhy
	20%	DOLO	gy-dkgy,blky,dns,frm,calc,grdg to dolo LS,s/arg,s/slsly
	20%	LS	gy-mot,blky,mfrm,s/arg,s/sly-vsly,occ indist foss debris
	TR	ANHY	wh,sft-vsft,amor
10400-410	80%	SH	gy-dkgy-blk, blky-plty-sply AA
	10%	LS	AA
	10%	DOLO	AA
	TR	ANHY	AA
10410-420	40%	SH	AA dkgy
	40%	DOLO	dkgy,blky,frm,mcxl,vfxl,arg,slty,calc,grdg to dol LS
	20%	LS	gy-ltgy,blky,s/chky,s/sl arg,s/dol,s/sly-vsly
10420-430	65%	SH	vdkgy-blk,incr calc,blky,frm-vfrm
	25%	LS	m-dkgy,slty-vfxl,chky,varg,blky,vfrm
	10%	ANHY	wh,amor-micxl,sft
10430-440	55%	LS	AA
	45%	SH	m-dkgy,blk,grdg to varg LS,blky,frm
	10%	ANHY	AA
10440-450	60%	LS	lt-mgy,ofwh,brn,vfxl-micxl,slty-chky ip,arg,frm-vfrm,occ sft
	30%	SH	AA /occ ltgn-gygn,tacky,sft-frm
	10%	ANHY	wh,amor-micxl,sft

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

10450-460	60%	LS	ltgy-gy-mot-ofwh,mcxl,vfxl,chky ip,s/srg,frm-sft,s/dol grdg to calc dol
	30%	DOL	gy-dkgy,dns,crpxl,slarg,s/calc grdg to dol LS
	10%	SH	dkgy,blky,frm,calc-dol
10460-470	70%	LS	AA w/s brn,occ indist foss frags
	30%	DOL	AA pred dkgy,s/crpxl w/abnt wh calc frags (poss frac fl)
10470-480	80%	LS	pred gy-mot-dkgy,blky,chky ip,slarg
	20%	DOL	AA incr calc grdg to dol LS
10480-494		NS	Fishing @ 10494 after trip to change out BHA for 8 3/4" bit Set 9 5/8" csg to 10475
10494-500		NS	
10500-510	100%	LS	buf-wh-vltgy,plty-blky,mfrm,s/dol,s/slsity,chky ip,occ indist foss s/gn cmt in about 10% of smp1
10510-520	100%	LS	AA
		TR CHT	ltbrn-ltgy-clr,ang,vhd,sub-nconch frac
		TR SH	dkgy,blky,mfrm,slcalc,slty
10520-530	100%	LS	wh-buf AA w/s dism pyr
		TR CHT	incr AA w/s blk
10530-540	95%	LS	AA
	5%	CHT	AA gn cmt in spl, sft-vsft in 10%
		TR SH	gygn,plty,mfrm,ncalc
10540-550	100%	LS	wh-ofwh-vltbrn,mfrm,pred crpxl-w/s mcrxl,s/suc,s/slsity,s/sl dol
		TR CHT	ltbrn-ltgy,ang,vhd,n-sbconch frac w/CMT in 5% smp1
10550-560	100%	LS	wh-ofwh-vltbrn,mfrm,mcxl,m-vfxl,s/suc,s/slsity,s/dol
10560-650	100%	LS	AA
		TR SH	gygn AA
		TR CHT	ltbrn-ltgy-clr,ang,vhd,n-sbconch frac
10650-660	100%	LS	AA incr ltgy w/s gy,incr dol
		TR CHT	AA
10660-670	80%	LS	pred gy,dns,frm,s/dol,mcrxl,f-vfxl
	20%	DOL	buf-tan,vfxl-slsuc,plty,brtl NFSOC
10670-690	80%	DOL	ltbrn-tn-brn,suc-fxl,blky,brtl-mhd,TR blk DD 0 STN/NFOC
	20%	LS	gy-ltgy,dns,mfrm,dol,mcxl,f-vfxl,s/spar,occ dism pyr NSFOC
10690-700	80%	DOL	ltbrn-tn-brn-mot,mcxl,m-fxl,abnt suc,slcalc,vsl arg,occ pyr AA
	10%	LS	ltgy,mfrm,chky ip,dol (poss rex1 calc vns in dol)
		TR CHT	ltbrn,vhd,ang,n-sbconch frac/occ blk DD 0 STN in DOL,NFOC
10700-710	90%	DOL	AA w/s vfxl
	10%	LS	AA
		TR CHT	AA w/O STN AA ,NFOC
10710-730	85%	DOL	AA pred ltbrn-tn decr suc,occ pyr
	15%	LS	AA ltgy-wh
		TR CHT	AA,NSFOC
10730-740	80%	DOL	ltbrn-tn,dns,mfrm,s/calc,s/sl arg,mcxl,m-vfxl,s/suc,occ pyr AA
	20%	LS	wh,mfrm-sft,chky ip,m-sldolo (prob rex1 calc vns)
10740-750	85%	DOL0	AA pred ltbrn
	15%	LS	calc vns AA
10750-760	85%	DOL	ltbrn-tn,suc,blky,brit/occ clr-wh calc vns
	15%	LS	wh,micxl,frm,sl dol ip
10760-770	75%	DOL	ltbrn-tn,suc-fxl,wk overall ltgn FLOR,mnr1,NO CUT
	25%	LS	wh-clr,micxl,poss frac fl ip,frm
10770-780	45%	DOL	AA NSFOC
	45%	LS	AA
	10%	SH	ltgy-gygn,smth,ncalc
		TR PYR	frm
10780-790	90%	DOL	ltbrn-tn-ofwh-brn,mcxl,m-fxl,abn suc,dns,mfrm-hd,s/sl calc,s/pyr
	10%	LS	wh-clr-brn,mcxl,m-fxl,spar (poss rex1)
		TR SH	AA

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT

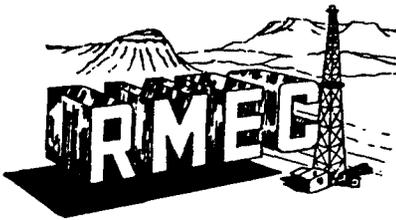
10790-800	95%	DOL	AA w/incr brn
	5%	LS	AA w/occ dul yel mnrl <u>FLOR/NO CUT</u>
10800-810	100%	DOL	AA pred brn
		TR	LS
		TR	SH
10810-820	100%	DOL	AA w/s mot,occ indist foss shadows
		TR	SH & LS
10820-830	80%	DOL	AA
	20%	LS	rex1 calc wh-clr-ofwh,mcx1,m-fx1,s/sl dol w/occ <u>FLOR AA</u>
10830-840	75%	DOL	brn-ltbrn-tn-mot,dns,mcx1,fx1,s/suc,s/slarg,s/slsty
	25%	LS	calc AA wh-ofwh-clr
		TR	SH
19840-850	60%	DOL	AA
	30%	LS	calc AA
	10%	SH	gygn,blky-plty-splty,mfrm-frm,ncalc
		TR	PYR
10850-860	70%	DOL	ltbrn-brn-mot AA
	30%	LS	calc AA
		TR	SH
10860-870	75%	DOL	AA
	25%	LS	calc AA
10870-880	80%	DOL	pred brn-ltbrn AA
	20%	LS	calc AA w/occ <u>FLOR/NO CUT AA</u>
10880-890	85%	DOL	AA
	15%	LS	calc AA
10890-900	90%	DOL	ltbrn-buf-brn,dns,frm,mcx1,m-fx1,s/sl arg-slty,s/calc,s/pyr
	10%	LS	calc wh-ofwh-clr,mcx1,spar
10900-910	80%	DOL	AA w/s incr calc
	20%	LS	gygn-ltgy-wh,dns,frm,sl arg,mcx1-crpx1,s/dol
		TR	SH
10910-920	85%	DOL	pred ltbrn-buf w/s brn,dns,frm-hd,mc-crpx1,s/suc,s/slarg, s/calc grdg to dol LS
	15%	LS	pred wh,spar (prob rex1)/occ dul yel mnrl <u>FLOR/NO CUT</u>
10920-930	50%	LS	wh-crm,f-micx1,cln-vslarg,brit/occ dul yel mnrl <u>FLOR/NO CUT</u>
	50%	DOL	AA
10930-940	80%	LS	AA
	20%	DOL	ltbrn-brn,fx1,slarg,dns,brit
10940-950	80%	LS	wh,cln,f-micx1,brit-frm
	20%	DOL	AA
		TR	SH
10950-960	100%	LS	crm,ofwh-wh,f-micx1/occ crpx1-sil,occ ltgn SH prtgs,frm
10960-970	100%	LS	ofwh-crm,tn,chky ip,f-crpx1,dns ip,frm-mhd
10970-980	50%	LS	AA
	50%	DOL	wh-ofwh,vfx1-sl suc,cln brit,abnt dul yel mnrl <u>FLOR/NO CUT</u>
10980-000	70%	DOL	wh-ofwh,trans,fx1-sl suc,vfx1,p-cln brit
	30%	LS	ofwh-ltbrn,vfx1-mcx1,slarg,dns,frm-brit
11000-010	90%	DOL	AA w/FLOR AA
	10%	LS	AA
11010-020	90%	DOL	brn-ltbrn,ltgy-gybrn,mic-crpx1,sm fx1-sl suc,slarg,dns,brit- mhd,occ dul yel-gld mnrl <u>FLOR/NO CUT</u>
	10%	LS	AA
11020-030	70%	DOL	ltbrn-gybrn-offwh-clr ip,occ vcx1 w/vis rhombs,pred fx1-mc x1,sl arg,dns /occ dul yel mnrl <u>FLOR/NO CUT</u>
	20%	LS	AA
	10%	SH	ltgn-ltgy,smth,slty ip,calc,frm
11030-040	80%	DOL	AA
	10%	LS	ofwh-ltbrn,mic-fx1,dns,frm-mhd

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

11030-040	10%	SH	AA
11040-050	85%	DOL	AA
	10%	SH	AA ltgn-gygn
	5%	LS	AA
11050-060	90%	DOL	AA w/s wh w/occ Fltg Qtz grs
11060-070	100%	DOL	ltbrn-tn-brn,dns,hd,mcr-crpxl,f-vfxl,s/slarg,s/slcalc,occ dism pyr,occ fltg QTZ grs
		TR	SH gygn-ltgn,blky,frm,sl-ncalc
		TR	LS ltgy-ofwh,dns,mcrxl,vfsl,dol
11070-080	70%	DOL	AA w/s pyr,s/styl
	20%	SS	clr-ltpk,m-vfg,m-psrt,wcmt,sil cmt,tt,sbang-sbrd
	10%	SH	AA gygn-ltgn
		TR	LS wh,sft,mcrxl,mxl
11080-090	60%	DOL	AA
	30%	SS	AA
	10%	SH	AA w/incr TR LS AA
11090-100	45%	SS	clr AA /occ cg,wrdd grs,occ ltorg
	35%	DOL	AA
	20%	SH	AA /occ wh calc (poss frac flg)
11100-110	70%	DOL	ltbrn-tn-buf-brn,dns,frm-hd,mcr-crpxl,f-vfxl,s/slarg,occ dism pyr
	10%	SS	clr-wh,pred fg w/occ m-cg,wcmt,sil cmt,m-psrt,tt,sbang- wrdd,s/pyr
	10%	LS	wh,sft,mcxl,fxl (poss frac fl)
	10%	SH	ltgn-gygn,frm,ncalc
11110-120	65%	DOL	AA
	15%	SS	clr-wh,sil cmt,f-mg,sbrd-sbang,m-psrt,tt,brit
	10%	SH	AA
	10%	LS	AA
11120-130	75%	DOL	ltgybrn-gybrn-ltgy,fxl-micxl,occ slsuc,arg ip,frm-brit
	10%	SS	AA w/occ incl in ltgn SH
	10%	LS	ofwh-wh,fxl-micxl,blky,frm
	5%	SH	ltgn,occdkgy,ncalc,plty,frm
11130-140		NS	
11140-150	80%	DOL	AA w/s mot
	10%	LS	AA ofwh-wh
	10%	SS	AA clr-wh
		TR	SH
11150-160	90%	DOL	ltbrn-brn-gy-mot-ltgy,dns,mcr-crpxl,s/suc,s/slarg,frm
	10%	SS	AA wh-clr
11160-180	90%	DOL	ofwh-crm,ltgy,fxl-slsuc,mcxl ip,cln,occ aren,brit,occ glauc
	10%	SS	clr,f-mg,m-psrt,sbang-rdd,frm-brit
11180-190	60%	SS	clr-ofwh,trans,m-vfg,sbrd-sbang,m-psrt,sil cmt,tt,occ glauc, brit
	40%	DOL	ltgybrn-ofwh,fxl-micxl,occ dul yel mnrl <u>FLOR/NO CUT</u>
11190-200	80%	SS	AA w/TR blk DD <u>0 STN/NO CUT/occ yel mnrl <u>FLOR</u></u>
	20%	DOL	AA
		TR	SH gybrn-dkgy,plty,slcalc,frm
11200-210	80%	SS	clr-wh,f-cg,sbang-sbrd,m-psrt,wcmt,sil,occ dd blk intgran <u>STN/NO CUT/yel mnrl <u>FLOR</u></u> ip
	10%	SH	ltgn-mgy,plty,ncalc,frm
	10%	DOL	gybrn-ltbrn,fxl,blky,dns ip,brit
11210-220	65%	SS	AA
	25%	DOL	AA
	10%	SH	AA
11220-230	65%	DOL	ltgy-ofwh-ltgybrn,f-vfxl,sl suc ip,blky,frm,w/ <u>FLOR</u> AA/NO CUT
	25%	SS	AA /occ pk matr,x,sil,brit-mhd
	10%	SH	ltgn-ltgy-gy,ncalc,blky-plty,
		TR	PYR frm

CONOCO 31-#1 FEDERAL
 SAMPLE DESCRIPTION CONT.

11230-240	60%	SS	clr-wh-ltpk,occ cg,sbrd-sbang,m-psrt,sil,tt,brit
	30%	DOL	AA w/occ dkgybrn
	10%	SH	ltgn-ltgy,slty,glauc ip,ncalc-slcalc,frm
11240-250	85%	DOL	dkgy-gy-ltgy-mot,mfrm,slty-sdy,mcrxl,m-fxl,abnt suc,sl arg, s/sl calc
	15%	SS	wh-clr-ltgy,m-vfg,m-wcmt,ncalc cmt,m-psrt,tt,sbang-wrdd (poss frac fl)
11250-260	85%	DOL	AA w/s ltbrn
	15%	SS	AA w/s glauc
		TR	LS-CALC AA
11260-270	90%	DOL	AA pred brn-gybrn-mott
	10%	SS	AA
		TR	LS-CALC AA wh
11270-280	90%	DOL	AA pred brngy,abn suc
	10%	SS	wh-gy,f-vfg,m-wcmt,ncalc cmt,msrt,s/arg,sbang-sbrd
		TR	LS-CALC AA w/occ mass PYR
11280-290	90%	DOL	AA
	10%	SS	AA
		TR	LS-CALC AA
		TR	SH ltgn,blky,frm,ncalc,occ mass PYR
11290-300	90%	DOL	AA
	10%	SS	AA w/s slty-vslty,grdg to sdy SLTST



ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY CONOCO

WELL NO. 31 #1 FED.

LOCATION S31-T34S-R23E, GRAND COUNTY, UTAH

ZONE OF INTEREST NO. 1

INTERVAL: From 10669 To 10679

DRILL RATE: Abv 7-13 m/ft Thru 4-5 m/ft Below 7

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C ₁	C ₂	C ₃	C ₄	C ₅	OTHER
Before	2-3 U	555	TR				
During	42	7150	650	180	150	155	NO CO ₂ or H ₂ S
After	6	1000	TR	TR			

Type gas increase: Gradual Sharp

Gas variation within zone: Steady Erratic Increasing Decreasing

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = _____ Sensitivity: Poor Fair Good

FLUO: Mineral Even Spotty CUT: None Streaming
 None % in total sample _____ Poor Slow
 Poor Fair Mod
 Fair % in show lithology _____ Good Fast
 Good COLOR: _____ COLOR: _____

STAIN: None Poor Fair Good Live Dead Residue Even Spotty Lt. Dk.

POROSITY: Poor Fair Good Kind INTRXL

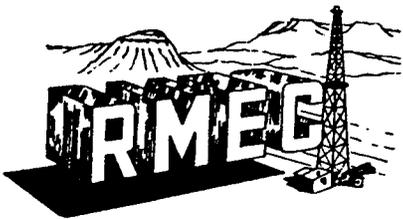
LITHOLOGY D010 ltbrn-tan suc-fxln blk occ blk DD OIL STN NEC

SAMPLE QUALITY GOOD

NOTIFIED _____ @ _____ HRS. DATE: _____

REMARKS 38 UNITS DTG AFTER SHORT TRIP (45 MIN)

ZONE DESCRIBED BY JAY CARTER



ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY CONOCO

WELL NO. 31 #1 FED.

LOCATION S31-T24S-R23E - GRAND CO., UTAH

ZONE OF INTEREST NO. 2

INTERVAL: From 10732 To 10770

DRILL RATE: Abv 7½ m/ft Thru 2½ Below 9

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C ₁	C ₂	C ₃	C ₄	C ₅	OTHER
Before	4	750	20	TR			
During	88	15725	1100	330	310	310	CO ₂ =200 ppm
After	4	700	30	TR			

Type gas increase: Gradual Sharp

Gas variation within zone: Steady Erratic Increasing Decreasing

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = _____

Sensitivity: Poor Fair Good

FLUO: Mineral Even Spotty
None % in total sample 15
Poor
Fair % in show lithology _____
Good COLOR: ltgrn mnrl

CUT: None Streaming _____
Poor Slow
Fair Mod
Good Fast
COLOR: _____

STAIN: None Poor Fair Good Live Dead Residue Even Spotty Lt. Dk.

POROSITY: Poor Fair Good Kind INTRXLN

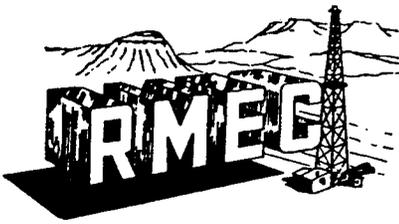
LITHOLOGY DOLO ltbrn-tan suc fxln occ calc

SAMPLE QUALITY

NOTIFIED JOHN KLINE @ 2:00 PM HRS. DATE: 6/30/85

REMARKS sli overall weak FLOR (prob mnrl); no odor or cut

ZONE DESCRIBED BY JAY CARTER



ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL LOGGING — CORE AND WATER ANALYSIS

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81501

COMPANY CONOCO

WELL NO. #31-1 FED.

LOCATION S31-T34S-R23E, GRAND CO., UT

ZONE OF INTEREST NO. 3

INTERVAL: From 10792 To 10818

DRILL RATE: Abv 10 Thru 1.5-3 Below 6

MUD GAS-CHROMATOGRAPH DATA

	TOTAL	C ₁	C ₂	C ₃	C ₄	C ₅	OTHER
Before	3 U	500	TR	---			
During	80	11500	600	200	60	---	NO CO ₂ or H ₂ S
After	10	2000	150	40	TR		

Type gas increase: Gradual Sharp

Gas variation within zone: Steady Erratic Increasing Decreasing

CARBIDE HOLE RATIO: $\frac{\text{GRAMS}}{\text{READING}}$ X Min. in Peak = _____ Sensitivity: Poor Fair Good

FLUO: Mineral Even Spotty CUT: None Streaming
 None % in total sample _____ Poor Slow
 Poor Fair Mod
 Fair % in show lithology _____ Good Fast
 Good COLOR: _____ COLOR: _____

STAIN: None Poor Fair Good Live Dead Residue Even Spotty Lt. Dk.

POROSITY: Poor Fair Good Kind INTRXLN

LITHOLOGY DOLO 1tbrn-tan suc-fxln f-intrxl n por NSOFC

SAMPLE QUALITY GOOD

NOTIFIED JOHN KLINE @ 11:00 AM HRS. DATE: 7/2/85

REMARKS _____

ZONE DESCRIBED BY JAY CARTER

CUTLER (SURFACE TO 6440?)

31-#1 Federal was spudded in the Pennsylvanian Cutler. Drilled with air, the penetration rate ranged from 1 to 15 minutes per foot throughout the formation, and averaging 2-6 minutes per foot. Samples consisted of redbrown-red-orange, soft, silty, micaceous, clayey calcareous shales. Siltstones were redbrown-red-orange, micaceous, argillaceous, blocky, sandy, non-slightly calcareous, with occasional limestones. Sandstones (seen intermittently starting at 4500') were frosted-to-a light red-to-orange-to-clear, arkosic, coarse-to-fine grained, moderately cemented to-loose, rounded-to-angular, occasionally cherty and micaceous. Thin limestones were noted from approximately 5440' to the bottom of the Cutler. These limestones were of white to cream to light pink and light gray, microcrystalline, very fine-to-coarsely crystalline, dense, occasionally dolomitic, occasionally argillaceous-to-silty and occasionally fossiliferous. No oil staining, fluorescence or cut was present in any of the Cutler samples.

HONAKER TRAIL (6440'?- 7390')

The Pennsylvanian Honaker Trail was topped at approximately 6440. The upper third of this formation was characterized by thick marine limestones which were gray-to-brown-gray-to-light brown, micro-to-cryptocrystalline, dense, occasionally silty-to-argillaceous, occasionally slightly dolomitic, hard and indistinctly fossiliferous.

The lower two-thirds of the Honaker Trail included some clastic rocks in the way of shales, siltstones and sandstones. Sandstones were frosted-to-clear-to-light gray, fine-to-coarse grained, moderately-to-poorly sorted, well-to-loosely cemented, slightly calcareous, occasionally micaceous and angular-to-subangular. Siltstones were dark gray-to-gray-to-light gray, blocky, calcareous, argillaceous, occasionally micaceous and firm-to-hard. Shales were seen to be light gray, silty, non-to-slightly calcareous, blocky-to-platy and moderately firm. No oil stain, fluorescence or cut was observed throughout the Honaker Trail.

PARADOX (7390' - 10,450')

The Pennsylvanian Paradox was penetrated at 7790'. It was characterized by interbedded salt and clastic sections. The salts were clear-to-white, coarsely crystalline, blocky and firm. The interbedded clastic units were massive white anhydrite beds; there were dark gray-to-gray-to-brown, fine-to-very fine crystalline, occasionally calcareous, blocky and firm, and occasionally argillaceous dolomites; shales that were dark gray-to-black, noncalcareous, anhydritic in part and firm; and light gray-to-gray, blocky, calcareous-to-dolomitic and firm siltstones. Despite occasional moderate gas increases through the clastic units, there was no oil shows, fluorescence or cut; as often this zone is highly productive, the Paradox was a disappointment.

LEADVILLE (10,450-10,900)

The main objective of this well was the Mississippian Leadville which was topped at 10,450. The upper 200' were limestones that were noted to be white-to-very light gray, occasionally chalky, micro-to-cryptocrystalline, firm, dolomitic in part and occasionally pyritic. These limestones gave way, for the most part, to dolomites in the lower 250'. The dolomites were off-white-to-light brown-to-mottled-to-brown, dense, occasionally sucrosic, slightly argillaceous, occasionally pyritic and cherty and firm. Although no oil stain, fluorescence or cut and

only modest gas increases, it was determined to run 3 DST's to fully identify the nature of this zone.

OURAY (10,900' - 11,003')

The Devonian Ouray was composed of dolomites, limestones and trace amounts of shale. Dolomites were off-white-to-white-to-light brown-to-brown, medium-to-fine crystalline, sucrosic in part, blocky and firm. Limestones were white-to-off-white, fine-to-medium crystalline, clean, occasionally sucrosic and firm. And traces of light green, waxy, calcareous, firm shale were present. No stain, cut, or fluorescence was noted in the Ouray.

ELBERT (11,003' - 11,145')

The upper half of the Devonian Elbert was predominantly a dolomite with minor amounts of limestone and shale present. Dolomite was light brown-to-brown-to-light gray-to-gray brown, microcrystalline-to-cryptocrystalline, sucrosic in part and occasionally sandy. Shale was light green-to-light gray, waxy, silty and calcareous. Limestones were light gray-to-gray-to-light brown, dense, dolomitic and occasionally argillaceous. In the lower half of the Elbert, some sand was drilled which were clear-to-light pink, medium-to-very fine grained, moderately-to-poorly sorted, well cemented, siliceous, subangular-to-subrounded and tight. No oil stain, fluorescence, or cut was noted in the Elbert

McCRACKEN (11,145' - 11,240')

The McCracken sandstone (more accurately designated with the Lower Elbert) was penetrated at 11,145'. The upper 35' was characterizic Elbert dolomites and limestones while the sandstone itself was clear-to-frosted, medium-to-very fine grained, moderately-to-poorly sorted, occasionally glauconitic, siliceous, subrounded-to-subangular and tight. These sands showed no hydrocarbon prescence.

CAMBRIAN (11,240' - T.D.)

Undifferentiated Cambrian rocks were topped at 11,240' that contained brown-to-gray-brown-to-mottled, silty-to-sand, pyritic, sucrosic, dense, firm-to-hard dolomites. Traces of sandstone (possibly McCracken cavings) and traces of white, chalky, soft limestone were also noted. There were no oil stain, cut or fluorescence seen throughout the Cambrian.

CONOCO 31-#1 FEDERAL
WELL SUMMARY

Conoco's 31-#1 Federal was spudded on 12 March and drilled to a total depth of 11,00' on 7 July, 1985. At the present time, electric log evaluation by Conoco and its partners is incomplete and the hole's status is undetermined.

Rocky Mountain Geo-Engineering's mudlogging Unit #37 was rigged up and logging on 1 April, 1985 when 12 $\frac{1}{4}$ " hole was drilled out from under 13 $\frac{7}{8}$ " casing set at 3029'. The logging unit was equipped with CO₂ and H₂S detection equipment, as well as standard hydrocarbon logging equipment.

31-#1 Federal was spudded in the Permian Cutler Formation, a formation of no known hydrocarbon reserves in this area. Indeed, no hydrocarbon shows were observed throughout this zone, although CO₂ concentrations in the 200-400 ppm range were observed throughout.

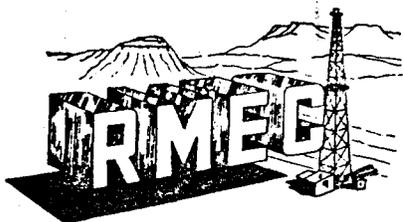
At approximately 6440' a dense marine limestone unit indicated that the Pennsylvanian Honaker Trail had been topped, though e-log correlation was inconclusive. No shows were noted in the zone and CO₂ ranged from a trace to 500 ppm.

The first of the Pennsylvanian Paradox salts was topped at 7390'. The clastic units interbedded with these salts were of some interest as they are the acknowledged source rocks of the Paradox Basin and often productive themselves. Minor hydrocarbon shows with maximum total gas values from 10-175 units were logged from some of the 9 total clastic units drilled. High ratios of light-to-heavy hydrocarbon gases and the lack of visible oil staining contraindicated productive potential.

The Mississippian Leadville, the primary zone of interest, was topped at 10,450' (e-log top). Three moderate gas increases came from drilling breaks through the dolomitic portion of the Leadville (See Show Sheets #1, #2, #3). Again, high ratios of light-to-heavy gases and lack of visible oil staining prevailed and the three DST's run on the basis of these shows recovered only gas from DST # 1 & #2 and salt water from DST #3. DST #1 showed abundant CO₂ recovery in the DST tool Sample Chamber, a fact that might be of some economic significance. DST results were not made available to RMEC personnel, but on-site observation of the tests was encouraging in that the Leadville in this area shows excellent reservoir characteristics.

Though occasionally productive (probably as common reservoir rocks with overlying Mississippian limestones) the Ouray and upper Elbert of the Devonian were not expected to be of much interest. The McCracken Sandstone (Lower Elbert) has been quite productive to the south of the 31-#1 Federal (Lisbon, Akah Nez and Walker Creek Fields), but no shows were observed at this site.

Cambrian carbonates were topped at 11,240' (e-log top) and the hole was drilled to 11,300' total depth in these carbonates. Shows were neither expected or seen throughout this Cambrian section.



ROCKY MOUNTAIN GEO-ENGINEERING CO.

WELL SITE GEOLOGY — MUD LOGGING

2450 INDUSTRIAL BLVD.

PHONE 243-3044

GRAND JUNCTION, COLORADO 81505

July 13, 1985

Conoco Inc.
12600 N. Colfax
Lakewood, CO 80215

Gentlemen:

Enclosed is the final log on your 31 #1 Federal, located in Section 31, T24S, R23E of Grand County, Utah.

We appreciated the opportunity to serve you. If we can be of any further assistance in the final evaluation of zones encountered, please feel free to call on us.

We are looking forward to working with you again in the near future. We thank you again.

Sincerely,

Andy Kelley

AWK:ab

ENCL: 14 FINAL LOGS

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Conoco Inc., Pace Hill Wildcat Well

INTRODUCTION

The Grand Resource Area, Moab District of the Bureau of Land Management (BLM) received an Application for Permit to Drill (APD) from Conoco Inc. of Casper, Wyoming. The proposed drilling location is in the NW 1/4 SE 1/4 of Section 31, T.24 S., R.23 E., in Grand County, Utah.

The proposed exploration well would be located on oil and gas lease U-50694, assigned to Conoco Inc. The lease was issued by BLM on April 29, 1982; subject to provisions of the lease, and regulations in 43 CFR 3160, BLM Onshore Oil and Gas Order No. 1, 1983, and other appropriate orders and Notices to Lessees (NTL).

An Environmental Analysis Record (EAR) for Proposed Oil and Gas Leasing in the Grand Resource Area (BLM 1976, on file at the Grand Resource Area office) was prepared to analyze potential impacts of petroleum exploration, development, production and abandonment operations which follow the issuance of a lease. The oil and gas leasing EAR has been used in the tiering process for portions of this environmental assessment, (EA) specifically for discussions regarding environmental impacts associated with full development of an oil and gas producing field. The oil and gas EAR revised previous BLM planning documents, including the Castle Valley Unit Resource Analysis - Management Framework Plan (URA-MFP, BLM 1973, amended August 13, 1975) which presently directs BLM management of the area. Through the oil and gas leasing EAR the area was determined to be open for leasing under Category 1. The leaseholder has rights to develop this lease within the limits of the previously mentioned regulations. The proposal is consistent with the Grand County Master Plan for Development (University of Utah, 1979). The Castle Valley declaration of covenants has been reviewed for this proposal, but determined to be applicable only to the lots in Castle Valley River Ranchos.

PROPOSED ACTION AND ALTERNATIVES

PROPOSED ACTION

Conoco Inc. submitted a Notice of Staking (NOS) to the BLM with the intention of drilling an exploratory well near the base of Parriott Mesa in Castle Valley. The proposed well would be located on oil and gas lease U-50694, assigned to Conoco Inc. (see Map 1, Appendix 1).

Upon receipt of the NOS, the BLM initiated an environmental review and conducted an onsite field inspection of the proposed location in coordination with Conoco and local construction contractors.

During the onsite inspection, the BLM identified specific items to be addressed in Conoco's APD. The APD was then submitted by Conoco to BLM.

After receiving Conoco's APD, an administrative review of the APD was initiated by the BLM, Moab District Office. The administrative review served

to determine if all required parts of the APD were included in the application. These parts include BLM form 3160-3, a 10-point drilling plan, a 13-point surface use plan, a certified survey plat, a cut and fill diagram and maps of the area (Appendix II). A hydrogen sulfide (H₂S) contingency plan was submitted as part of the 10-point plan. The BLM requires such a plan if drilling through salt formations in the Paradox Basin is anticipated. In addition to these items, the BLM reviewed Conoco's proof of bonding for surface damages, lease assignments and Utah Division of Oil, Gas and Mining spacing requirements. (See Appendix II for Conoco's proposed action).

This review determined that the APD was administratively adequate (contained all of the parts mentioned above). Conoco was notified of this in writing as required by BLM Onshore Oil and Gas Order No. 1. During the same time period, the APD was reviewed by the Moab District Office and the Grand Resource Area offices for technical adequacy. The BLM identified technical inadequacies regarding water wells, residences in the vicinity, H₂S contingency plans, traffic safety requirements, and specific stipulations covering reclamation and operating facilities. Conoco submitted this information as an addendum to the APD.

The APD describes Conoco's intention to drill a 12,000-foot exploratory well in the previously described location (NW 1/4 SE 1/4, of section 31, T. 24 S., R. 23 E.) approximately 1,200 feet east-southeast of County road 12-B. Access from Moab to the location is via U.S. Highway 191 north to the junction of State Highway 128, then east along Highway 128 to the county road. The proposed road to the drill site is 0.8 mile south of the junction of Utah Highway 128 and the county road. The U.S. and State highways are administered and maintained by the State, and the county road is administered by Grand County. Conoco will obtain all applicable road permits from County and State agencies for travel over the highways mentioned. Conoco has committed to providing escort vehicles and flaggers when the drilling rig is moved to the location, and again when the rig is removed to a stacking area after completion of drilling operations. Conoco also agrees to restrict heavy truck vehicle traffic to those hours of least public use in accordance with requirements of the State of Utah. Exceptions will be made only in emergency situations.

Conoco proposes to construct a 350-foot X 450-foot drill pad (approximately 4 acres) to accommodate a drill rig with 150-foot lighted tower, a 75-foot X 150-foot fluid reserve pit, a parking and truck turn-around area, and temporary living quarters. The drill pad would be constructed from native materials borrowed from the construction site. Some blasting of rock may be necessary during the construction of the drill pad. A dry wash will be rerouted around the corner of the pad. Conoco has also agreed to place rip rap on fill slopes adjacent to the wash. Topsoil encountered during construction would be stripped and stockpiled for later use in surface rehabilitation.

Access to the drill pad from the county road would be provided by 1,200 feet of new road, which would leave the paved road in the SE 1/4 NW 1/4, Section 31, T.24S., R. 23 E., and proceed southeast to the proposed site. The proposed access road would be an 18-foot-wide, crowned road (9 feet either side of the center line) with drainage ditches placed where necessary. The maximum disturbed road width would be 30 feet (for a total of 1 acre of

surface disturbance). Backslopes along the cut areas of the roads would be 2:1 (or 50 percent) slopes. Cut slopes would be required on approximately 10 percent of the total road length. A 36-inch culvert would be placed at the first major dry wash crossing located in the first 100 feet along the road. Another dry wash crossing would require up-grading. Straw bales would be placed along sides of up-grading in both major washes to control erosion. In places, fill slopes may extend partially into dry washes. Conoco has agreed to place rip rap on these fill slopes. Fugitive dust from pad and road construction would be controlled with water. The total area anticipated to be disturbed by the drill location and access road would be about 5 acres.

Construction

A 75-foot X 150-foot reserve pit would be constructed to store water used for drilling and to store other materials. One-half of the pit would be used for the water, the other half for storage of non-flammable materials such as cuttings, salts, drilling fluids, chemicals and produced fluids. The reserve pit would be lined with 20-mil plastic over an underlining of sand or straw. BLM would inspect the pit construction prior to placement of the lining. The reserve pit would be fenced with 4-strand barbed wire to keep livestock and wildlife out of the pit.

Construction of the drill pad, reserve pit, and access road is expected to be completed in about 2 weeks. This type of construction usually requires two Caterpillar tractors with one support vehicle during construction. The tractors would be left on location during the construction phase. Road warning signs reading "Caution - Heavy Truck Traffic," or similar signs, would be placed 100 yards north and south of the access road where it leaves the county road and also at the junction of Utah Highway 128, before the pad and road are constructed. At the junction of the county road and the well access road, a sign would restrict access to the drill pad to authorized personnel.

Drilling

Upon completion of drill pad, reserve pit, and access road construction, a drill rig would be brought in. It is expected to take about 30 semi-truckloads 3 days to move in the drill rig and associated support facilities. Approximately 30 truckloads of casing pipe would also be hauled to the drill site during the actual drilling phase. Daily traffic for movement of personnel and supplies is expected to be about 15 to 20 vehicles per day once the drilling begins. The drill rig would be equipped with a housed, 800 to 1000 horsepower, diesel electric system to generate electricity for the rig. Also, two 300-horsepower air compressors, powered by a Caterpillar D-353 turbo-charged engine would be used during the air drilling phase of the operation.

Conoco has applied to the Utah Division of Water Rights for a permit to use water from Castle Creek at the White Ranch near Highway 128. Approximately 400 barrels of water per day may be needed to drill the first 300 feet of the well, after which a combination of air and mist would be used to drill the remaining 11,700 feet of the well. The air-mist drilling operation would use approximately 150 to 200 barrels of water per day. Water needed for the drilling operation would be hauled to the location by truck. The majority of

water hauls would occur during the first 2 weeks of the project, the remainder spread evenly over the life of the project. The drilling operation is expected to take 150 to 175 days to complete.

The subsurface casing program described by Conoco in the 10-point drilling program (Appendix II) would be followed to prevent fresh water aquifers from being contaminated with drilling mud, gas, oil or saltwater.

Produced waste water would be confined to the lined pit for a period not to exceed ninety days. The water would be disposed of in a BLM approved permanent disposal area if necessary. H₂S (a poisonous gas) may be encountered during the drilling operation. The H₂S Contingency Plan (Appendix II) describes safety precautions Conoco's drilling representative will take to control H₂S and sets forth Conoco's responsibilities and duties for drilling in an H₂S area.

A portable trash basket would be placed on the location site and all trash hauled to a BLM approved sanitary landfill. The temporary camp on the location would house 20 employees full time in a 60-foot by 60-foot trailer (5 trailers attached together). There would be two 2000-gallon closed septic tanks. Sewage would be hauled to a BLM approved sewage disposal area.

Upon completion of the drilling project, the drill rig would be disassembled and moved out. It is expected to take about 30 truck-loads over a period of 3 days to move out the drilling rig and associated support facilities.

Reclamation

In the event of a "dry hole" (oil or gas is not encountered in sufficient quantities to produce), the well pad, pit, and access road would be reclaimed. Reclamation of the well would take place within 90 days of well abandonment.

Well abandonment would include plugging the well bore at the surface and at zones identified by the BLM petroleum engineer. A detailed plugging program would be developed based on conditions encountered down-hole after drilling the well.

In consideration of visual resources, the standard dry hole marker, a 4-foot-tall, 4- to 6-inch diameter pipe with information on the well, would be waived and replaced by a plate, 6 inches below the surface. The plate would have the name of the operator, well number, location by 1/4 1/4 section, township and range, and lease number. Any fluid in the pit would be hauled to an approved disposal site and the solids (cuttings, etc.) would be left in the lined pit and covered with 6 feet of dirt.

After the pit is covered, all cut and fill areas of the pad and access road would be recontoured to blend with the adjacent topography. The recontoured site may not duplicate the original contours of the area, but would be done in a way to achieve maximum revegetation success, reduce erosion, and minimize visual impacts.

The stockpiled topsoil would then be evenly spread over the recontoured areas and scarified on the contour to a depth of 4 to 6 inches.

All disturbed areas would then be seeded with native species common to the area. Assuming the seed is broadcast, application rates would be double that of the drill seeding rate, and the seed covered with a harrow, drag, or similar implement. Revegetation success is expected to take two or three growing seasons following initial reclamation. This estimate is based on similar reclamation projects within the Grand Resource Area.

The 1976 Oil and Gas Leasing EAR, (pages 14-30) has been used through the tiering process to describe what would be expected in the event the previously described drilling operation discovers sufficient amounts of oil or gas to commercially produce. Should sufficient amounts of economically producible oil or gas be found, another EA would be written to analyze impacts of full development. This EA would be initiated only after production is determined, and would be used to develop mitigation for adverse impacts from subsequent oil and gas operations on this lease. Refer to Table 1 for a sequence of events relating to the preparation of this E.A.

TABLE 1

Chronology

April 29, 1982	Lease issued
May 1, 1984	Lease assigned to Conoco Inc.
October 9, 1984	NOS received by BLM.
October 11, 1984	Archaeological clearance recieved by BLM.
October 16, 1984	BLM responded to NOS with letter to Conoco.
November 7, 1984	Onsite inspection of proposed location (BLM, Conoco, construction contractors).
December 3, 1984	BLM recieved Conoco's APD.
December 11, 1984	Conoco notified of H ₂ S contingency plan inadequacies.
December 12, 1984	Oilind (H ₂ S Plan) subcontractor met with Castle Valley Property Owners Association (POA) members.
December 14, 1984	Press release issued regarding request for public scoping comments and expected EA timeframes.
December 26, 1984	Castle Valley POA-Conoco-BLM meeting.
January 14, 1985	Draft EA to be released for 15-day public comment period.
January 31, 1985	Final EA to be released with signed Record of Decision (ROD).

ALTERNATIVE ONE - MOVE CONOCO'S DRILLING LOCATION

BLM identified an alternative drilling location approximately 0.5 mile north of Conoco's proposed location in the NW 1/4 NE 1/4 of section 31, T. 24 S., R. 23 E., near the northern end of Parriott Mesa (see Map 2, Appendix 1). The BLM has determined that it is technically feasible for Conoco to slant drill from this alternative location to the target location described in the proposed action.

The alternative location would require a similar size drill pad, fluid reserve pit, and drill rig, but the access road would be longer. The access road to the alternative location would leave State Highway 128, approximately 0.8 mile east of the county road. The access road would be 0.75 mile long and would head southwest across private and federal land to the location. Use of this alternative route would be contingent upon permission from the property owner. One dry wash crossing would be required. A total of about 6 acres would be disturbed under this alternative. All other design features used in the construction, operation, and reclamation of this alternative would be as described in the proposed action.

This alternative location was proposed in order to move the drilling operation as far away from Castle Valley residences as technically possible. It was also proposed to decrease drilling associated traffic on the county road, reduce noise and visual impacts to Castle Valley residents, and reduce the potential for H₂S being introduced into the Castle Valley area, if H₂S is encountered.

NO ACTION ALTERNATIVE

Under the No Action alternative the BLM would deny Conoco's APD on this particular location within their 8,171 acre lease. BLM could deny Conoco's APD only if it threatened to violate a state or federal law (personal communication, Bill Miller, BLM, January 1985).

ALTERNATIVE CONSIDERED BUT REJECTED

Another drilling location in the Ida Gulch area was identified by the BLM as an alternative to Conoco's proposal. This location is in the SW 1/4 SW 1/4 of Section 33, T.25 S., R. 23 E., which is also on lease U-50694 (see Map 3, Appendix 1). This alternative location was considered in order to:

- reduce noise and visual impacts to Castle Valley residents and recreationists on the Colorado River and Highway 128;
- reduce traffic on the county road due to drilling; and to
- reduce the potential of H₂S being introduced into Castle Valley if H₂S is encountered.

BLM rejected this alternative location because it is approximately 1.5 miles away from the target location, a distance determined to be technically infeasible for Conoco to directionally drill from this location and still hit their target.

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

REGIONAL SETTING

The proposed drilling operation is located approximately 19 miles northeast of the community of Moab, and 1 mile north of the community of Castle Valley in Grand County, Utah. Nearby federal land includes public lands administered by the BLM surrounding the location, Arches National Park located approximately 4 air miles west of the drilling location, and the Moab Ranger District of the Manti-LaSal National Forest located approximately 6 air miles southeast of the location. The Colorado River is located 1 mile north of the proposed project. A large block of private and State of Utah land is located 2 miles south. Fisher Towers, a developed BLM recreation area, is located 6 miles northeast.

NATURAL ENVIRONMENT

Climate - Air Quality Existing Environment

The semi-arid setting of this site receives an average of 8 to 10 inches of precipitation annually, of which about 5 inches is received between October and April (Utah State University, 1968). Upper-level prevailing airflow is generally from the west and southwest (Aerocomp, 1984); however, complex local terrain causes surface winds to vary considerably from prevailing conditions (personal communication, Bill Wagner, BLM, January 1985). Highly dissected terrain in the area can be expected to cause complicated air flows that may shift frequently and may be directed by valley slopes.

Air quality has not been monitored in the immediate area, but like most southeastern Utah air, it is considered very good and is within a Class II air quality area. The absence of major polluting facilities in the area suggests that the greatest air quality problem is probably a result of fugitive dust generated by windy conditions that are frequent in the Castle Valley area. The closest Class I area is Arches National Park which is located 4 miles west of the location.

Effects of the proposed action

Surface disturbance associated with drill pad and road construction, as well as vehicular traffic, would elevate concentrations of particulate matter under windy conditions. Such dust would be controlled, for the most part, by applying water to construction sites and road surfaces. Increased particulate concentrations would be intermittent, limited in extent, and therefore minor when compared with natural conditions (personal communication, Bill Wagner, BLM, January 1985). Other pollutants emitted from equipment and vehicles would be so low they would not be noticeable (personal communication, Bill Wagner, BLM, January 1985). Class II air quality standards would not be exceeded with this project.

The greatest air quality concern involves H₂S gas that would be associated with a blow-out. This problem is discussed in the Hydrogen Sulfide safety section.

Effects of Alternative One

The effects would be essentially the same as those discussed for the proposed action. A longer road could result in more dust, but not substantially more than the proposed action. The potential for H₂S to reach Castle Valley residents as a result of a blow-out is discussed in the H₂S safety section.

Effects of the No Action Alternative

Air quality would remain the same if no drilling were allowed.

Soil

Existing Environment

The drill site and access roads are in a Badland soil mapping unit, as mapped in the Canyonlands Area Soil Survey (SCS 1982). The drill site falls within a desert sandy loam ecological site. From examination of aerial photos it appears that the area is actually in a complex of Badland and Moenkopie soils with some rock outcrop. The terrain is highly dissected with many angular ridges and nose slopes cut by small drainages.

The area of the proposed action is composed of about 50 percent Badland soils with about 10 percent rock outcrop and 40 percent Moenkopie soils. Slopes are short in length and range from 3 to 30 percent. The area of Alternative One is composed of about 60 percent Moenkopie soils, 30 percent Badland soils, and 10 percent rock outcrop. Slopes are short and broken and range from 3 to 15 percent. Moenkopie soils are shallow (less than 20 inches deep), derived from hard shale, siltstone, or sandstone. There are small areas of soil deeper than 20 inches along the drainage channels. Moenkopie soils occur mainly on the north and east facing sideslopes. Present soil loss from water erosion for the Moenkopie soils is estimated to range from about 0.1 to 3 tons per acre per year. Badland soils occur as actively eroding areas on south and southwest facing slopes. Present soil loss from these areas is estimated to range from about 1 to 20 tons per acre per year.

Effects of the Proposed Action

Under the proposed action, about 5 acres would be disturbed in preparing the access road and the drill pad. Soil loss from the disturbed areas can be expected to range from about 1 to 20 tons per acre per year, depending on the slope and slope length of disturbed areas. The greatest loss would occur from cut banks and sideslopes of fill material. On slopes of less than 15 percent, soil loss would be less than 5 tons per acre per year. Maintaining slopes and cutbanks below a slope of 15 percent (about 6.5:1 slope) would reduce the amount of erosion. Conoco has proposed rechannelling dry washes, rip rap and straw bale sediment traps, which should be sufficient to control surface runoff. Less than 0.1 acre would be affected along the proposed access road. The present 13-point plan shows provision for stockpiling topsoil. Controlling runoff at the site and reclaiming the site to achieve slope contours of less than 15 percent may be of greater benefit than attempting to completely revegetate the disturbed areas. This would be of immediate help in reducing sediment loss from the area.

Effects of Alternative One

Impacts to soil would be virtually the same as those described for the proposed action. However, sediment yields are naturally lower at this site and would remain lower during and after drilling and reclamation.

No Action Alternative

Under the no action alternative, there would be no change from the existing environment.

Water

Existing Environment

The highly dissected surface of the proposed location is drained by way of many small ephemeral drainages which discharge into the Colorado River. Castle Valley, south of the proposed drill site, is drained by Castle Creek, a perennial stream that flows out of the LaSal Mountains into the Colorado River.

Castle Valley is underlain by alluvial material that acts as an aquifer for numerous wells in the valley. These wells provide water for both culinary purposes and irrigation. The State of Utah provided the following well locations for an area which includes and surrounds Sec. 31, T. 24 S., R. 23 E. Three wells exist in section 5, T. 25 S., R. 23 E. Numerous wells exist in section 6, T. 25 S., R. 23 E, and in section 1, T. 25 S., R. 22 E. These are shown in figures 1 and 2 with their water rights status, as well as that of springs and other water sources. No other wells are on record for this vicinity.

Proposed drilling would not be in the alluvial aquifer which feeds most Castle Valley wells. Surface formation at the proposed site is Cutler with possibly some thin Moenkopie portions (Hintze and Stokes, 1964; personal communication, Max Day, BLM, January 1985). Little detailed information is available, but the Cutler Formation is known to possess fresh water aquifer potential (Schlotthauer, et al., 1981). Several wells in Castle Valley are known to be producing water from the Cutler formation (personal communication, Dutch Zimmerman, professional driller, January 1985). Regional dip of the beds is to the northeast. (personal communication, Bob Warner, BLM, January 1985).

Effects of the Proposed Action

Impacts to surface water resources, including the potential for increased sediment loading of the Colorado River, have been determined to be either negligible or adequately mitigated by the proposed action, and therefore are not discussed.

The potential for adverse effects on ground water and the aquifer would be mitigated by the casing and cementing program given in the proposed action.

Existing water wells in Castle Valley are safely isolated from contamination by the proposed drilling. Not only are most Castle Valley wells in alluvium, which does not extend out to the proposed site, but they are also up-gradient; any migration of fluids past, or away from, the proposed drill hole would be

FIGURE 1

WATER SOURCES

DATE PRINTED 01/04/85

	UNAPPROVED	APPROVED	PERFECTED
UGW	○ 0	⊗ 27	⊙ 1
SUR	◇ 0	◊ 0	◆ 0
SPRING	✦ 0	✧ 2	✦ 2
REDIV	□ 0	⊠ 0	⊡ 0
PTP	△ 0	▲ 0	▲ 0

○ CLAIM NUMBERS DID NOT DISPLAY

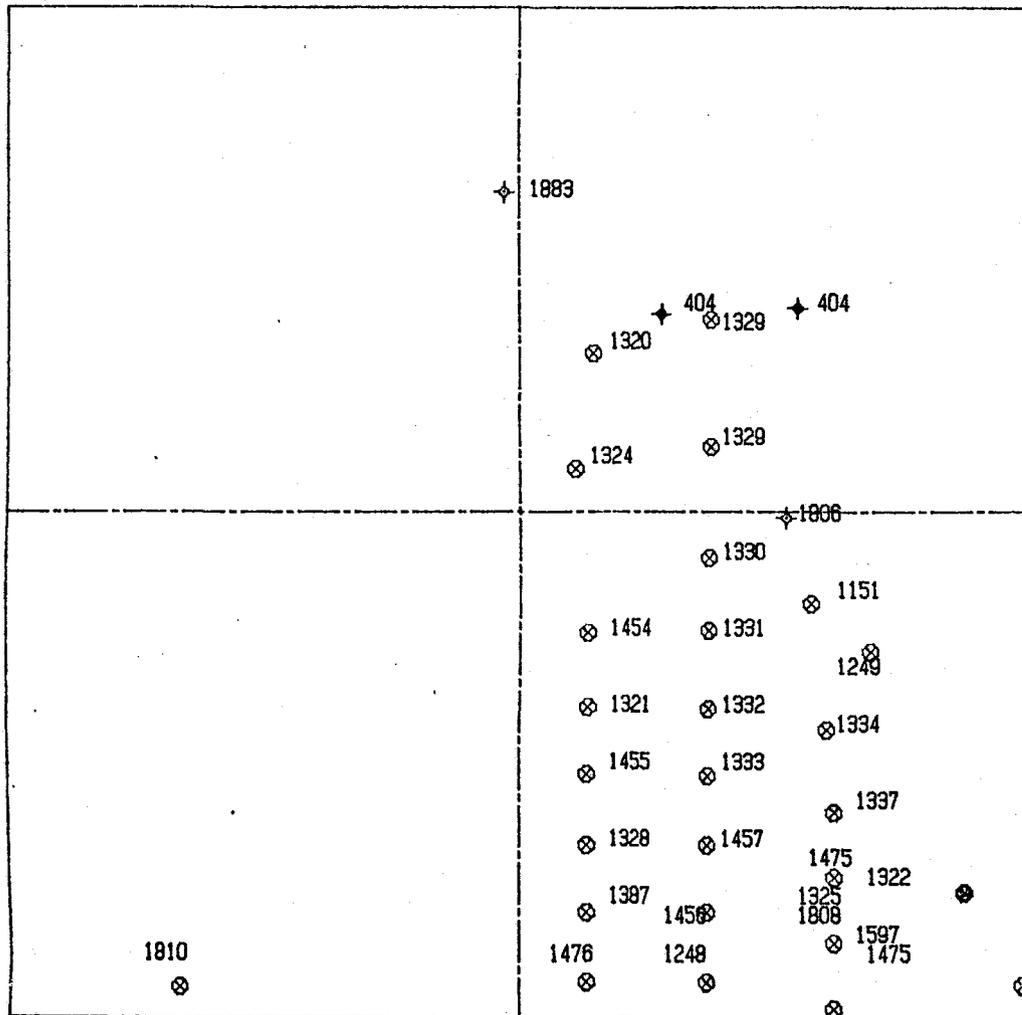
LEGEND

UGW=Underground water
 SUR=Surface water
 SPRING=Spring
 REDIV=Rediversion
 PTP=Point to point

SECTION 1 TOWNSHIP 25S RANGE 22E BASE SL

ENTIRE SECTION

STATE OF UTAH DIVISION OF WATER RIGHTS 1985



5280 feet

away from Castle Valley toward the Colorado River and probably to the northeast along the regional dip.

Conoco would acquire a State water permit as stated in the proposed action. If additional water sources are required, Conoco would have to apply to the State for the required water rights. The State would address the concerns and requirements of other water right holders at that time.

Effects of Alternative One

A major dry wash would have to be crossed and average stream flows would be handled by a culvert. Peak flows may overtop the road, but rip rap stabilization both upstream and downstream would mitigate cutting of road bank fill. Ground water effects would be the same as for the proposed action.

Effects of the No Action Alternative

The existing environment would continue to change gradually under natural conditions.

Vegetation

Existing Environment

Vegetation along both the proposed access road and the well site is typical of a desert sandy loam ecological site. The main plant species are shadscale and cheatgrass. Other prominent species in the area are scarlet globemallow, hedgehog cactus, and various annual species. Some rabbitbrush is found in the wash bottoms. Vegetation at the Alternative One location is similar to the proposed action area.

Effects of the Proposed Action

Vegetation on about 5 acres would be destroyed with the construction of the road and well pad. The disturbed area would be reseeded with native species if the well is a non-producer. Revegetation success is expected to take 2-3 growing seasons following initial reclamation. This estimate is based on similar reclamation projects in the Grand Resource Area. There is an abundance of seed adjacent to the site which would eventually revegetate the area even if the reseeded failed.

Effects of Alternative One

Impacts to vegetation are expected to be the same as for the Proposed Action except that about 6 acres of vegetation would be impacted due to the longer access road.

Effects of the No Action Alternative

There would be no impacts to vegetation if Conoco's APD were denied.

FIGURE 2

WATER SOURCES

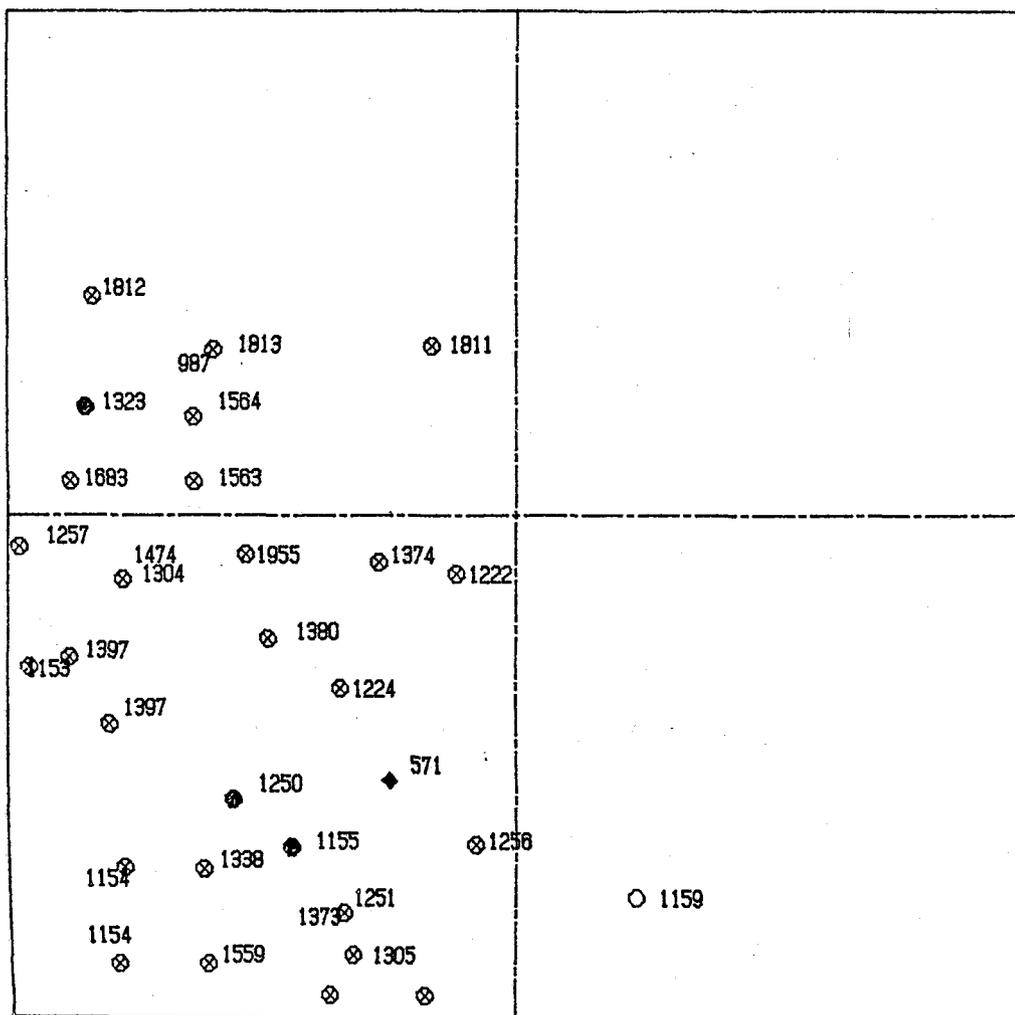
DATE PRINTED 01/04/85

	UNAPPROVED	APPROVED	PERFECTED
UGW	○ 2	⊗ 26	● 3
SUR	◇ 0	◇ 0	◆ 1
SPRING	✦ 0	✦ 0	✦ 0
REDIV	□ 0	⊠ 0	■ 0
PTP	△ 0	△ 0	▲ 0

1 CLAIM NUMBERS DID NOT DISPLAY

LEGEND

UGW=Underground water
 SUR=Surface water
 SPRING= spring
 REDIV=rediversion
 PTP=Point to point



5280 feet

SECTION 6 TOWNSHIP 25S RANGE 23E BASE SL

ENTIRE SECTION

STATE OF UTAH DIVISION OF WATER RIGHTS 1985

CULTURAL ENVIRONMENT

Existing Land Uses

Existing land uses in the area include residential development, grazing, oil and gas leasing, and recreation. There are no mining claims on the site of the proposed action or Alternative One. Impacts to grazing have been determined to be negligible, therefore grazing will not be discussed further in this EA. Residential development is discussed in the socioeconomics section.

Oil and Gas Leasing

Current Situation

Oil and Gas lease U-50694, issued April 29, 1982, contains 8,171.55 acres. This lease includes lands in T. 24 S., and R. 23 E., and includes portions of 16 sections (see Map 4, Appendix 1).

A complete, detailed copy of this lease is included as Appendix V. This lease, as are all noncompetitive leases, was issued for 10 years (May 1, 1982 through May 1, 1992).

In addition to the standard stipulations of the lease document, stipulations outlining surface disturbance, powersites, nonconventional oil recovery, and Category 2 oil and gas lease restrictions were also attached. The later set of stipulations outlines limits of surface disturbance and occupancy within 0.25 mile of the Colorado River and do not apply to this proposal or the alternative location. These areas are outlined on Map 5, Appendix I

Effects of the Proposed Action

Under this alternative the status of this lease would not change during the drilling of this well or in the event that commercial production was not reached. If commercial production was not obtained prior to May 1, 1992 the lease would expire as outlined in Section 1 of the lease. If commercial production is obtained by this well, or others drilled on this lease, the lease would be in effect with full rights until production ceased.

Effects of Alternative One

Same as above effects of the proposed action.

Effects of No Action Alternative

Under this alternative the lease would not be affected; however, further applications to drill on the lease could be submitted during the 10-year life of the lease. Under the existing rights of Lease U-50694 the lease holder has valid rights to pursue development of the lease by drilling and production of oil and gas. If neither the proposal nor alternative locations were drilled, uncertainty would remain as to whether oil and gas resources in producible quantities are, or are not present on this portion of the lease.

Recreation

Current Situation

The recreation opportunities present in the vicinity of the proposed action include sightseeing, floatboating on the Colorado River, fishing, hunting, and photography. A BLM developed recreation site at Fisher Towers (approximately 6 miles northeast) receives an average of 3,000 visitors per year. Approximately 81 percent of these visitors are from out of state or foreign countries. Commercial river companies recorded 7,824 passenger days for this part of the Colorado River in 1984. Users of this section of the river put in at Hittle Bottom near Fisher Towers off Highway 128 and run downriver to the Salt Wash take-out. Although records of private use on this river segment do not exist, private use probably exceeds commercial use statistics. River runners also use Highway 128 as a shuttle route to the Westwater section of the Colorado River.

The Colorado River corridor has attracted attention over the past several years as a potential scenic way. In 1984 Grand County has made an effort to revive this concept, and the Utah State Division of Parks and Recreation is presently studying this proposal.

Effects of the Proposed Action

Recreationists using Highway 128 would be slightly impacted while the drilling rig is moved in and removed from the location. There may be some 10-minute to half-hour delays to travelers along Highway 128, as well as to river runners shuttling to the Hittle Bottom put-in or the Westwater take-out. An alternate shuttle route to Westwater could be used to avoid delays.

Some noise associated with the drilling project may be audible to river users. This noise would be a low frequency drone which is expected to blend in with Highway 128 traffic noise. Short duration, high frequency noise from the rig may also be audible to river users. This noise is expected to be audible along a 0.5-mile stretch of the river and is not considered a significant impact to river users.

There would be no impacts to fishing or ORV use. Hunting would probably not be impacted. If construction or drilling operations took place during hunting season, hunters could experience traffic delays as described above. Based on observations of similar operations, wildlife is not expected to be affected; hunting opportunities would not change.

Effects of Alternative One

The alternative site location would place the project 0.5 mile closer to the river corridor and to the majority of recreation users. Drilling associated noise would be somewhat greater to river users, but is not considered significant. Traffic related impacts are expected to be similar to the effects of the proposed action.

Effects of the No Action Alternative

There would be no impacts to recreation if Conoco's APD were denied.

Visual Resources

Current Situation

The visual resources of the Colorado River Canyon in the vicinity of the proposed action are typical of the other canyons in the area with red Wingate cliffs towering above talus slopes. Low-growing shrubs and grasses are present with considerable exposed reddish brown soil. The scenery in the area attracts commercial filming companies. Numerous motion pictures and several television commercials have been filmed in the vicinity within the last 30 years.

BLM has designated the area as visual resource management (VRM) Class II. In Class II areas, activities are encouraged to be conducted in a manner which is not apparent to an observer. A contrast rating is conducted to identify the extent of visual impact that the proposal would have on the existing landscape.

Effects of the Proposed Action

The proposed action would include activities which are apparent to the observer. Reclamation work following drilling would render the changes essentially non-apparent in the long term. VRM Class II Standards would permit visual modification of this magnitude, since management activities would blend into the surrounding area (see contrast rating worksheet 1, Appendix III).

During the drilling phase of this project, activities may be seen for about 0.5 mile along Highway 128 near the county road intersection. The drill rig and associated vehicle traffic would be visible. Lights on the rig would be visible at night from Highway 128. River users may also see the drill rig and lights for 0.5 mile from the Colorado River. Recreationists along the Colorado River, and in some areas of Arches National Park and the Manti-LaSal National Forest, may be able to view the drilling operation, especially at night. The rig would not be visible from Castle Valley residences.

Effects of Alternative One

Alternative one would be expected to create about the same impact on visual resources as the proposed action, and would be within acceptable limits of VRM Class II. The drill rig would be more visible to the majority of recreation users since it would be closer to Highway 128 and the Colorado River corridor. This location would not be visible from Castle Valley residences.

Effects of the No Action Alternative

There would be no impact to visual resources if Conoco's APD were denied.

Transportation

Current Situation

Highway 128 is designed for light traffic (passenger cars and pickups) and an occasional truck. It consists of nominal 2-inch thick asphalt surface

constructed from a varying combination of "armor coat," "chip seal," and cold road mix over a variable base of gravel. The asphalt surface is designed for all-weather access and is not considered to have any inherent strength. The subgrade varies from gravel alluvium to silts and clays. Along the Colorado River the road surface has numerous pavement cracks due to subgrade failure from high water. Some physical slumping of the roadbed is evident in this area.

The paved surface is an average 22 feet wide and does not include any appreciable shoulder. The road itself winds along the Colorado River and contains numerous curves. Three curves along the proposed route have directional changes approximating 45 degrees.

The estimated average daily traffic (ADT) along this section of Highway 128 is 260 vehicles per day (UDOT, 1981). This amount would increase substantially in the spring and summer months due to increased recreational use. Common vehicles would be passenger cars, light trucks, motorhomes, and school buses.

The Castle Valley road was improved in 1983 and was constructed to higher standards than Highway 128. It has a nominal 4 inch asphalt and surface over a compacted gravel base. The travel surface averages 24 feet in width with a limited shoulder.

Effects of the Proposed Action

Impacts to transportation may occur in two forms: (1) physical damage to the roadway from heavy truck traffic, and (2) decreased traffic safety from an increase in vehicular use and deteriorated road conditions.

The proposed action is expected to increase the ADT by 50 vehicles per day during the project. A significant number of the vehicles would be very large, including tractor-trailers and water trucks, with the latter class of vehicle making frequent trips from the water source to the drilling location. Both classes of vehicles produce pavement loadings several thousand times that of passenger cars and light trucks. The greatest loadings would occur from "bobtail" water trucks with only two rear axles.

Heavy truck traffic is expected to significantly damage the road surface of Highway 128. There would be "pot-holing", raveling of the road edges, and increased slumping with an overall loss of riding quality. The damage cannot be precisely anticipated; but it is expected to be similar to but less than that sustained to the LaSal Mountains loop road caused from a recent oil and gas drilling operation (personal communication, Sterling Davis, December 1984, UDOT; Bob Dalla, December 1984, BLM).

Due to the winding nature of Highway 128 along the proposed route and the sharp curves, there may be "off-tracking" by the tractor-trailers into the oncoming lane. At three of the sharpest curves, the minimum off-tracking would be 2 to 3 feet.

It is anticipated that no appreciable damage would occur to the road surface of the county road. The road is considered adequate to carry the oversize truck traffic.

There may be some short-term traffic delays to motorists on the above mentioned roads due to heavy equipment being moved in or out, or in the event of emergency situations. There may be some increased risk of vehicle accidents due to increased traffic.

Effects of Alternative One

Effects to transportation are expected to be similar to effects of the proposed action except the County road would not be affected.

Effects of the No Action Alternative

There would be no impacts to transportation associated with the denial of Conoco's APD.

Hydrogen Sulfide Safety

Current Situation

The Paradox Basin is known to contain concentrations of H₂S. It is found in the Pennsylvanian and Mississippian producing horizons in Libson Valley, approximately 30 miles south of the Castle Valley area. Transco, Inc. observed some H₂S in a recent wildcat well on the south flanks of the LaSal Mountains approximately 20 miles south of Castle Valley. However, H₂S occurrence in the region has not been documented north of these mountains.

Producing Pennsylvanian and Mississippian zones in the Mineral Canyon, Long Canyon, and Salt Wash areas approximately 12-35 miles north and west of the proposed well site have not documented H₂S occurrence. Drilling history in the immediate area (T. 24 S., R. 23 E., Section 13) indicates these zones have been penetrated without finding H₂S concentrations.

The possibility of finding H₂S (rather than the probability), has necessitated an H₂S contingency plan by Conoco, Inc. The plan is considered only precautionary.

The hazards of H₂S are well known. It is a toxic gas that produces irritation to the eyes, throat, and respiratory tract, and possibly death. The gas has a distinctive "rotten egg" odor at very low concentrations. At higher concentrations, the sense of smell can be lost within seconds. The reader is referred to page 2 of the H₂S contingency plan (see Appendix II) for details on toxicity.

Effects of the Proposed Action

H₂S, if released at the surface during the drilling operation, could be hazardous to the drilling crew and to the general public.

Two principal factors are necessary before a release of the gas can occur at the surface: (1) sufficient concentrations of H₂S must be encountered, and (2) the formation pressures must exceed the hydrostatic pressure in the wellbore.

If downhole pressures exceed hydrostatic pressures, a "gas kick" occurs,

requiring emergency drilling procedures such as increasing the weight of the drilling mud. In such cases, H₂S that has entered the wellbore is recirculated to the surface under-controlled conditions. The safety impacts in this case are limited to the immediate drill site and to the rig personnel. Gas kicks on most drilling operations are not uncommon.

The uncontrolled release of gas at the surface is called a "blowout." This occurs when a radical increase in formation pressure occurs and the pressure is released at the wellhead before emergency measures can be implemented. Blowouts are rare.

Recent studies in Texas and Alberta, Canada indicated that well blowouts occurred at a frequency of 2-4 blowouts per 1000 gas wells drilled (personal communication, Dave Layton, Environmental Scientist, Laurence Livermore Laboratory, January 1985).

The BLM used two methods for modeling the effects of a well blowout containing H₂S. The first method is contained in API Bulletin RP 55 (American Petroleum Institute, 1983) and the second is contained in a University of California Report of Livermore VCRL-53411.

The basic assumptions for both models were based on a worst-case analysis of a major blowout releasing 15 mmcf (million cubic feet) per day with 10,000 PPM (parts per million) H₂S concentration. The release rate is based on an actual blowout in 1978 at Lisbon Valley. The 10,000 PPM concentration is based on the H₂S concentration found in Lisbon Valley, which represents the highest known H₂S concentrations in the immediate area.

Using the API method, acute concentrations of 500 PPM H₂S would extend in a radius approximately 1,170 feet from the wellbore. Concentrations of 100 PPM would extend 2,500 feet from the wellbore. This is based on stable atmospheric conditions with a 1 mile per hour (MPH) wind speed.

Such concentrations would pose a health hazard to traffic along the Castle Valley road during an actual blowout. Traffic would be temporarily suspended during these conditions. No threat to public health would be anticipated in Castle Valley and along Highway 128 using this worst-case analysis.

The second method uses slightly different assumptions of a 300 PPM H₂S acute toxicity level and a 3 MPH wind speed. The analysis indicated an acute toxicity radius of approximately 660 feet from the wellbore at 300 PPM H₂S. This model would indicate a negligible health hazard to residents of Castle Valley and traffic on both Highway 128 and the county road.

Increased wind speeds in either model would be expected to increase dispersion of H₂S and decrease the area of acute toxicity. Increased up-canyon winds could distribute H₂S into Castle Valley which, in turn, could collect in low lying areas of the valley. However, the distance and dispersion would be expected to reduce any such concentrations below acute toxicity levels (personal communication, Dave Layton, Environmental Scientist, Laurence Livermore Labs, January 1985).

Conoco, Inc. has proposed a series of precautionary measures to detect H₂S and prevent a blowout. The drilling program includes early warning devices,

special drilling fluids, and blowout preventers (BOP) located at the wellhead.

The proposed BOPs and required controls are considered adequate to control any anticipated downhole pressures.

Effects of Alternative One

The anticipated impacts with this alternative would be similar to the proposed action other than in the case of health hazards to the general public. The wellsite would be sufficiently removed from public roads and residences so as to preclude injury from a blowout containing H₂S. This is based on the same modeling as discussed in the proposed action.

Potential impacts to personnel in and around the drilling rig would remain unchanged from the proposed action.

Effects of the No Action Alternative

There would be no impacts related to H₂S safety as a result of BLM denying Conoco's APD.

Socioeconomics

Current Situation

The social and economic impacts of the proposed action would be mostly confined to the Grand County area.

The 1983 Grand County population was 7,950--450 fewer people than in 1980 (Barber, et al., 1983, USDC, 1981a). The majority of the county is unpopulated, with 97 percent of the settlement concentrated in the Moab area. About 65 percent of the county's population live in Moab, and 28 percent live in Spanish Valley, which is adjacent to and southeast of Moab. Between 3 and 5 percent (250 to 380 people) live in Castle Valley (USDC, 1981a). Grand County comprises 3,615 square miles (about three times the size of Rhode Island). About 80 percent of the land in the county is managed by the Federal Government, 15.5 percent by the State, and 4.5 percent by private land owners (University of Utah, 1979). This distribution has affected county residents' perception of federal lands and agencies.

Recent statistics (see Table 2) show that 99 percent of local wage and salary employment is nonfarm, with about 81 percent employed in private industry and 18 percent employed in federal, state and local governments (federal employees account for somewhat less than half of this). Mining and tourism are the most important private industries in Grand County (BLM, 1982). In 1982 mining directly accounted for 20 percent of local employment; however, due to recent uranium mining and milling layoffs, mining directly accounted for only 14 percent of local wage and salary employment by the third quarter of 1984. Between 1979 and 1981 tourism directly accounted for approximately 12 percent of local employment. Due to a reduction in the employed labor force, tourism now directly accounts for 14 percent of local employment (UDES, 1984).

The mining and tourist industries purchase some of their supplies locally, and those who work in these industries spend part of their income locally. This

TABLE 2

1982 Income and Employment, Grand County
(by place of work)

	GRAND COUNTY	
	Income (percent)	Employment (percent)
Agriculture	2	1
TOTAL AGRICULTURAL	2	1
Mining	28	20
Construction	7	5
Manufacturing	1	2
Transportation and Public Utilities	10	7
Wholesale Trade	10	8
Retail Trade	11	19
Finance, Insurance, & Real Estate	3	3
Services	12	17
Other	--	--
<u>Total Private Industry</u>	82	81
Federal Government	6	6
State and Local Government	10	11
<u>Total Government</u>	16	18
TOTAL NONAGRICULTURAL	98	99
Unemployment (3rd Quarter, 1984)		12%
	(Dollars)	(Jobs)
Total Employment and	\$46,138	3,190
Total Personal Income (by place of residence)	\$72,275	

NOTE: Because of rounding, numbers are not additive.

Total and percentage income figures include wage, salary, and proprietors' income. Total employment figures include wage, salary and proprietors' employment, whereas the employment percentage figures include only wage and salary employment. The relative importance of farm employment is therefore underrated.

circulation of money from export industries further contributes to local income and employment. These multiplier effects are greater for the mining industry, as wage rates for the mining industry are significantly greater than for the tourist industry.

Several businesses are located in Castle Valley; however, most residents of the valley commute to Moab for employment. Retirees, self-sufficient individuals and cottage businesses are also common in the valley. The Castle Valley Institute consists of a farm, greenhouse, school, and store. It is located in the valley, employs approximately 20 people, and has an average enrollment of 30 to 40 students. Castle Valley depends on Moab for school, health, and law enforcement services. Castle Valley has its own volunteer fire department, and each lot has its own water well and septic system. The valley also has two churches. Many of those owning property in the valley either live in the area or are seasonal residents.

The region's social characteristics stem from its history and environment. The uranium boom in the early 1950s brought wealth to many property owners. These people have had a strong influence on the region's political and social climate since that time. Their livelihood and success from the use and development of the region's resources, the vast majority of which are in public ownership, continues to influence the area's attitude toward resource use.

The 1960s and 1970s brought increasing economic diversity to the area. Social diversity has been similarly increasing, particularly from the influence of people associated with tourism and government.

Many of the local social and political characteristics can be explained by the influence of outside entities on nearby communities. The local economy is largely dependent upon the region's natural resources and market forces outside the communities' control. In response to these outside influences, the local community has developed strong ties to state and federal agencies; industry and government officials are brought into the local power network, and various pressure groups have been organized.

The degree to which outside entities affect and control the local economy has contributed to the historical desire for increased local government and local control. There is a prevailing desire for unrestricted resource use, development, and economic progress. However, there is a significant group of local residents who do not necessarily subscribe to the unrestricted resource use and development attitude.

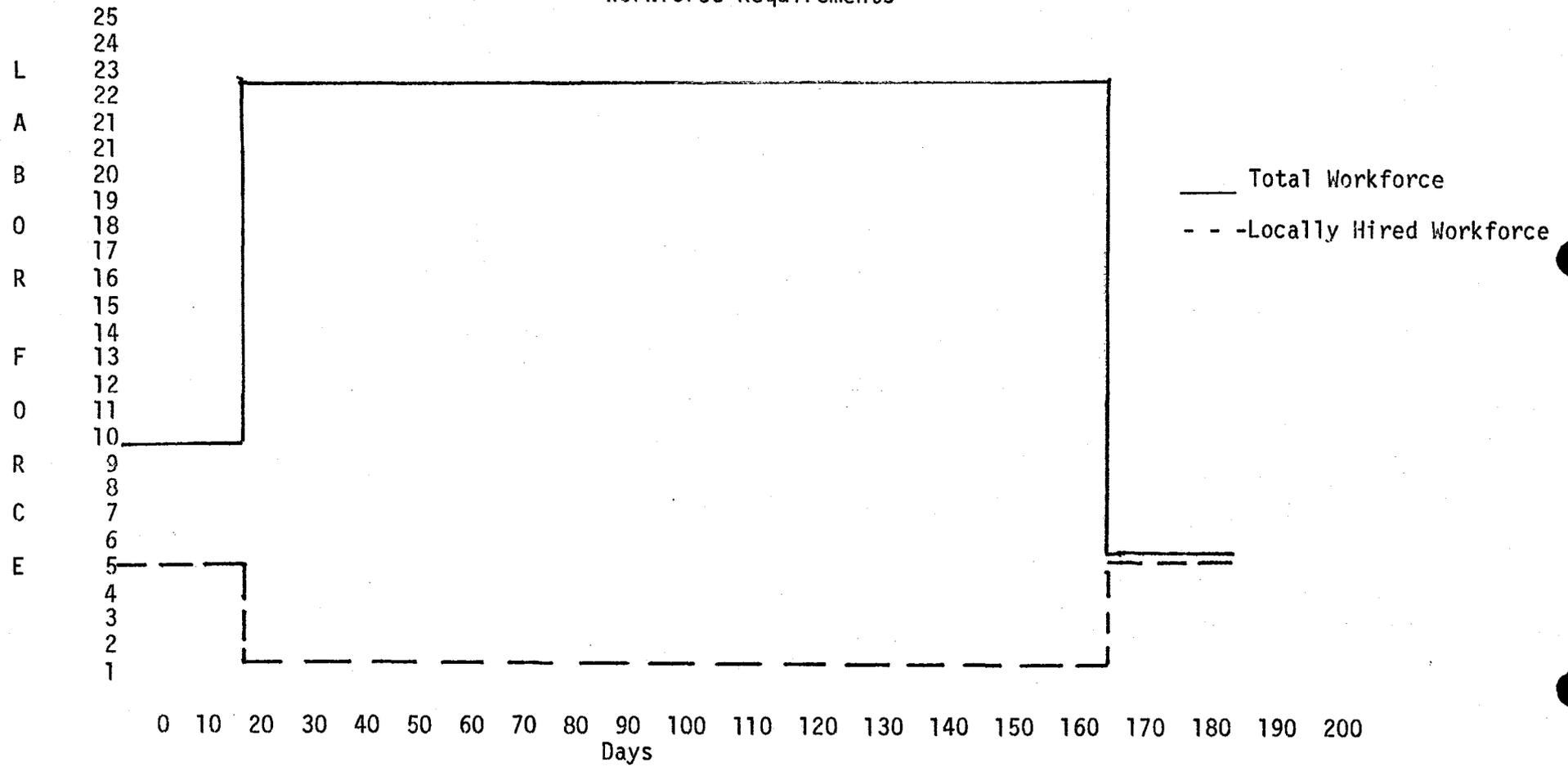
Many Castle Valley residents have moved to the area because of its scenic, rural, and isolated nature. Correspondingly a greater proportion of Castle Valley residents do not subscribe to the unrestricted resource use and development attitude as compared to county residents as a whole.

Effects of Proposed Action

The proposed action, from hauling in the rig through site reclamation, would require approximately 16 work years of labor over a 180- to 200-day time period (see Table 3). Of this, approximately 1 work year of locally hired labor, earning \$22,000 of wage, salary, and proprietors' income, would be

TABLE 3

Workforce Requirements



NOTE: It is assumed that oil rig crews are entirely non-local. Sometimes locally qualified individuals (one or two people) are hired and added to the crew.

required for pad, pit, and road construction, roustabouting, welding, water hauling, cementing and reclamation. Other miscellaneous supplies would be purchased locally, and some of the earned income would be spent locally. This circulation of money would further contribute toward local income and employment; however, these impacts would be significant only to those directly involved with the project.

Except for the local transportation network, the project should have no effect on the local community services. Significant damage to Highway 128 can be expected (see transportation section).

Property taxes would be levied on the project, and would generate approximately \$6,000 in local jurisdictional revenues. (None of these revenues would be distributed to the Castle Valley Fire District, as the site lies outside of its jurisdiction). Some local jurisdictional costs may increase; however, these costs could be neither identified nor quantified. The State of Utah would bear the cost of repairing any damage to Highway 128.

Site characteristics can be a major factor affecting property values. Because one of the reasons for purchasing property in Castle Valley is its scenic, rural, and isolated nature, anything which would alter these characteristics for some time could affect property values. Although the proposed action would temporarily affect some of these site characteristics, only long term changes could affect local property values. No long term changes are anticipated for this proposal; however, there could be a perception of long term changes resulting from this proposal. The increased mineral interest in the area could increase the value of subsurface mineral rights.

Several small businesses in the area depend on the local scenic and isolated attributes and may be temporarily affected by the proposed action to an unknown degree.

The proposed action would not change economic conditions to such a degree as to change existing social conditions.

Residents of Castle Valley could experience some temporary inconvenience and loss of environmental attributes important to local lifestyles. Noise associated with the drilling rig is not expected to be audible from Castle Valley residences, except for infrequent, short duration, high frequency noise from the rig's hoisting mechanism.

Effects of Alternative One

Moving the drill site would have the same social and economic impacts as the proposed action.

Effects of No Action

Existing social and economic conditions would not change.

CONSULTATION AND PUBLIC INPUT

AGENCIES AND INDIVIDUALS CONSULTED

Bureau of Land Management

Gene Nodine - BLM, Moab District Manager, - BLM Policy
Ken Rhea - BLM, Moab Associate District Manager - BLM Policy
Pete Christensen - BLM Grand Resource Area Manager - BLM Policy
Elmer Duncan - BLM, Grand Resource Area - Branch Chief, Lands and Minerals -
BLM Oil & Gas Policy
Terry McParland - BLM Grand Resource Area Geologist - Mining Claims
Jim Travis - BLM, Moab Assistant District Manager, Minerals - BLM Oil & Gas
Policy
Lynn Jackson - BLM, Moab District Branch Chief - Fluid Minerals - BLM Oil &
Gas Policy
Max Day - BLM, Moab District Geologist - Geology
Bob Warner - BLM, Moab District Geologist - Geology
Bob Dalla - BLM, Moab District Civil Engineer - Technician, Road Damage
John Dunn - BLM, Moab Engineering Technician - Road Measurements
Daryl Trotter - BLM, Moab Assistant District Manager for Planning and
Environmental Coordination - E. A. Review
Diana Webb - BLM, Moab District Planning & Environmental Coordinator - EA
Review
Ruth Thurston - BLM, Moab District Editor - Editing
Bill Wagner - BLM, Utah State Office - Natural Resource Specialist, Air Quality
Bill Miller - BLM, Utah State Office - Surface Protection Specialist - Branch
of Fluid Minerals, regarding oil and gas leasing EAR, oil and
gas policy, planning documents, BLM oil & gas instruction
memos
Orval Hadley - BLM, Utah State Office, Supervisory Land Law Examiner,
regarding liability
Gary Baur - BLM, Evanston, Wyoming - Assistant District Manager, Minerals -
Evanston EA

Office of the Regional Solicitor

Dave Grayson - Department of the Interior, Office of the Solicitor - regarding
appeal process

State of Utah

John Baza - Utah State Division of Oil, Gas & Mining - H₂S Contingency Plan
Mark Page - Utah State Division of Water Rights - Location of Water Wells
Monty Kelly - Utah State Air Quality Bureau - Air Quality
Max Jensen - Utah State Department of Parks & Recreation - Scenic Way Proposal
Sterling Davis - Utah State Department of Transportation - Road Damage
Brad Govreau - Utah State Air Quality Bureau - Air Quality Standards

Conoco and Representatives

Mike Rooney - Conoco Project Representative - Proposed Action
Andrew Efthim - Conoco District Drilling Superintendent - Proposed Action
Steve Erwin - Conoco - Proposed Action
John Geer - Grand Junction Mountain Air Drilling - Noise Levels of Air
Compressors

Grand County

John Keogh - Grand County Surveyor - Zoning Ordinance
Janey Tuft - Secretary to County Surveyor - Residences within 2 miles of
Proposed Action
Dutch Zimmerman - Professional Driller - Water Wells
Norma Stocks - Grand County Assessor - Property taxes on drilling location.
Barbara Dominick - County Clerk - Consistency with County plans

Castle Valley Property Owners Association

Hirshal Noykes - Community services and business in Castle Valley

PUBLIC INPUT

A fifteen day scoping period was held to accept public comments on Conoco's proposal. The scoping period lasted from December 18, 1984 to January 2, 1985. The request for comments was published in the Times Independent, and aired on local radio and television stations. A comment period on the draft EA will be held from January 14, 1985 to January 28, 1985. Written comments will be considered in the final EA.

Following is a summary of scoping comments which were included in the draft EA:

A total of thirty-five comments were received from 29 individuals, 1 from the Grand County Commission, 1 from a Times Independent Castle Valley Highlights clipping, and 1 from a Property Owners Association (POA) meeting of approximately 40 people. Of the 35 comments, 15 were clearly opposed, 6 were clearly in favor, and 12 were unclear in position. One additional comment was a duplicate, and the last was mixed (POA meeting) for a total of 35.

The issue receiving the most comments was Hydrogen Sulfide. Twenty-four comments addressed health and safety issues and the viability of an evacuation, as well as resultant denial in access to private property and emergency services. This issue was followed by transportation hazards due to Hydrogen Sulfide, increased traffic, and dangers on Highway 128. The Castle Valley Covenants Codes and Restrictions were presented as a restrictive land use plan which would conflict with the proposal due to perceived visual, noise and water impacts. Public participation was also an issue as it received 12 comments. Inadequacies and errors in Conoco's application were also highlighted, particularly the lack of formation regarding nearby residents and the existence of several water wells within a one mile radius. The combined issues under water received 28 comments. These issues included damage to aquifers, adequate casing, existence of water wells and surface water. Nine comments addressed impacts to tourism due to visibility, noise, and H₂S. An additional 6 comments addressed river running. Three comments addressed the Scenic Way proposal. There were 7 comments which addressed the prevailing wind direction of the area due to concern for health and safety related to Hydrogen Sulfide.

Of the 6 comments that clearly favored the proposal, 1 was from the Grand County Commission, 1 was from the POA chairman, 1 was from a Grand County Commissioner, and 3 were from individuals. The Grand County Commission letter stated that concerns could be mitigated.

REFERENCES CITED

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- American Petroleum Institute, 1983. Conducting Oil and Gas Production Operations Involving Hydrogen Sulfide. API Bulletin RP 55. Dallas TX.
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- BEA. 1984a. Income by Type and Broad Industrial Source. April, 1984. U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System. Washington, D.C.
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- University of Utah. 1979. Grand County, Utah: A Master Plan for Development. October, 1979. Prepared by the University of Utah Bureau of Community Development, 1411 Annex Building, Salt Lake City, Utah 84112. Prepared for the Grand County Commission, Moab, Utah.
- USDC. 1981a. 1980 Census of Population and Housing, Utah. Publication No. PHC 80-V-46. March, 1981. U.S. Department of Commerce, Bureau of Census. Washington, D.C.

APPENDIX I

MAPS

1 inch = 1 mile

15 minute series (topographic) 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

4061
(THOMPSON)

109° 30' 631000m.E 632 634 635 636 637 25' 638 639 640
38° 45' 4289000m.N

CONOCO INC., PACE HILL WILDCAT WELL



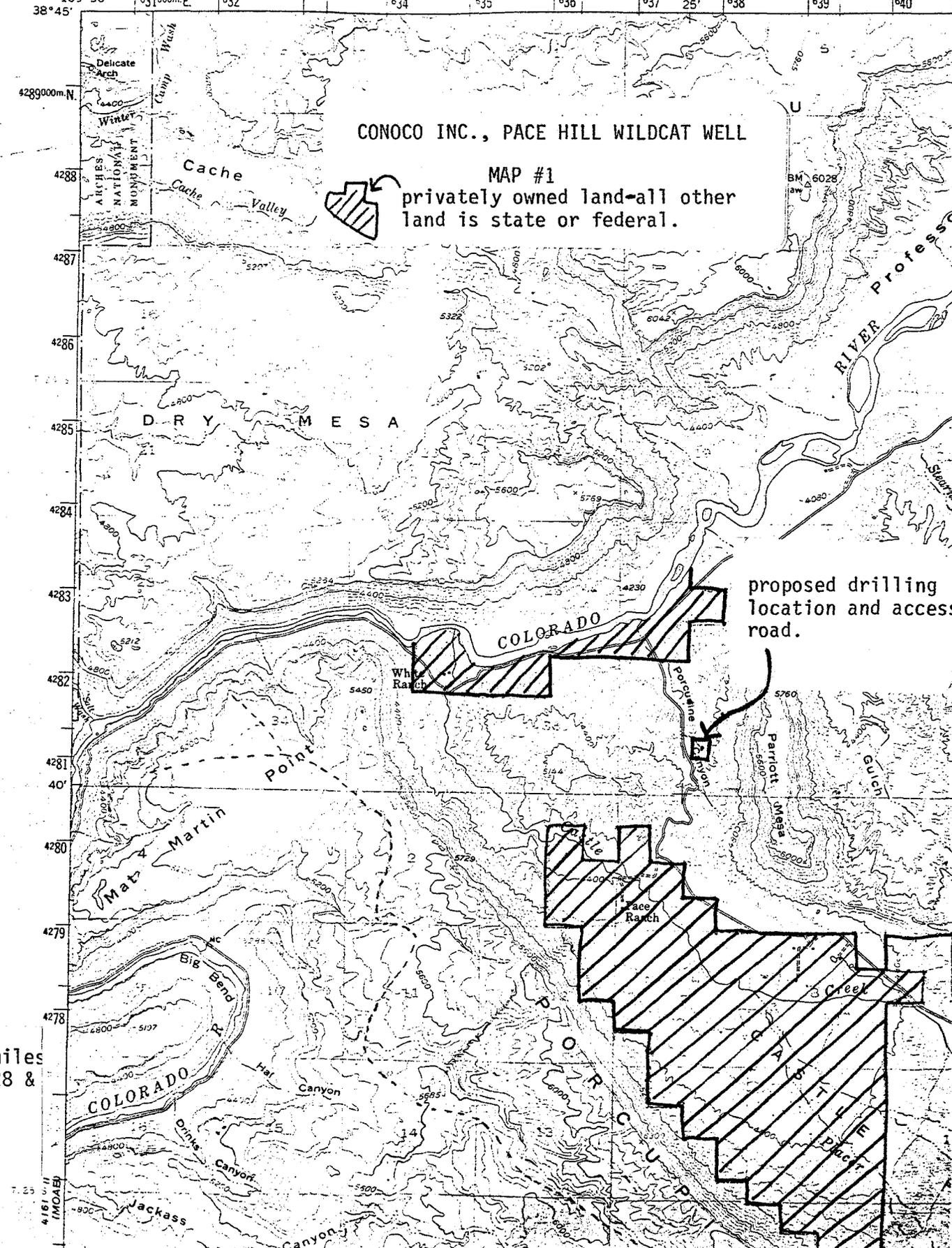
MAP #1

privately owned land—all other
land is state or federal.



proposed drilling
location and access
road.

to Moab-7.8 miles
on St. hwy 128 &
U.S. 160.

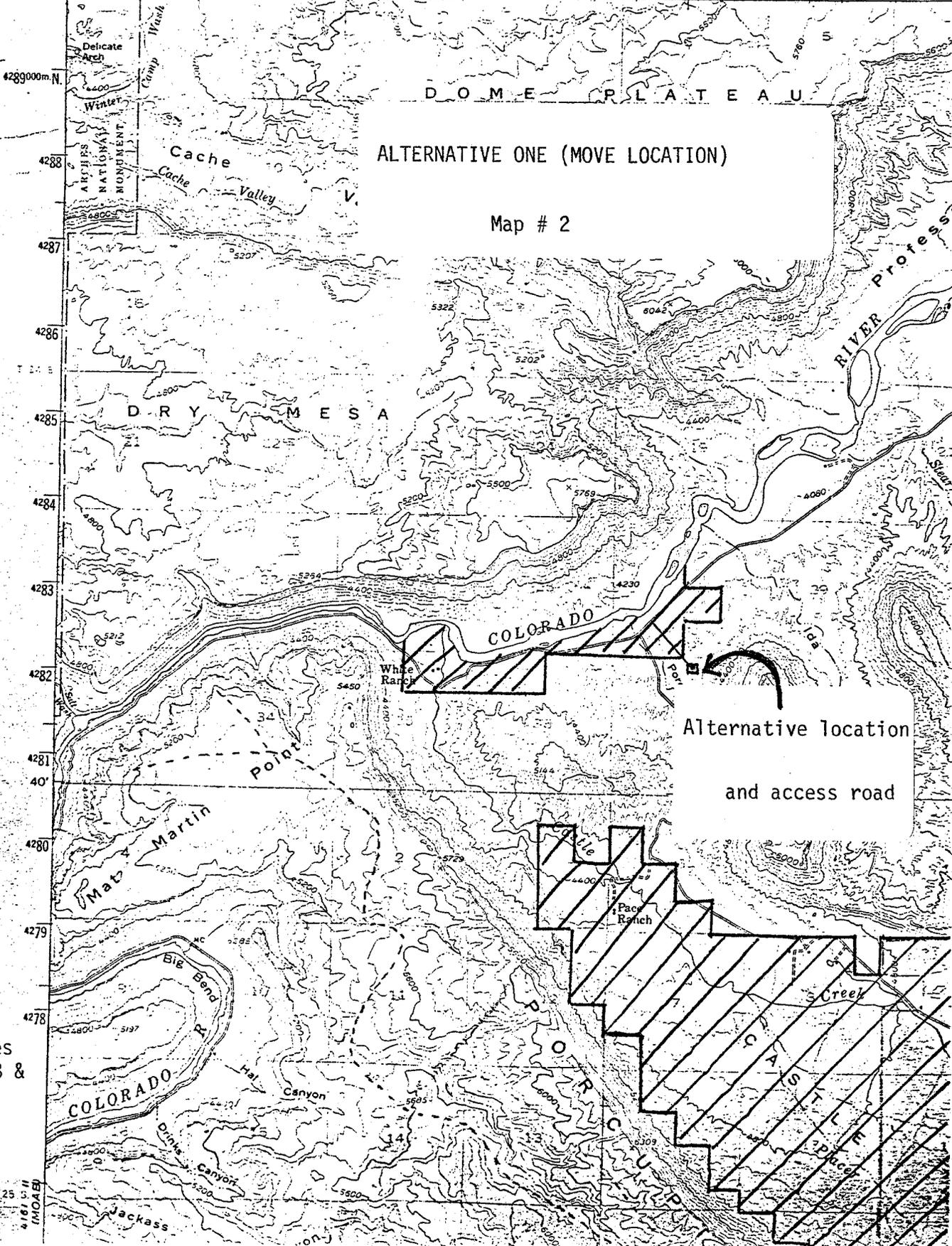


1 inch = 1 mile

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

THOMPSON

109° 30' 631000m E 632 634 635 636 637 25' 638 639 640



ALTERNATIVE ONE (MOVE LOCATION)

Map # 2

Alternative location
and access road



to Moab 7.8 miles
on State hwy 128 &
U.S. 191.

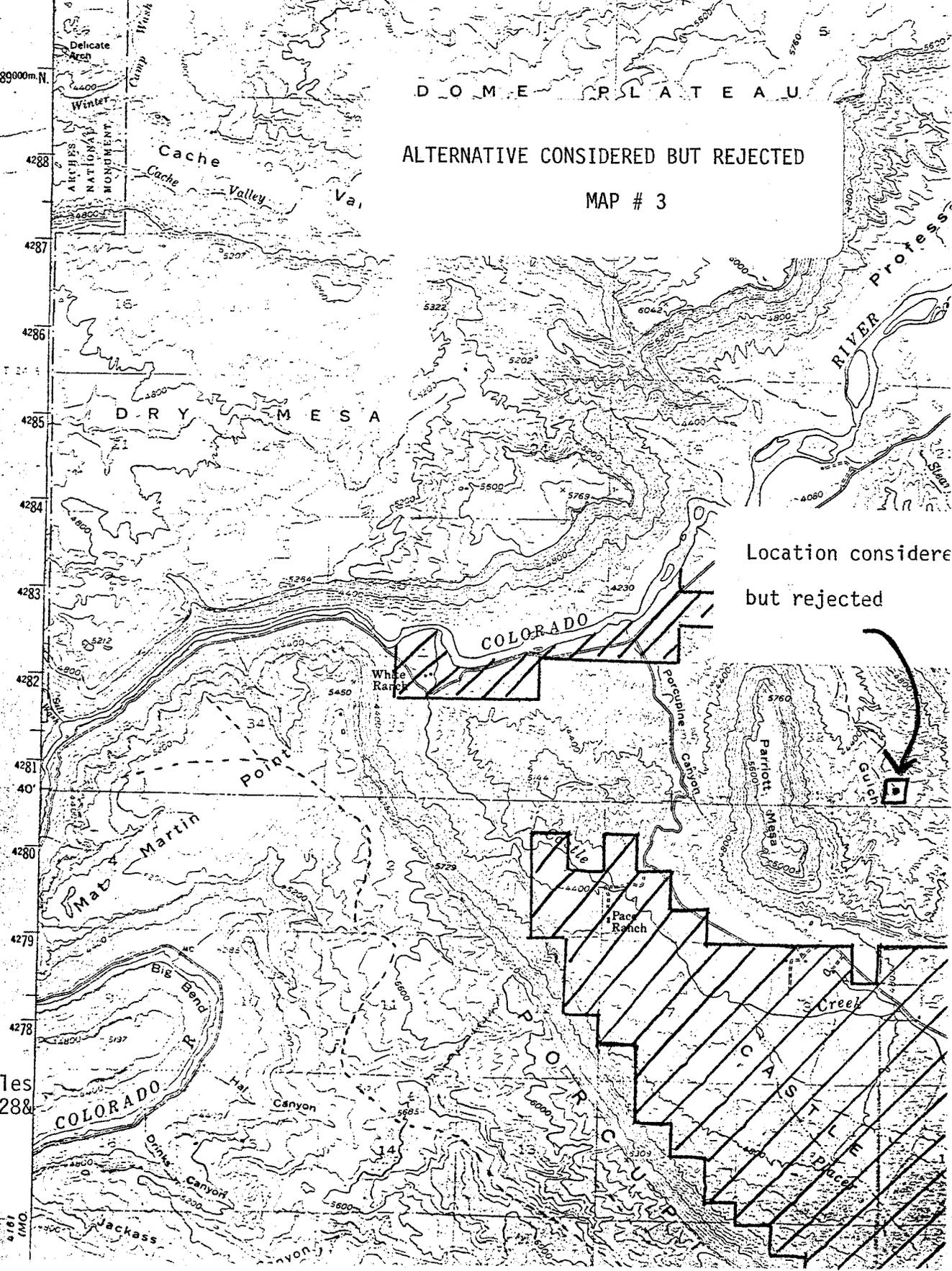
MOAB

1 inch = 1 mile

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

THOMPSON

109° 30' 631000m E. 632 634 635 636 637 25' 638 639 640



D O M E P L A T E A U

ALTERNATIVE CONSIDERED BUT REJECTED

MAP # 3

D R Y M E S A

COLORADO

Location considered but rejected

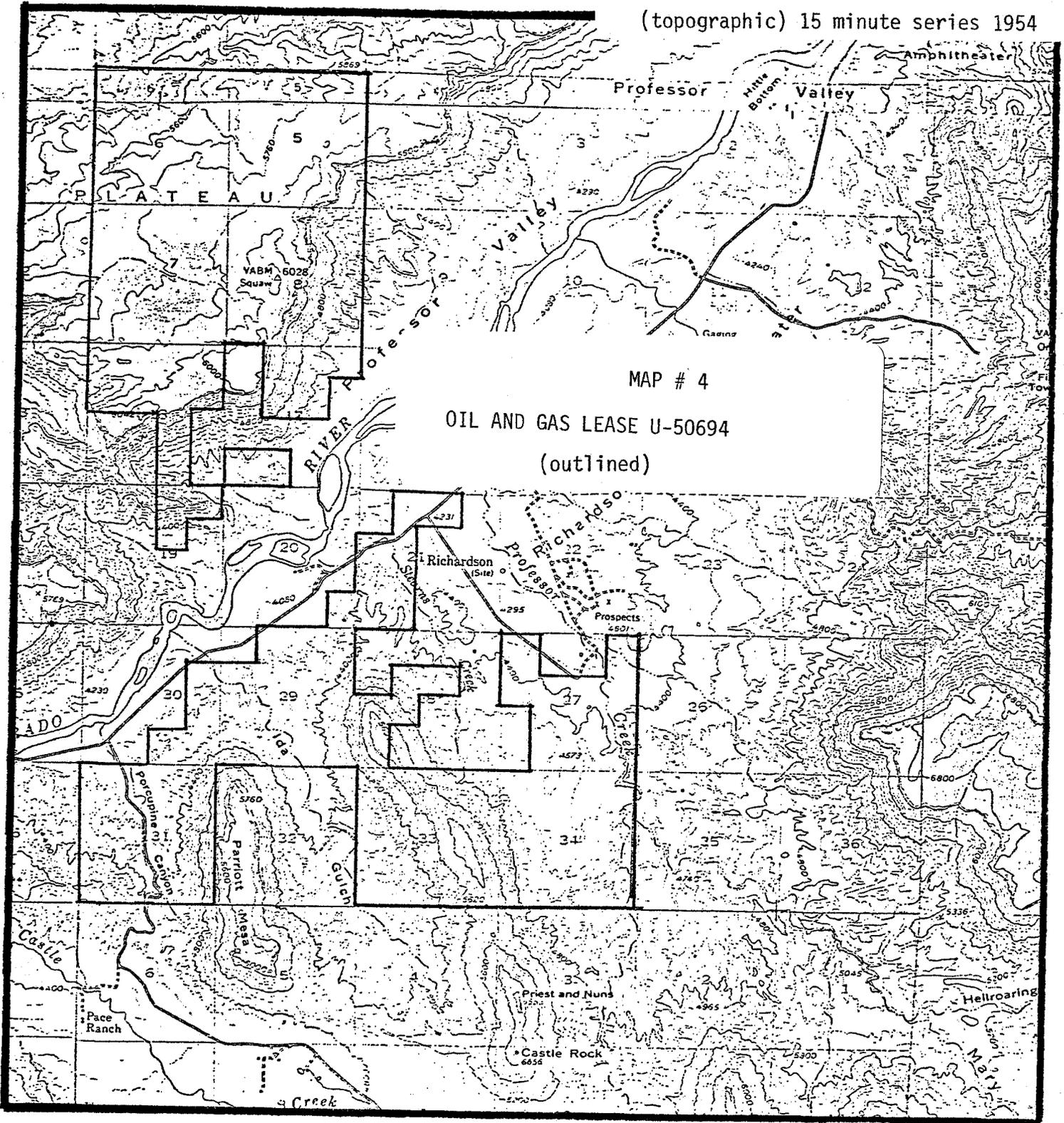


to Moab 7.8 miles
on State hwy 128 &
U.S. 191.

4161 (MO)

1 inch = 1 mile

(topographic) 15 minute series 1954

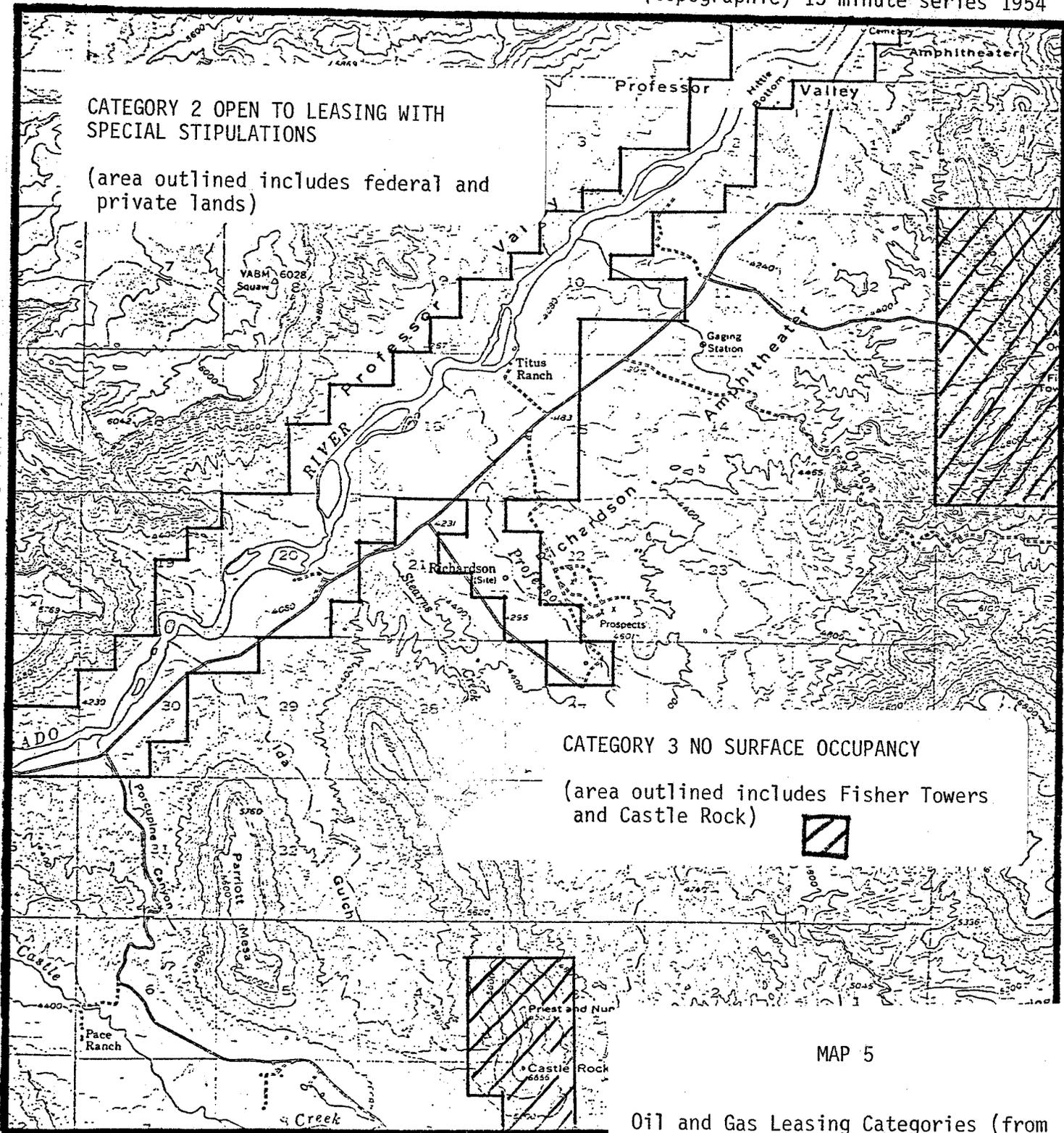


CASTLE VALLEY QUADRANGLE

GRAND CO., UTAH

1 inch = 1 mile

(topographic) 15 minute series 1954



CATEGORY 2 OPEN TO LEASING WITH SPECIAL STIPULATIONS

(area outlined includes federal and private lands)

CATEGORY 3 NO SURFACE OCCUPANCY

(area outlined includes Fisher Towers and Castle Rock)



MAP 5

Oil and Gas Leasing Categories (from BLM Leasing EAR 1976) Areas not outlined are open to leasing



Utah

DOUBLE "D" ENTERPRISES RECEIVED

B.O.P. Test Report

JUL 08 1985

DIVISION OF OIL
GAS & MINING

B.O.P. TEST PERFORMED ON (DATE)..... 6-25-85

OIL CO.: Conoco

WELL NAME & NUMBER Federal 31-1

SECTION 31

TOWNSHIP 24S

RANGE 23E

COUNTY Grand

DRILLING CONTRACTOR Parker #116

INVOICES BILLED FROM: **DOUBLE "D" ENTERPRISES, INC.**
213 Pine Street - Box 560
Shoshoni, Wyoming 82649
Phone: (307) 876-2308 or (307) 876-2234

TESTED BY: **DOUBLE "D" ENTERPRISES, INC.**
Box 2097
Evanston, Wyoming 82930
Phone: (307) 789-9213 or (307) 789-9214

OIL CO. SITE REPRESENTATIVE Jerry Jackson

RIG TOOL PUSHER

TESTED OUT OF Evanston, Wyoming

NOTIFIED PRIOR TO TEST:

COPIES OF THIS TEST REPORT SENT COPIES TO: Site Representative

Utah Oil & Gas

B.L.M.

ORIGINAL CHART & TEST REPORT ON FILE AT: EvanstonOFFICE

DOUBLE "D" ENTERPRISES, INC.

P.O. Box 560
Shoshoni, Wyoming 82649
307-876-2308

DELIVERY TICKET

N^o 3302

Date 6-25-85
 Operator Conoco Contractor P.D Rig No. 116
 Ordered By J. Jackson Lease FED Well No. 31-1
 County GRAND Section 31 Township 24S Range 23E

Items Tested:

	Low Test	Time Held	High Test	Time Held	Comments
Top Pipe Rams			5000	15	OK ↓
Bottom Pipe Rams					
Blind Rams			5000	15	
Annualar B.O.P.			2500	15	
Choke Manifold			5000	15	
Choke Line			5000	15	
Kill Line			5000	15	
Super Choke			5000	15	
Upper Kelly					
Lower Kelly					
Floor Valve					
Dart Valve			5000	15	

Closing Unit Psi 2700 Closing Time of Rams 12 SEC Closing Time of Hydril 25 SEC
 Closed Casing Head Valve YES Set Wear Sleeve YES
 Comments _____

COMPANY

LEASE AND WELL NAME #

DATE OF TEST

RIG # AND NAME

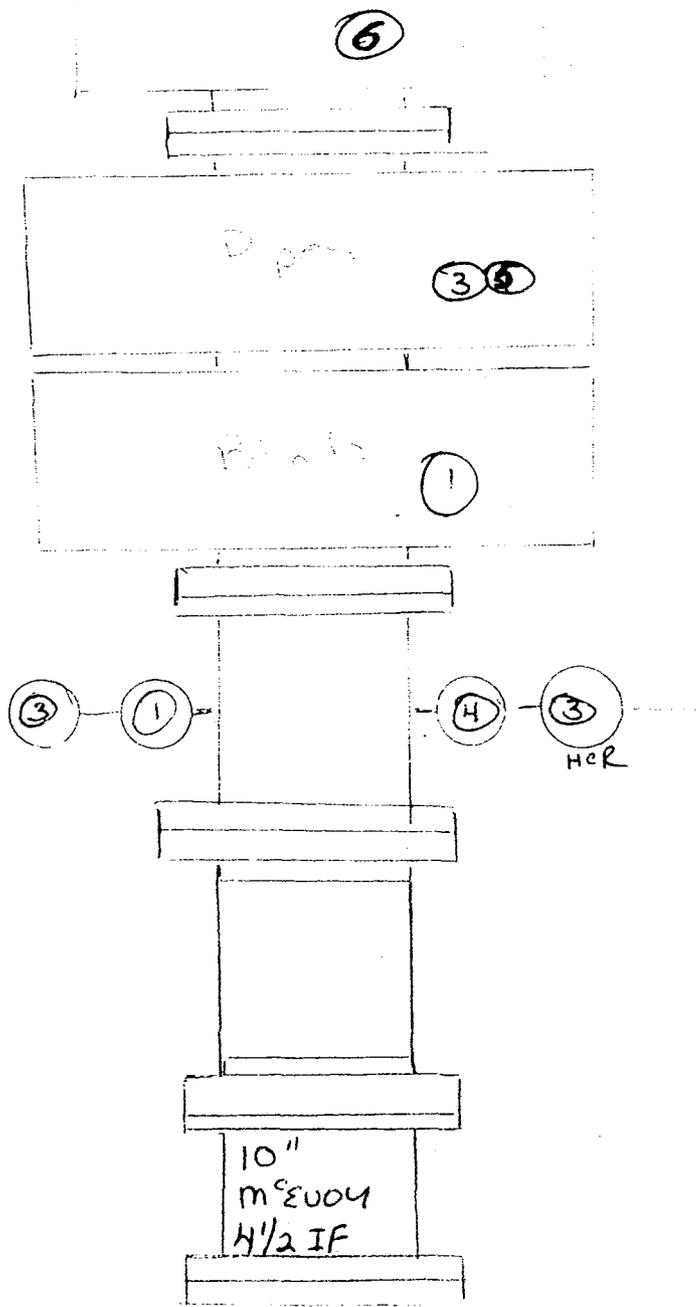
CONOCO

FED 31-1

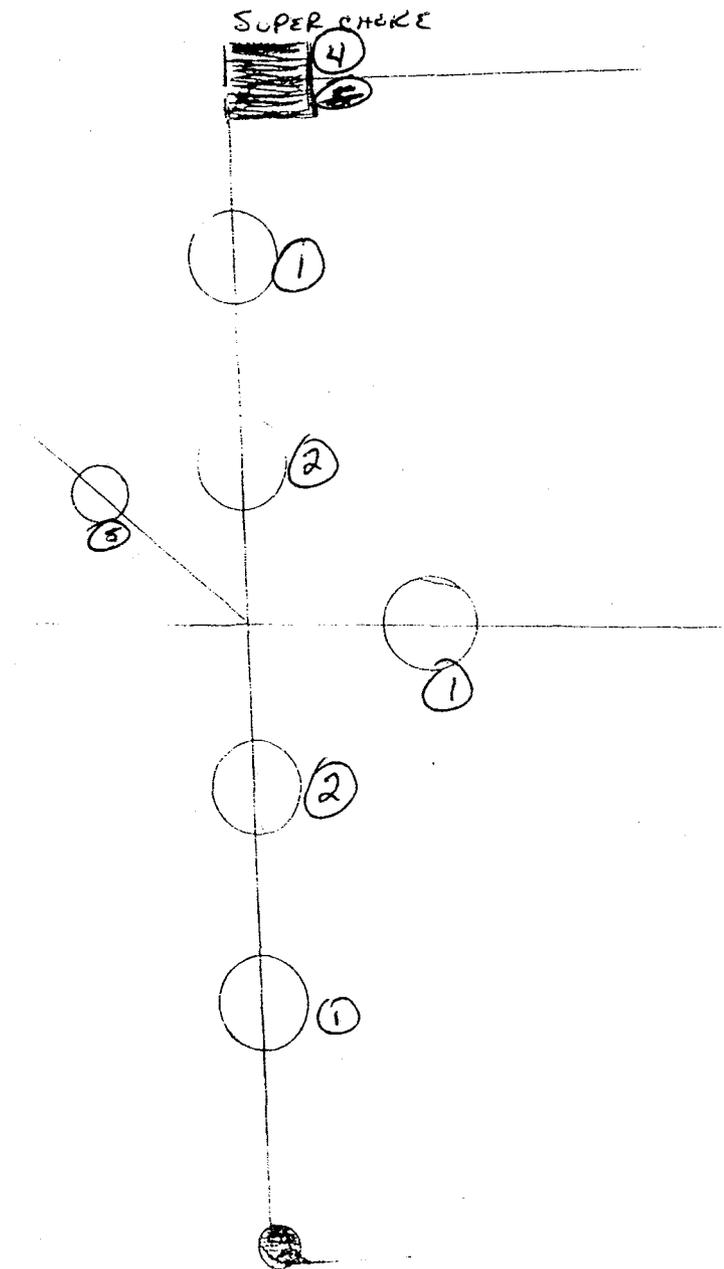
6-25-85

P.D. 116

TEST #	TIME	
	2:00-11:00	LOADOUT & TRAVEL TO RIG - STILL NIPPLING UP
	11:00-	SET PLUG - TRY TO TEST MANIFOLD - LEAK @ HCR FLANGE, FILL STACK, DROP DYE, RIG UP FLOOR, TONGS, BAILS, 11:25 ELEVATOR'S MOUSEHOLE
①	11:25-11:40	5000 OK. BLINDS, 2 ND MANIFOLD, 1 ST KILL
②	11:40-11:55	5000 OK. 1 ST MANIFOLD (STAB PLUG TO TEST PIPES)
③	11:55-12:10	5000 OK. PIPES, HCR, 2 ND KILL
	12:10-12:15	SWITCH VALVES
④	12:15-12:30	5000 OK. SUPERCHORE
	12:30-1:00	TIGHTENING LEAK ON STACK
⑤	1:00-1:15	5000 OK PIPES,
⑥	1:15-1:30	2500
	1:30-	PULL PLUG, BREAK DOWN TOOLS, MAKE OUT TICKETS LOAD OUT, SPOOL UP, SHUT CASING VALVES, SET 246 WEAR RING, ALIGN VALVES, GET TICKETS SIGNED
	2:45-	TRAVEL



CONOCO P.D. 116
FEN 31-1
6-25-85



DOUBLE "D" ENTERPRISES RECEIVED

B.O.P. Test Report

JUN 18 1985

DIVISION OF OIL
GAS & MINING

B.O.P. TEST PERFORMED ON (DATE) 6-01-85

OIL CO.: Conoco

WELL NAME & NUMBER Federal 31-1

SECTION 31

TOWNSHIP 24S

RANGE 23E

COUNTY Grand

DRILLING CONTRACTOR Parker #116

INVOICES BILLED FROM: **DOUBLE "D" ENTERPRISES, INC.**
213 Pine Street - Box 560
Shoshoni, Wyoming 82649
Phone: (307) 876-2308 or (307) 876-2234

TESTED BY: **DOUBLE "D" ENTERPRISES, INC.**
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Evanston, Wyoming 82930
Phone: (307) 789-9213 or (307) 789-9214

OIL CO. SITE REPRESENTATIVE Jerry Jackson

RIG TOOL PUSHER

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Utah Oil & Gas
B.L.M.

ORIGINAL CHART & TEST REPORT ON FILE AT: Evanston OFFICE

DOUBLE "D" ENTERPRISES, INC.

P.O. Box 560
Shoshoni, Wyoming 82649
307-876-2308

DELIVERY TICKET

No 3621

Date June 1
 Operator Conaco Contractor Pal # 116 Rig No. _____
 Ordered By Jerry Jackson Lease Federal Well No. 31-1
Grand co., Utah Section 31 Township 24S Range 23E

Items Tested:

	Low Test	Time Held	High Test	Time Held	Comments
Top Pipe Rams			5000	15	
Bottom Pipe Rams			5000	15	D
Blind Rams			5000	15	
Annular B.O.P.			2500	15	
Choke Manifold			5000	15	
Choke Line			5000	15	
Kill Line			5000	15	
Super Choke			5000	15	
Upper Kelly			5000	15	
Lower Kelly			5000	15	
Floor Valve		<u>Lower Kelly</u>	5000	15	
Dart Valve			5000	15	

Closing Unit Psi 2700 Closing Time of Rams 8 sec Closing Time of Hydril 10 sec
 Closed Casing Head Valve yes Set Wear Sleeve yes
 Comments Bring your own plug next time
12" Mac

COMPANY

LEASE AND WELL NAME #

DATE OF TEST

RIG # AND NAME

Conoco

Federal

31

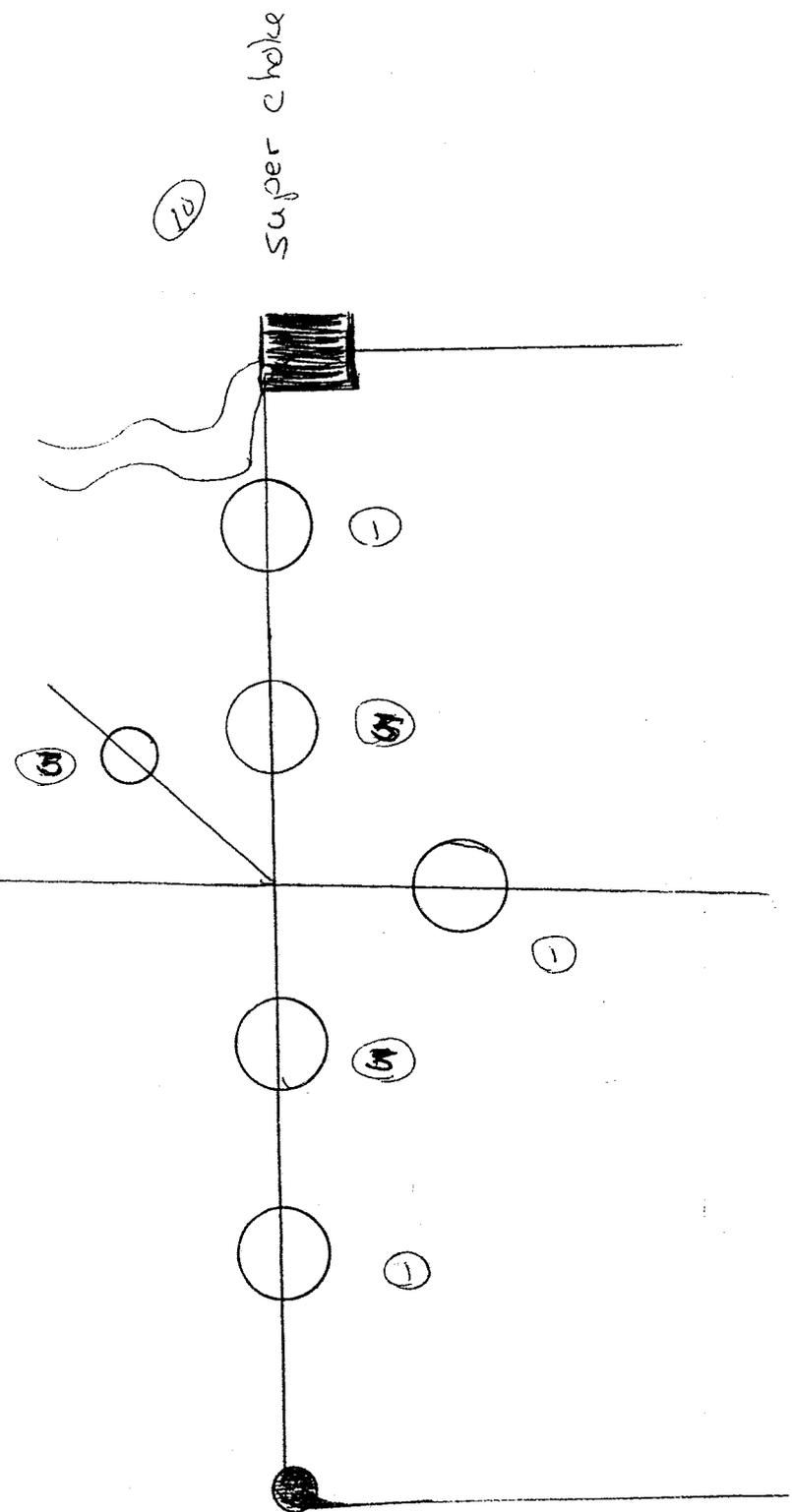
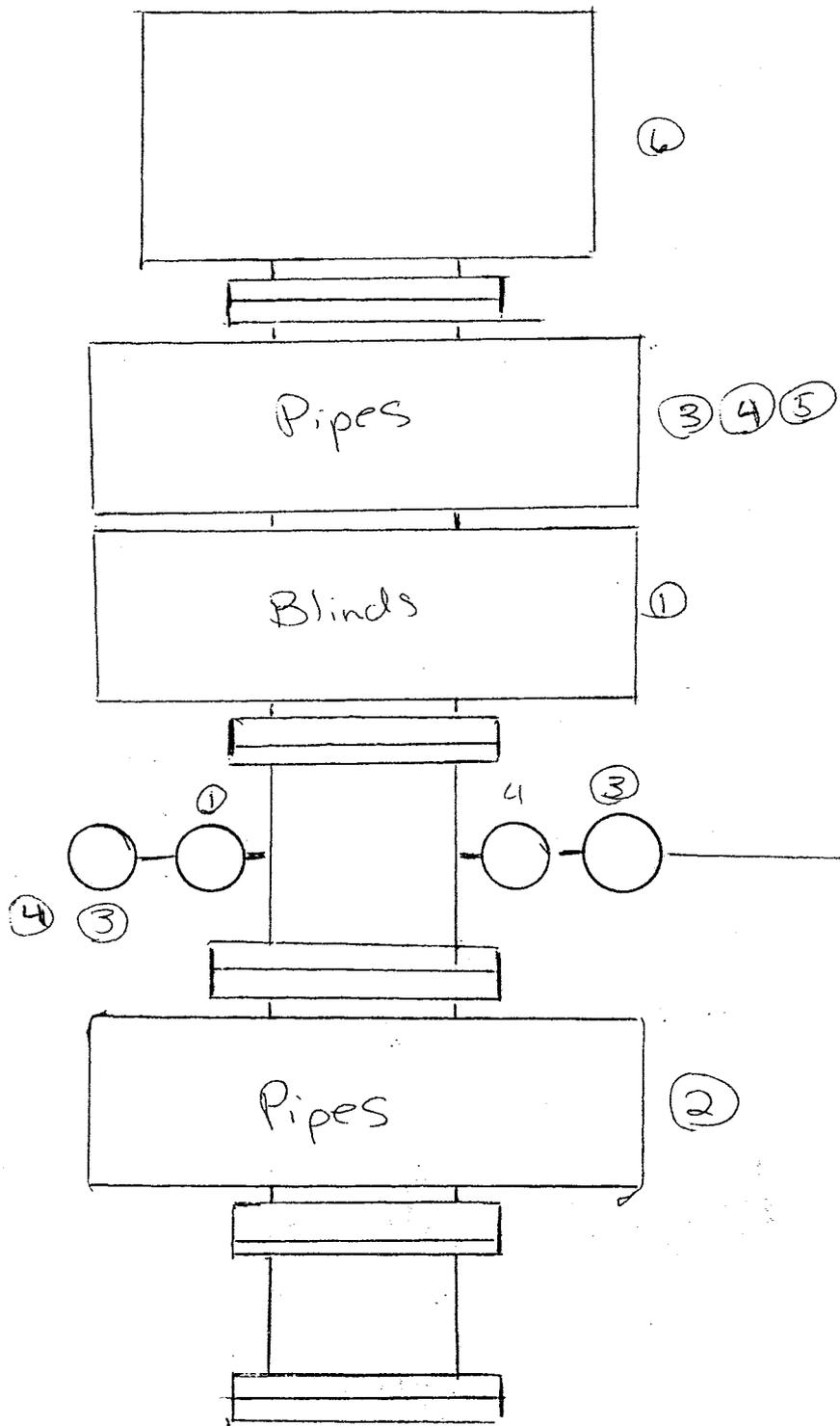
May 31 / 85

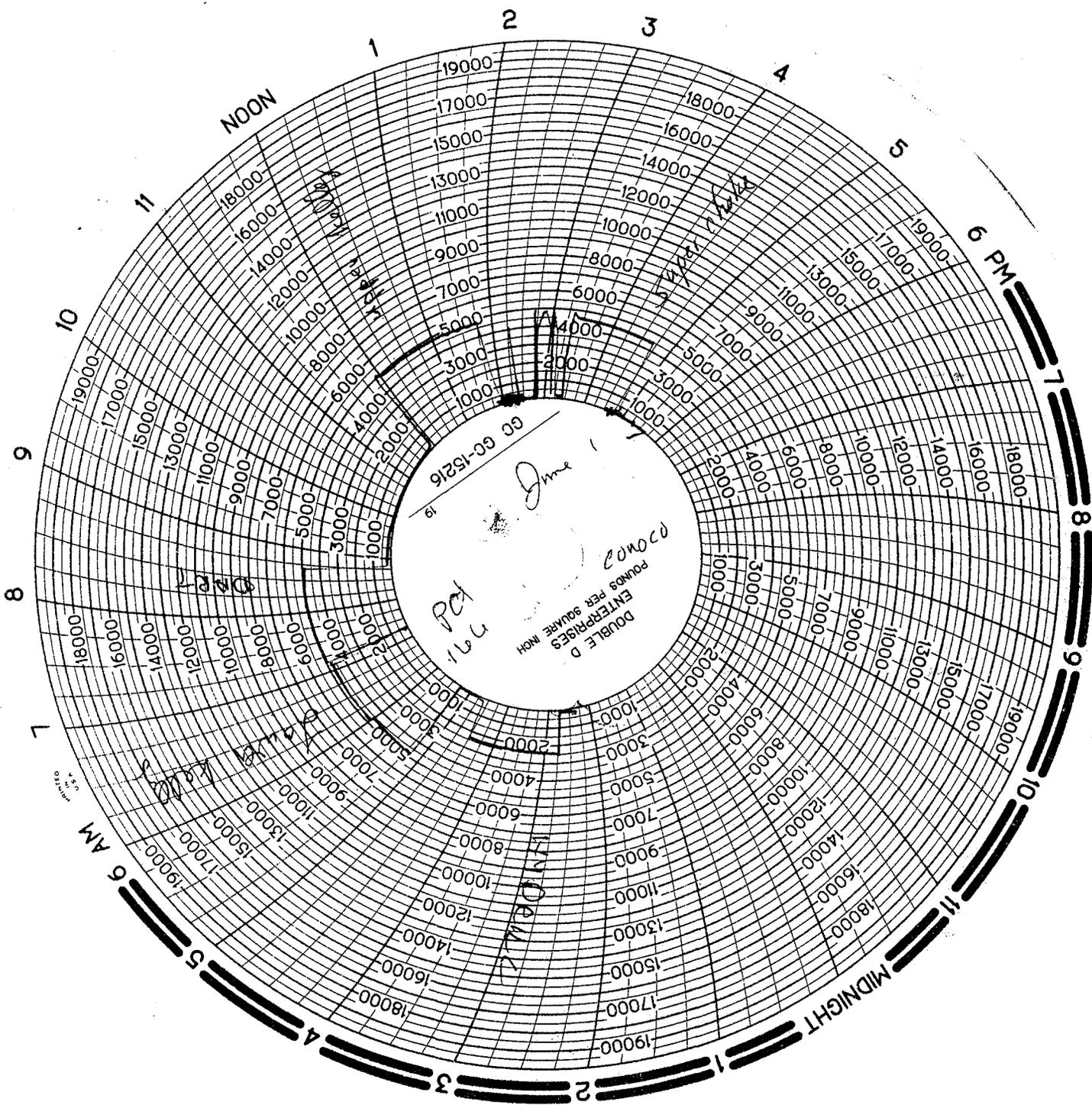
Pd # 116

TEST #	TIME	
	8:30	LOADED TRUCK
	12:30	left for location
	7:30	ARRIVED on location
	7:15 to 7:40	Rig up
	7:40 to 8:40	TRIED TO GET Plug TO seal
①	8:40	Blinds - 2nd manifold - 1st kill valve
	9:00 to 10:40	ATTEMPT TO TEST pipes plug STARTED leaking again pulled twice checked up putting some oil rings on it and ran it up size down so upset on plug (won't hit head profile)
②	10:40	Bottom pipes
③	11:04	TOP Pipes - HCR - 2nd kill valve
④	11:23	TOP Pipes - 1" manual choke valve - 2nd kill
⑤	11:43	TOP Pipes - 1st manifold - vertical valve - 2nd kill
⑥	12:08	HYDRILL
⑦	12:30	T1W VALVE or lower Kelly
⑧	12:47	DART VALVE
⑨	1:50	Upper Kelly
⑩	2:30	Super choke had to slam it several times
	3:00	Roll up - set ware ring - make out ticket
	4:15	Left location

picture on back

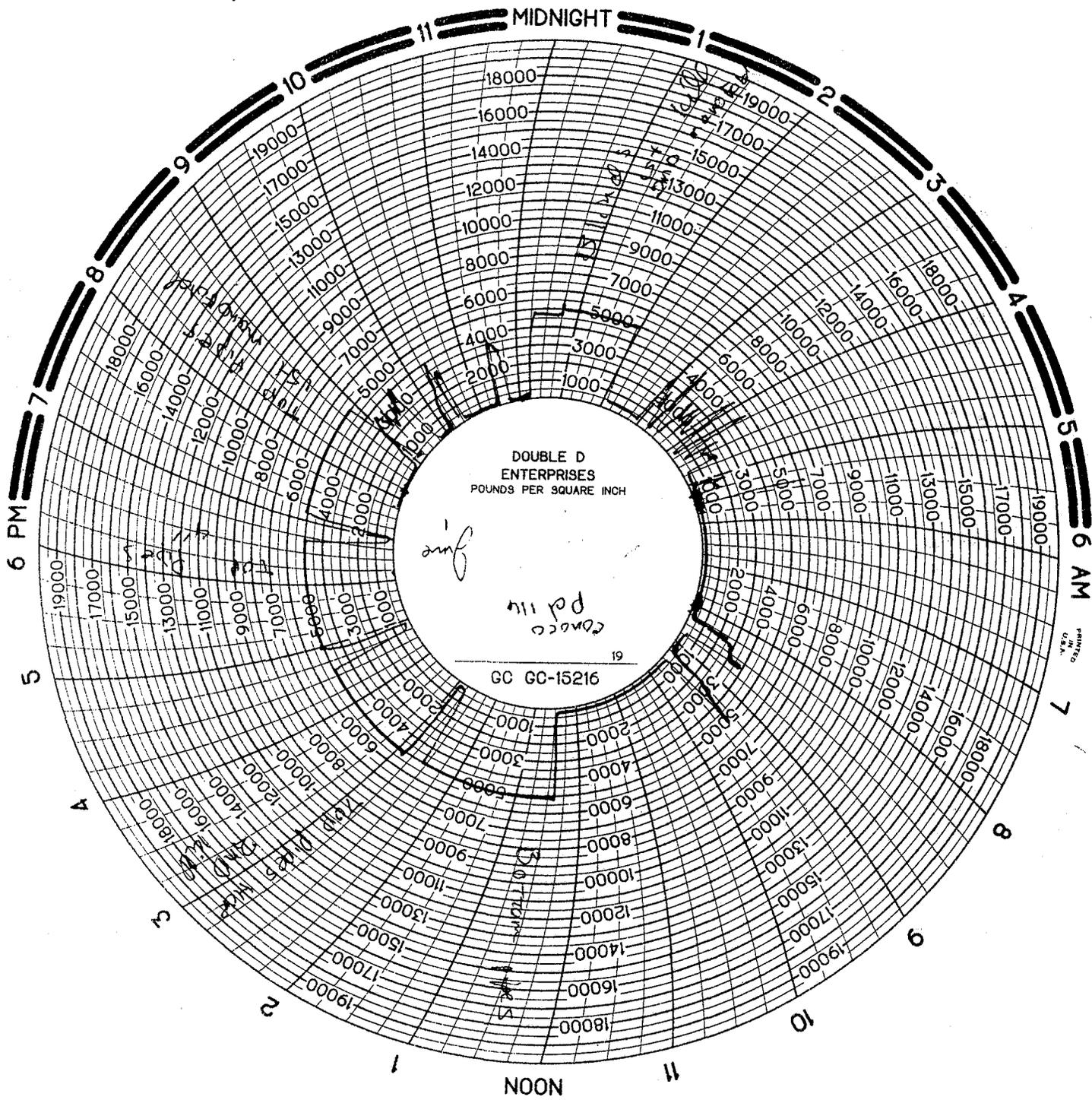
POOR COPY





DOUBLE D
ENTERPRISES
FOUNDED PER SQUARE INCH
June 1
60 60-15216
Pet 1166

MADE IN U.S.A.



PRINTED
U.S.A.

DOUBLE "D" ENTERPRISES

RECEIVED

B.O.P. Test Report

APR 16 1985

*Casing
break-off*

DIVISION OF OIL
GAS & MINING

B.O.P. TEST PERFORMED ON (DATE)..... *4-2-85*

OIL CO.: *Conoco*

WELL NAME & NUMBER..... *Federal 31-1*

SECTION..... *31*

TOWNSHIP..... *24-S*

RANGE..... *23-E*

COUNTY..... *Grand, Utah*

DRILLING CONTRACTOR..... *Parker #116*

INVOICES BILLED FROM: **DOUBLE "D" ENTERPRISES, INC.**
213 Pine Street - Box 560
Shoshoni, Wyoming 82649
Phone: (307) 876-2308 or (307) 876-2234

TESTED BY: **DOUBLE "D" ENTERPRISES, INC.**
Box 2097
Evanston, Wyoming 82930
Phone: (307) 789-9213 or (307) 789-9214

OIL CO. SITE REPRESENTATIVE..... *Bob Williams*

RIG TOOL PUSHER..... *Lamar Gracie*

TESTED OUT OF..... *Evanston*

NOTIFIED PRIOR TO TEST: *B.L.M. & Utah O&G*

COPIES OF THIS TEST REPORT SENT COPIES TO: *B.L.M.*
..... *Utah Oil & Gas*
..... *Conoco Office*
..... *Conoco Site Rep*

ORIGINAL CHART & TEST REPORT ON FILE AT: *Evanston* OFFICE

1110 B, Utah

DOUBLE "D" ENTERPRISES, INC.

DELIVERY TICKET

P.O. Box 560
Shoshoni, Wyoming 82649
307-876-2308

N^o 3127

Date 4/3/85
 Operator CONOCO Contractor Parker Drilg. Rig No. 116
 Ordered By Bob Williams Lease _____ Well No. Federal 31-1
 _____ Section _____ Township _____ Range _____

Items Tested:

	Low Test	Time Held	High Test	Time Held	Comments
Top Pipe Rams	_____	_____	<u>5000</u>	<u>15 min</u>	<u>OK</u>
Bottom Pipe Rams	_____	_____	_____	_____	_____
Blind Rams	_____	_____	_____	_____	_____
Annular B.O.P.	_____	_____	_____	_____	_____
Choke Manifold	_____	_____	_____	_____	_____
Choke Line	_____	<u>5000</u>	<u>5000</u>	<u>15 min</u>	<u>OK</u>
Kill Line	_____	_____	<u>5000</u>	<u>15 min</u>	<u>OK</u>
Super Choke	_____	<u>?</u>	<u>3000</u>	<u>15 min</u>	<u>OK</u>
Upper Kelly	_____	_____	_____	_____	_____
Lower Kelly	_____	_____	_____	_____	_____
Floor Valve	_____	_____	_____	_____	_____
Dart Valve	_____	_____	_____	_____	_____

Closing Unit Psi 2700 Closing Time of Rams 8 sec Closing Time of Hydril 23 sec
 Closed Casing Head Valve YES Set Wear Sleeve YES
 Comments changed out upper pipe Rams
12" McEuby plug & Ret on location

DOUBLE "D" ENTERPRISES, INC.

DELIVERY TICKET

P.O. Box 560
Shoshoni, Wyoming 82649
307-876-2308

N^o 3128

Date 4/2/85
 Operator CONOCO Contractor Parker Drlg Rig No. 116
 Ordered By Bob Williams Lease _____ Well No. FEDERAL 31-1
 _____ Section _____ Township _____ Range _____

Items Tested:

	Low Test	Time Held	High Test	Time Held	Comments
Top Pipe Rams	<u>TESTED</u>				
Bottom Pipe Rams	<u>2500 PSI 15 min - Held OK</u>				
Blind Rams	<u>PUMP RATE 1/4 Barrel minute</u>				
Annular B.O.P.	<u>1500</u>	<u>5 min</u>	<u>2500</u>	<u>15 min</u>	<u>OK</u>
Choke Manifold	<u>1500</u>	<u>5 min</u>	<u>2500</u>	<u>15 min</u>	<u>OK</u>
Choke Line	<u>1500</u>	<u>5 min</u>	<u>2500</u>	<u>15 min</u>	<u>OK</u>
Kill Line	<u>1500</u>	<u>5 min</u>	<u>2500</u>	<u>15 min</u>	<u>OK</u>
Super Choke					
Upper Kelly	<u>1500</u>	<u>5 min</u>	<u>2500</u>	<u>15 min</u>	<u>OK</u>
Lower Kelly	<u>RAN leakoff ON Formation + 0</u>				
Floor Valve	<u>1500 PSI 17.8 mud equivalent</u>				
Dart Valve	<u>NO-LEAK OFF PUMP RATE 1/4 Barrel minute</u>				

Closing Unit Psi 2700 Closing Time of Rams _____ Closing Time of Hydril 23 sec
 Closed Casing Head Valve yes Set Wear Sleeve _____
 Comments _____

COMPANY

LEASE AND WELL NAME #

DATE OF TEST

RIG # AND NAME

TEST# TIME

Casing & Formation leAK OFF Report

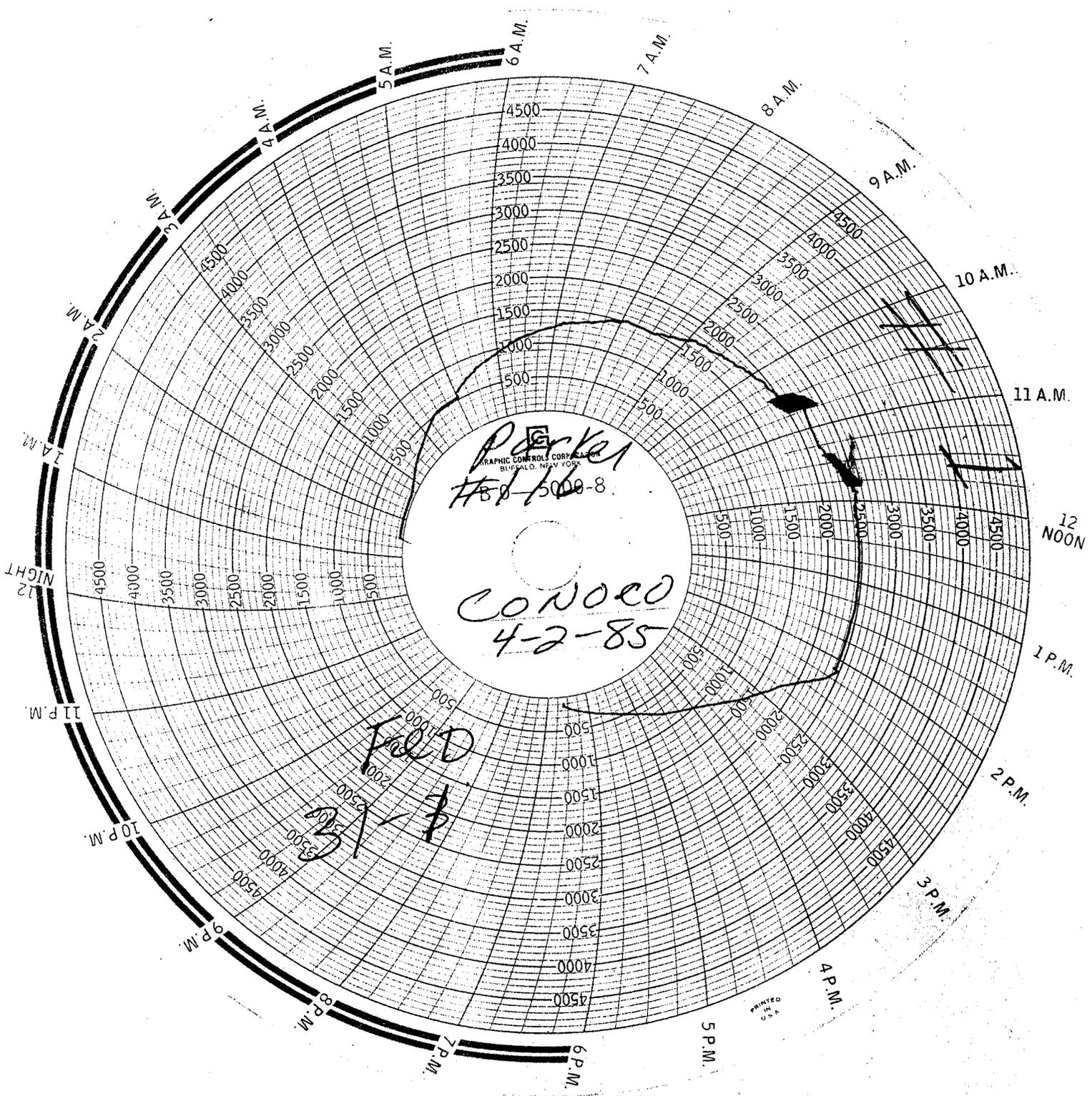
1

TESTED 13^{3/8} casing
to 2500 PSI pump
Rate $\frac{1}{4}$ Barrel / minute
Held 15 min - OK

2

FORMATION leAK-OFF
TEST TESTED to
1500 PSI 17.8 MUD
Equivalent Pump
Rate $\frac{1}{4}$ Barrel minute
Held 5 minutes
NO leAK OFF

C.M. Has leak off
graph & casing
graph on location



Parker
GRAPHIC CONTROLS CORPORATION
BUENOS AIRES, ARGENTINA

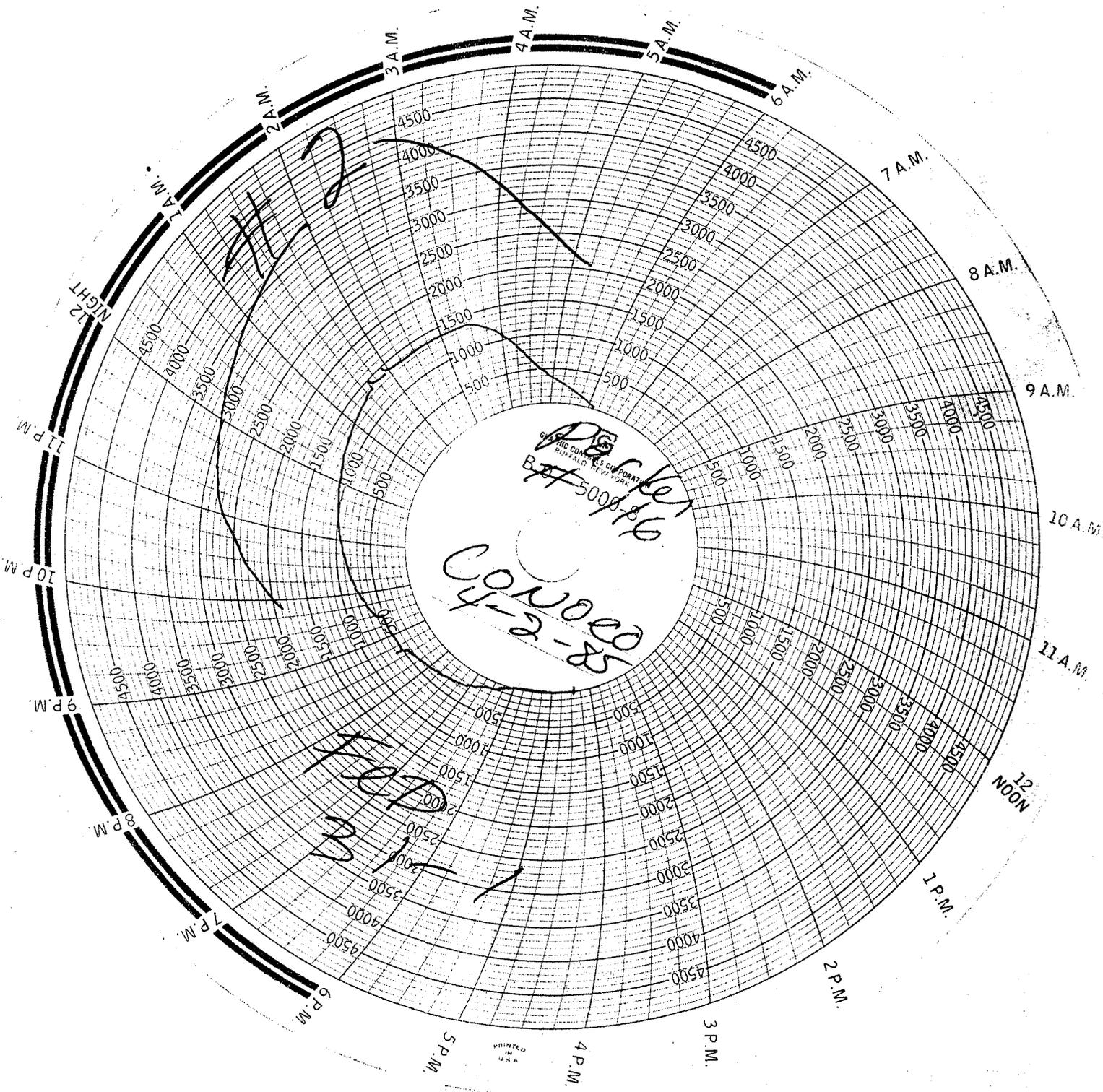
#80-5000-8

CONORO
4-2-85

F&D

BA

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PRINTED
 IN
 U.S.A.
 5 P.M.
 4 P.M.
 3 P.M.



Conoco Inc.
12600 W. Colfax Ave.-Suite A500
Lakewood, CO 80215
(303) 231-2000

RECEIVED

AUG 26 1985

**DIVISION OF OIL
GAS & MINING**

August 22, 1985

Marathon Oil Company
ATTN: Mark Peterson
800 Werner Court
Casper, Wyoming 82602

Exxon Company, USA
ATTN: Steve Barberio
750 W. Hampden Avenue
Englewood, Colorado 80110

Amoco Production Company
ATTN: Bill DiPaolo
P. O. Box 800
Denver, Colorado 80201

Bureau of Land Management
Branch of Fluid Minerals
P. O. Box 970
Moab, Utah 84532

✓ Utah Division of Oil, Gas, and Minerals
ATTN: Ron Firth
4241 State Office Building
Salt Lake City, Utah 84114

Gentlemen:

RE: CONOCO INC. 31 #1 FEDERAL
NW SE 31-24S-23E
GRAND COUNTY, UTAH

Enclosed are your required number of copies of well data on subject well.
Such data is listed as follows:

1. FINAL PRINTS - DLL-MSFL, LDT-CNL, BHC-Sonic, and Continuous Dipmeter (plus sepias where required)
2. Compositod Mudlog with supporting Geologic Report by Rocky Mountain Geo-Engineering Company
3. For Government Agencies only - copies of DST Reports 1, 2, and 3.

As previously requested, all data on said well is to be held CONFIDENTIAL.

Sincerely,

John H. Kline
Operations Geologist

d

Encs.

CC: S. L. Pierce, Casper
Mark K. Mosley, Casper
Gary D. Achenbach, Ponca City
Field Foreman, Casper

H. J. King, Houston
Ed Conner, Houston
Reservoir Eng. Section, Houston
Well File

OPER4/003

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand Canyon County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3709 & AFE 12-20-3708

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

03/17/85: Repacking swivel. Depth 137'. Made 25'. 17½" hole. Finished rigging up. Picked up drilling nipple and 20" flange and welded on. Nippled up rotating head. Picked up BHA and ran in hole. Tagged cement @ 112'. Picked up rotating head. Repaired blooey line. Blew hole down and dried up. Drilled cement to 137'. Now repacking swivel. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - ½ - 0. Drilling Foreman: Jackson.

03/18/85: Repairing rotating head. Depth 325'. Made 130'. 17½" hole. Cutler formation. Repacked swivel. Drilled cement from 137'-195'. Tested diverter to 150#. Blew hole dry. Spudded on 03-17-85 @ 1:30 p.m. Drilled to 200' w/air. Blew hole dry. Drilled to 210'. Dried hole. Drilled and surveyed to 325'. Rotating head loose. Now repairing rotating head. Dev.: 3¼° @ 185' and 248'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 1½ - 0. Drilling Foreman: Jackson.

03/19/85: Drilling. Depth 383'. Made 58'. 17½" hole. Cutler formation. Repaired rotating head. Drilled to 328'. Rotating head broke. Pulled out of hole. Changed out rotating heads. Ran in hole. Picked up 3-9" drill collars. Now drilling ahead. Dev.: 1 3/4° @ 368'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 2½ - 0. Drilling Foreman: Jackson.

03/20/85: Picking up fishing tools. Depth 550'. Made 167'. 17½" hole. Cutler formation. Drilled and surveyed to 550'. Lost 18,000# string weight. Circulated. Pulled out of hole. Shock sub parted in mandrel. Lost bit, bit sub, 2-10" drill collars, 3 point reamer and shock sub barrel (81'). Top of fish @ 469'. W/O fishing tools. Now picking up fishing tools. Dev.: 2½° @ 428'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 3½ - 0. Drilling Foreman: Jackson.

03/21/85: Fishing w/magnet. Depth 550'. 17½" hole. Cutler formation. Picked up fishing tools. Dropped bumper sub in hole. Picked up overshot and ran in hole. Bumper sub fell past top of fish. Pulled out of hole. Picked up screw-in sub and ran in hole. Screwed into bumper sub. Pulled out of hole. Recovered bumper sub. Ran in hole w/overshot. Engaged fish. Pulled out of hole. Recovered fish. W/O magnet. Picked up 14½" magnet and ran in hole. Fished for junk from bumper sub pin. Pulled out of hole. Recovered 8 small pieces of metal. Picked up bit and BHA and ran in hole. Attempted to work past junk. Pulled out of hole. Picked up magnet and ran in hole. Now fishing for junk w/magnet. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 4½ - 0. Drilling Foreman: Jackson.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'

API No.: 43-019-31180

Federal Lease No.: U-50694

Objective: Leadville - 11,715'

03/22/85: Drilling. Depth 754'. Made 204'. 17½" hole. Cutler formation. Fished w/magnet. Pulled out of hole. Recovered several large pieces of iron. Ran in hole. Fished w/magnet. Pulled out of hole. Recovered slivers of iron. Ran in hole w/bit. Blew hole dry. Now drilling and surveying ahead. Dev.: 2° @ 529' and 620'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 5½ - 0. Drilling Foreman: Jackson.

03/22/85: Drilling. Depth 1,261'. Made 507'. 17½" hole. Cutler formation. Drilling and surveying ahead. Dev.: 2° @ 743', 1½° @ 838' & 993' and 1° @ 1,148'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 6½ - 0. Drilling Foreman: Jackson.

03/24/85: Drilling. Depth 1,481'. Made 220'. 17½" hole. Permian formation. Drilled and surveyed to 1,430'. Hole torquing. Blew hole. Pulled out of hole. Inspected BHA. Changed crossover sub w/swelled box. Changed bit. Ran in hole. Reamed 110' to bottom. Now drilling ahead. Dev.: 1° @ 1,338'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 7½ - 0. Drilling Foreman: Jackson.

03/25/85: Drilling. Depth 1,839'. Made 358'. 17½" hole. Cutler formation. Drilling and surveying ahead. Dev.: 1° @ 1,492' and 1,645'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 8½ - 0. Drilling Foreman: Jackson.

03/26/85: Drilling. Depth 2,253'. Made 414'. 17½" hole. Cutler formation. Drilling and surveying ahead. Dev.: ¾° @ 1,802', 1° @ 1,996' and 1¼° @ 2,109'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 9½ - 0. Drilling Foreman: Jackson.

03/27/85: Drilling. Depth 2,589'. Made 336'. 17½" hole. Cutler formation. Drilling and surveying ahead. Dev.: 1° @ 2,263' and 1° @ 2,414'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 10½ - 0. Drilling Foreman: Jackson/Williams.

03/28/85: Picking up fishing tools. Depth 2,889'. Made 300'. 17½" hole. Cutler formation. Drilled and surveyed to 2,889'. Lost 100,000#'s string weight. Pulled out of hole. Top of fish @ 1,368'. Length of fish 1,521'. Twisted off in drill pipe body about 1' below tool joint. Now picking up overshot. Dev.: 1° @ 2,568' and 2,722'. Air. No other mud properties reported. Cum. mud cost: \$0. Parker #116. 0 - 11½ - 0. Drilling Foreman: Williams.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

03/29/85: Pulling out of hole to run casing. Depth 3,029'. Made 140'. 17½" hole. Cutler formation. Picked up fishing tools. Ran in hole to top of fish. Engaged fish. Pulled out of hole. Recovered fish. Laid down fishing tools. Checked bit, okay. Ran in hole. Blew hole dry. Drilled and surveyed to 3,029'. Blew hole. Now pulling out of hole to run casing. Dev.: 1° @ 2,996'. Air. No other mud properties reported. Cum. mud cost: \$1,165. Parker #116. 0 - 12½ - 0. Drilling Foreman: Williams.

03/30/85: W.O. cement tools. Depth 3,029'. 17½" hole. Cutler formation. Pulled out of hole. Laid down BHA. Picked up 21 joints drill pipe. Rigged up casing crew. Made up and welded guide shoe. Ran in hole w/13 3/8" ST&C surface casing as follows: 39 joints, K-55, 68#; 11 joints, K-55, 61#; 26 joints, J-55, 61# and 70 joints 2 1/16", 3.25#, J-55, IJ parasite string; 13 3/8" shoe @ 3,029', collar @ 2,950' and 2 1/16" entry joint @ 2,800'. Ran 26 centralizers and one cement basket @ 260'. Rigged down casing crew. Rigged up to run drill pipe. Ran in casing w/drill pipe. Now W.O. latch-down plug and crossover to cement. Preparing to sting into casing and cement. Air. No other mud properties reported. Cum. mud cost: \$1,165. Parker #116. 0 - 13½ - 0. Drilling Foreman: Williams.

03/31/85: Nippling up parasite string. Depth 3,029'. 12½" hole. Cutler formation. Pumped 280 BW down parasite string. Spider broke in two. Casing dropped 7'. Pulled out of hole w/stinger. W.O. new spider. Screwed into dropped casing w/joint of casing. Worked casing loose. Picked up 12½" bit and jars. Ran in hole to 2,954'. Tagged float collar. Pulled out of hole. Picked up stinger. Ran in hole. Now nipping up on parasite string to fill drill pipe and casing annulus. Air. No other mud properties reported. Cum. mud cost: \$1,165. Parker #116. 0 - 14½ - 0. Drilling Foreman: Williams.

04/01/85: Welding on wellhead. Depth 3,029'. 12½" hole. Cutler formation. Circulated water down parasite string and filled 13 3/8" casing. Stung into stab-in float collar w/stinger. Pumped 350 bbls. of gelled mud. Rigged up to cement. Cemented w/1,580 sacks Class "H" plus 35% Poz, 6% Gel, ½#/sack Flocele and 2% CaCl₂; followed by 500 sacks Class "B" plus ½#/sack Flocele and 2% CaCl₂. Had mud returns and no cement returns. Pumped 350 bbls. mud, 10 bbls. water, 40 bbls. of superflush and 15 bbls. water ahead of cement. Pulled out of stab-in collar. Circulated parasite string. Pulled out of hole w/stinger. W.O.C. Ran down 13 3/8" backside w/1" tubing to 280'. Cement w/250 sacks Class "B" cement to surface. W.O.C. Nippled down rotating head. Cutoff 20" and 13 3/8" casing. Now welding on wellhead. Air. No other mud properties reported. Cum. mud cost: \$1,165. Parker #116. 0 - 15½ - 0. Drilling Foreman: Williams.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

04/02/85: Running Gyro. Depth 3,029'. 12 $\frac{1}{4}$ " hole. Cutler formation. Finished welding on wellhead. Let cool. Tested head to 1,000#, okay. Nipped up BOP's and tested BOP's and manifold to 5,000#, okay. Upper pipe ram door gasket leaking and Hydril element leaking. W/O parts. Now running Gyro survey from surface to 2,950'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 16 $\frac{1}{2}$ - 0. Drilling Foreman: Williams.

04/03/85: Drilling. Depth 3,085'. Made 56'. 12 $\frac{1}{4}$ " hole. Cutler formation. Ran Gyro survey. Repaired Hydril and tested to 2,500#, okay. Laid down 10" drill collars. Ran in hole w/bit and tagged cement @ 2,939'. Drilled cement to 3,010'. Tested casing and 2 1/16" parasite string to 2,500#, okay. Drilled cement and float equipment. Drilled to 3,042'. Ran leak-off test to 17.8 ppg EMW (no leak-off). Pulled out of hole 1,500'. Unloaded hole w/air. Ran in hole to 3,040'. Unloaded hole w/air and blew dry. Now drilling ahead.

Results of Gyro Survey: Closure @ 2,932', 61.23' S4.9°W

Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 17 $\frac{1}{2}$ - 0. Drilling Foreman: Williams.

04/04/85: Drilling. Depth 3,503'. Made 418'. 12 $\frac{1}{4}$ " hole. Cutler formation. Drilled to 3,136'. Pulled out of hole. Changed out top pipe rams. Tested ram to 5,000#, okay. Set wear bushing and inspected BHA. Laid down cracked crossover and 1-7" drill collar. Changed bit and picked up BHA. Ran in hole. Blew hole dry. Now drilling and surveying ahead. Dev.: 1 $\frac{1}{2}$ ° S9E @ 3,306'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 18 $\frac{1}{2}$ - 0. Drilling Foreman: Williams.

04/05/85: Drilling. Depth 4,145'. Made 642'. 12 $\frac{1}{4}$ " hole. Cutler formation. Drilling and surveying ahead. BGG-Trace, CO₂-450/600 ppm (@ 3,560'). Dev.: 2 $\frac{1}{4}$ ° S2W @ 3,591', 2 3/4° S3W @ 3,836' and 3° S1E @ 4,083'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 19 $\frac{1}{2}$ - 0. Drilling Foreman: Williams/Jackson.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

04/06/85: Running in hole. Depth 4,188'. Made 43'. 12¼" hole. Cutler formation. Drilled to 4,176'. Surveyed. Pulled out of hole. Picked up experimental directional drilling tool. Ran in hole. Drilled to 4,180'. Excessive torque. Pulled out of hole. Changed BHA. Ran in hole. Drilled to 4,188'. Hole torquing. Pulled out of hole. Laid down experimental directional drilling tool. Now running in hole w/normal BHA. BGG-Trace, CO₂-300 ppm. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 20½ - 0. Drilling Foreman: Jackson.

04/07/85: Drilling. Depth 4,630'. Made 442'. 12¼" hole. Cutler formation. Ran in hole. Installed rotating head. Now drilling and surveying ahead. BGG-Trace, CO₂-200/300 ppm. Dev.: 3 3/4° S3W @ 4,269' and 3 3/4° S4W @ 4,423'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 21½ - 0. Drilling Foreman: Jackson.

04/08/85: Drilling. Depth 4,948'. Made 318'. 12¼" hole. Cutler formation. Drilling and surveying ahead. BGG-Trace, CO₂-200/300 ppm. Dev.: 4° S8W @ 4,609' and 3 3/4° S8W @ 4,763'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 22½ - 0. Drilling Foreman: Jackson.

04/09/85: Drilling. Depth 5,354'. Made 406'. 12¼" hole. Cutler formation. Drilling and surveying ahead. BGG-Trace, CO₂-200/300 ppm. Dev.: 3 3/4° S16W @ 4,912', 4° S34W @ 5,063' and 4¼° S40W @ 5,218'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 23½ - 0. Drilling Foreman: Jackson.

04/10/85: Drilling. Depth 5,585'. Made 231'. 12¼" hole. Cutler formation. Drilled and surveyed to 5,445'. Circulated. Pulled out of hole. Changed bit and BHA. Picked up hammer drill (Mission). Ran in hole. Washed 18' to bottom. Blew hole. Now drilling ahead. BGG-Trace, CO₂-200/300 ppm. Dev.: 5° S64W @ 5,372'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 24½ - 0. Drilling Foreman: Jackson.

04/11/85: Milling on junk. Depth 5,632'. Made 47'. 12¼" hole. Cutler formation. Drilled and surveyed to 5,632'. Bit torqued up. Pulled out of hole. Bit shattered. Two shanks w/cones gone from bit. W/O fishing tools. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole. No recovery. Picked up junk mill. Ran in hole. Now milling on junk. BGG-Trace, CO₂-200/300 ppm. Dev.: 4¼° S67W @ 5,562'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 25½ - 0. Drilling Foreman: Jackson.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

04/12/85: Pulling out of hole w/bit. Depth 5,632'. 12¼" hole. Cutler formation. Milled on junk. Pulled out of hole. Ran in hole w/11½" magnet w/skirt. Fished w/magnet. Pulled out of hole. Recovered small piece of metal. Removed magnet skirt. Ran in hole. Fished w/magnet. Pulled out of hole. Recovered one shank w/cone. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole, no recovery. Picked up bit and ran in hole. Drilled on junk. Now pulling out of hole. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 26½ - 0. Drilling Foreman: Jackson.

04/13/85: Repairing rotary chain. Depth 5,632'. 12¼" hole. Cutler formation. Pulled out of hole w/bit. Picked up magnet and ran in hole. Fished w/magnet. Pulled out of hole. Recovered small pieces of metal. Picked up junk mill and junk sub and ran in hole. Milled on junk. Pulled out of hole. Picked up magnet and ran in hole. Fished w/magnet. Pulled out of hole, no recovery. Picked up junk mill and junk sub and ran in hole. Milled on junk. Now repairing rotary chain. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 27½ - 0. Drilling Foreman: Jackson.

04/14/85: Pulling out of hole w/junk mill. Depth 5,635'. Made 3'. 12¼" hole. Cutler formation. Repaired rotary chain. Milled on junk. Pulled out of hole. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole, no recovery. Changed skirt on magnet and ran in hole. Fished w/magnet. Pulled out of hole, no recovery. Rigged up Schlumberger. Ran in hole w/wireline electro magnet. Made 3 runs, no recovery. Ran in hole w/mill. Milled on junk. Milled past junk. Milled 3' of new hole. Junk fell down hole. Now pulling out of hole. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 28½ - 0. Drilling Foreman: Jackson.

04/15/85: Drilling. Depth 5,731'. Made 96'. 12¼" hole. Cutler formation. Finished pulling out of hole w/mill. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole. Recovered cone and part of shank. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole. Recovered part of shank. Ran in hole w/bit #5. Now drilling and surveying ahead. CO₂-200 ppm, H₂S-0. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 29½ - 0. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

04/16/85: Drilling. Depth 5,787'. Made 56'. 12¼" hole. Cutler formation. Drilled to 5,737'. Lost 70,000# string weight. Pulled out of hole. Left BHA, 9 joints drill pipe plus 1 stub. Picked up overshot and ran in hole. Went past fish. Pulled out of hole. Picked up overshot extension and ran in hole. Fished and engaged fish. Pulled out of hole and laid down fish, fishing tools and drill collars. Checked bit and ran in hole. Drilled to 5,787'. Now drilling ahead. BGG-0/trace, TG-0, CO₂-300 ppm, H₂S-0. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 30½ - 0. Drilling Foreman: Jackson.

04/17/85: Drilling. Depth 5,869'. Made 82'. 12¼" hole. Cutler formation. Drilled and surveyed to 5,800'. Lost 70,000# string weight. Pulled out of hole. Picked up overshot and fishing tools and ran in hole. Engaged fish. Pulled out of hole and laid down fishing tools. Recovered fish. Picked up shock sub and ran in hole. Now drilling ahead. BGG-Trace, CO₂-300/400 ppm. Dev.: 4½° S72W @ 5,743'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 31½ - 0. Drilling Foreman: Jackson.

04/18/85: Drilling. Depth 6,086'. Made 217'. 12¼" hole. Cutler formation. Drilling and surveying ahead. BGG-Trace, CO₂-300 ppm. Dev.: 5° S75W @ 5,908'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 31½ - 0. Drilling Foreman: Jackson/Williams.

04/19/85: Drilling. Depth 6,275'. Made 189'. 12¼" hole. Cutler formation. Drilling and surveying ahead. CO₂-300/400 ppm. Dev.: 5¼° S73W @ 6,065' and 6° S82W @ 6,212'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 33½ - 0. Drilling Foreman: Williams.

04/20/85: Picking up new BHA. Depth 6,308'. Made 33'. 12¼" hole. Cutler formation. Drilled to 6,308'. Lost 40,000# weight. Pulled out of hole. Top of fish @ 6,029' (length of fish 279'). Engaged fish. Pulled out of hole. Laid down fish and fishing tools. Checked BHA. Now picking up new BHA. CO₂- 300 ppm, H₂S-0. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 34½ - 0. Drilling Foreman: Williams.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

04/21/85: Drilling. Depth 6,480'. Made 172'. 12¼" hole. Cutler formation. Picked up BHA. Ran in hole 10 stands. Laid down 10 stands of drill pipe for inspection. Replaced w/10 stands of inspected drill pipe. Ran in hole. Dry hole. Now drilling and surveying ahead. CO₂-300 ppm. Dev.: 6° S72W @ 6,324'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 35½ - 0. Drilling Foreman: Williams.

04/22/85: Pulling out of hole w/magnet. Depth 6,619'. Made 139'. 12¼" hole. Hermosa @ 6,440'. Drilled and surveyed to 6,619' (tight hole from 6,490'-6,540'). Bit torqued. Pulled out of hole. Bit broke off 3" below shoulder. Laid down hammer. Picked up magnet. Ran in hole w/magnet. Fished w/magnet. Now pulling out of hole. TG-21, CO₂-400/800 ppm. Dev.: 5½° S68W @ 6,486'. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 36½ - 0. Drilling Foreman: Williams.

04/23/85: Running in hole w/mill. Depth 6,619'. 12¼" hole. Pulled out of hole w/magnet, no recovery. Removed skirt from magnet. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole, no recovery. Laid down magnet. Picked up mill and junk sub and ran in hole. Pulled out of hole and ran in hole w/magnet. Fished w/magnet. Pulled out of hole, no recovery. Picked up mill. Now running in hole w/mill. TG-23. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 36½ - 0. Drilling Foreman: Williams.

04/24/85: Running in hole w/magnet. Depth 6,619'. 12¼" hole. Hermosa formation. Ran in hole w/mill. Milled on bit. Pulled out of hole. Picked up magnet and ran in hole. Fished w/magnet. Pulled out of hole, no recovery. Picked up globe basket w/9" x 11 7/8" burn shoe. Ran in hole. Milled on bit. Made 5" progress. Pulled out of hole. Burn shoe wiped out, no recovery. Picked up magnet. Now running in hole w/magnet. TG-11/14. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 38½ - 0. Drilling Foreman: Williams.

04/25/85: Fishing w/magnet. Depth 6,619'. 12¼" hole. Hermosa formation. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole. Recovered 1 cone and shank. Ran in hole w/magnet. Fished w/magnet. Pulled out of hole, no recovery. Picked up mill and ran in hole. Milled on bit. Pulled out of hole. Picked up magnet and ran in hole. Now fishing w/magnet. TG-6/10. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 39½ - 0. Drilling Foreman: Williams.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

04/26/85: Pulling out of hole w/Poor-Boy junk basket. Depth 6,619'. 12½" hole. Hermosa formation. Pulled out of hole w/magnet, no recovery. Picked up mill and ran in hole. Milled on bit. Pulled out of hole. Ran in hole w/globe basket. Milled on junk. Unable to mill over. Pulled out of hole, no recovery. Picked up Poor-Boy junk basket and ran in hole. Rotated over junk. Now pulling out of hole. TG-11. Air. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 40½ - 0. Drilling Foreman: Williams.

04/27/85: W.O.C. Depth 6,619'. PBTD 6,274'. 12½" hole. Pulled out of hole w/Poor-Boy junk basket, no recovery. Picked up plug catcher. Rigged up Halliburton. Ran in hole w/drill pipe open-ended to 6,290'. Spotted cement plug from 6,619'-6,274' w/300 sacks Class "H" cement plug 1% Halad-322 and 2% KCl. Displaced plug w/air. Pulled out of hole. Rigged down Halliburton. Picked up bit. Ran in hole to casing shoe. Now W.O.C. Air Mist. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 41½ - 0. Drilling Foreman: Williams.

04/28/85: Sidetracking. Depth 6,340'. Made 66'. Reamed 35'. 12½" hole. Cutler formation. Ran in hole. Tagged plug @ 6,274'. Air mist hole. Dressed plug to 6,317'. Surveyed. Pulled out of hole. Picked up Baker motor and 1° bent sub. Ran in hole to casing seat. Rigged up circulating head. Finished running in hole. Broke circulation. Washed down from 6,282'-6,317'. Ran in hole w/steering tool and oriented. Now sidetracking. Dev.: 6° S80W @ 6,264'. Air Mist. 5% KCl. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 42½ - 0. Drilling Foreman: Williams.

04/29/85: Sidetracking. Depth 6,374'. Made 34'. 12½" hole. Cutler formation. Drilled to 6,346'. Unable to kick-off w/1° bent sub. Pulled out of hole w/steering tool. Pulled out of hole. Laid down 1° bent sub and motor. Picked up new bit, 1½° bent sub and new motor and ran in hole. Rigged up steering tool and orient tool (N78E). Drilled to 6,374'. Unable to kick-off. Now sidetracking. Air Mist. No other mud properties reported. Cum. mud cost: \$2,924. Parker #116. 0 - 43½ - 0. Drilling Foreman: Williams.

04/30/85: Sidetracking. Depth 6,397'. Made 23'. 12½" hole. Cutler formation. Drilled to 6,375'. Pulled out of hole. Changed motor and picked up Diamond sidetrack bit and 2° bent sub. Ran in hole. Rigged up steering tool and orient tool face. Now drilling 2 minutes/inch. TG-4, CO₂-600 ppm. Air Mist. 5% KCl. No other mud properties reported. Cum. mud cost: \$4,199. Parker #116. 0 - 44½ - 0. Drilling Foreman: Williams.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

05/01/85: Rigging down steering tool. Depth 6,415'. Made 18'. Reamed 45'. 12¼" hole. Bakerdrill to 6,415'. Rigged down steering tool. Pulled out of hole. Changed bit, motor and bent sub. Ran in hole. Rigged up steering tool. Orient tool face. Unloaded hole. Steering tool failed. Pulled out of hole w/steering tool and repaired. Ran in hole w/steering tool. Unloaded hole. Washed 45' to 6,415'. Attempted to Bakerdrill. Bit would not drill. Now rigging down steering tool and preparing to pull out of hole. TG-2, CO₂-300 ppm. Air Mist. No other mud properties reported. Cum. mud cost: \$5,508. Parker #116. 0 - 45½ - 0. Drilling Foreman: Williams.

05/02/85: Drilling w/Baker motor. Depth 6,475'. Made 60'. 12¼" hole. Hermosa formation. Pulled out of hole. Changed bit and ran in hole. Rigged up steering tool. Broke circulation. Drilled w/motor to 6,421'. Bit torquing. Pulled out of hole. Changed bit and motor and ran in hole. Rigged up steering tool. Washed 20' to bottom. Orient tool face. Now drilling ahead w/motor. CO₂-300 ppm. Air Mist. 5% KCl. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 46½ - 0. Drilling Foreman: Williams/Jackson.

05/03/85: Reaming motor run. Depth 6,563'. Made 88'. 12¼" hole. Hermosa formation. Drilled w/motor to 6,563'. Bit torquing. Pulled out of hole. Laid down bent sub and motor. Changed bit and BHA and ran in hole. Circulated. Now reaming motor run from 6,368'-6,414'. BGG-Trace, TG-1, CO₂-Trace. Dev.: 2½° S77W @ 6,496'. Air Mist. 5% KCl. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 47½ - 0. Drilling Foreman: Jackson.

05/04/85: Nippling up BOP's. Depth 6,563'. 12¼" hole. Hermosa formation. Reamed from 6,414'-6,563'. Bit torquing on bottom. Circulated. Surveyed. Pulled out of hole. Recovered small pieces of bearings in junk sub. Rigged up to test BOP's, could not pull wearbushing. Stuck test plug. Nippled down BOP stack. W/O welder. Cutout wearbushing. Now nipping up BOP stack. Dev.: 2° S75W @ 6,544'. Air Mist. 5% KCl. No other mud properties reported. Cum. mud cost: \$1,661. Parker #116. 0 - 48½ - 0. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

05/05/85: Drilling w/motor. Depth 6,648'. Made 85'. 12¼" hole. Hermosa formation. Nipped up BOP's. Tested BOP's, etc. to 5,000# - okay. Tested Hydril to 2,500# - okay. Picked up magnet and junk sub. Ran in hole. Fished w/magnet. Pulled out of hole. Recovered pieces of bearings. Picked up bit, Baker motor, 1° bent sub and ran in hole. Washed 48' to bottom. Circulated. Rigged up steering tool and orient. Now drilling w/Baker motor. BGG-Trace, TG-1, CO₂-300 ppm. Dev.: 2° S82W @ 6,588'. Air Mist. 5% KCl. No other mud properties reported. Cum. mud cost: \$2,136. Parker #116. 0 - 49½ - 0. Drilling Foreman: Jackson.

05/06/85: Reaming motor run. Depth 6,745'. Made 97'. 12¼" hole. Hermosa formation. Drilled and surveyed w/motor to 6,745'. Bit locked up. Pulled out of hole. Laid down motor and bent sub. Installed wearbushing. Changed bit and BHA and ran in hole. Circulated. Now reaming motor run from 6,360'-6,480'. BGG-0, TG-0, CO₂-100 ppm. Dev.: 1½° N85W @ 6,647'. Air Mist. 5% KCl. No other mud properties reported. Cum. mud cost: \$2,136. Parker #116. 0 - 50½ - 0. Drilling Foreman: Jackson.

05/07/85: Drilling. Depth 6,872'. Made 127'. 12¼" hole. Hermosa formation. Reamed from 6,480'-6,745'. Circulated w/mist. Shut-off mist. Blew hole dry. Drilled to 6,750'. Blew hole. Drilled to 6,755'. Blew hole. Now drilling ahead. BGG-Trace, CO₂-300 ppm. Air. No other mud properties reported. Cum. mud cost: \$2,136. Parker #116. 0 - 51½ - 0. Drilling Foreman: Jackson.

05/08/85: Drilling. Depth 7,054'. Made 182'. 12¼" hole. Hermosa formation. Drilled and surveyed to 6,985'. Excessive hole torque. Pulled out of hole. Changed BHA and ran in hole. Washed 40' to bottom. Now drilling ahead. Dev.: 1° S76W @ 6,832'. BGG-Trace, TG-18, CO₂-500 ppm. Air. No other mud properties reported. Cum. mud cost: \$2,136. Parker #116. 0 - 52½ - 0. Drilling Foreman: Jackson.

05/09/85: Pulling out of hole w/fish. Depth 7,143'. Made 89'. 12¼" hole. Hermosa formation. Drilled to 7,143'. Lost 12,000#'s string weight. Circulated. Pulled out of hole. Shock sub parted. Fish bit, 6-point reamer, short drill collar, 3-point reamer, monel, 3-point reamer and shock-sub mandrel. Length of fish - 72', top of fish @ 7,071'. W/O fishing tools. Picked up fishing tools and ran in hole. Engaged fish. Now pulling out of hole w/fish. Air. No other mud properties reported. Cum. mud cost: \$2,136. Parker #116. 0 - 53½ - 0. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

05/10/85: Drilling. Depth 7,161'. Made 18'. 12¼" hole. Hermosa formation. Pulled out of hole. Recovered fish. Laid down fishing tools. Inspected BHA. Laid down 2-9" drill collars, a non-rotating stab, 3-7" drill collars and 1 HWDP. Picked up BHA and ran in hole. Bit plugged. Pulled out of hole. Cleaned bit and ran in hole. Washed 46' to bottom. Now drilling and surveying ahead. BGG-Trace, TG-110, CO₂-300 ppm. Dev.: 2° S61W @ 7,099'. Air. No other mud properties reported. Cum. mud cost: \$2,136. Parker #116. 0 - 54½ - 0. Drilling Foreman: Jackson/Schaaf.

05/11/85: Working stuck pipe. Depth 7,343'. Made 182'. 12¼" hole. Hermosa formation. Drilled to 7,343'. Bit torqued. Penetration rate dropped to 25 min./ft. Pulled out of hole 5 stands. Pulled 80,000#'s over string weight. Stuck pipe. Attempted to set off jars, no success. Installed rotating head. Circulated hole, no movement. Now working stuck pipe. Air. No other mud properties reported. Cum. mud cost: \$2,136. Parker #116. 0 - 55½ - 0. Drilling Foreman: Schaaf.

05/12/85: Working stuck pipe. Depth 7,343'. 12¼" hole. Hermosa formation. Circulated w/air. Worked stuck pipe. Circulated w/mist. Worked stuck pipe. W/O freepoint tools and fishing tools. Made 9' progress. Ran freepoint. Pipe free to 6,146'. Circulated w/mist. Mixed mud. Mixed and pumped 1,600 bbls. mud while working stuck pipe. Now circulating mud to surface. Worked pipe up 22'. Now working stuck pipe (bit @ 6,807'). Gel Chem. MW 8.5#; Vis 42; WL NR. Cum. mud cost: \$10,110. Parker #116. 0 - 56½ - 0. Drilling Foreman: Schaaf.

05/13/85: Reaming @ 6,010'. Depth 7,343'. 12¼" hole. Hermosa formation. Worked stuck pipe. Pulled 400,000 #'s. Made 3'. Rigged up and ran freepoint. Pipe free @ 6,108'. Backed off @ 6,103'. Pulled out of hole. Left BHA plus 2 joints drill pipe in hole. Bit @ 6,808'. Top of fish @ 6,103'. Picked up bit and drill collars and ran in hole. Reamed from 5,440'-6,010'. Now reaming to top of fish. LSND. MW 8.5#; Vis 45; WL 11; Chlorides 400. Cum. mud cost: \$11,151. Parker #116. 0 - 57½ - 0. Drilling Foreman: Schaaf.

05/14/85: Jarring on fish. Depth 7,343'. 12¼" hole. Hermosa formation. Reamed from 6,010'-6,103'. Tagged fish. Circulated. POOH. PU overshot and fishing tools. RIH. Washed 30' to TOF. Latched onto fish. Circulated. Jarred on fish. Pulled off of fish. Grapple would not engage after several attempts. Circulated. POOH. LD overshot. W/O screw in sub. PU screw in sub. RIH. Screwed into fish. Attempted to circulate, no success. Now jarring on fish with no progress. LSND. MW 8.5#; Vis 47; WL 10; Chlorides 400. Cum. mud cost: \$8,248. Parker #116. 0 - 58½ - 0. Drilling Foreman: Schaaf.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

05/15/85: Jarring on fish. Depth 7,343'. 12 $\frac{1}{4}$ " hole. Hermosa formation. Jarred on fish, no movement. W/O wireline truck. Rigged up wireline. Ran in hole w/spudder bar. Tagged bridge @ 6,316'. Spudded on bridge to 6,775'. Pulled out of hole w/wireline. Kellied up. Broke circulation. Circulated and jarred on fish. Made 2'. Mixed 80 bbls. diesel pill. Spotted same around fish. Let pill soak. Now jarring on fish and moving diesel 1 bbl./30 minutes, no movement. LSND. MW 8.5#; Vis 45; WL 10.6; Chlorides 350. Cum. mud cost: \$9,648. Parker #116. 0 - 59 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/16/85: Circulating. Depth 7,343'. 12 $\frac{1}{4}$ " hole. Hermosa formation. Circulated and jarred on fish, no movement. Ran freepoint. Pipe free @ 6,334'. Circulated and jarred on fish, no movement. Ran in hole w/string-shot. Backed off @ 6,317'. Pulled out of hole. Laid down fishing tools. Recovered 2 joints drill pipe and 5 joints HWDP (213'). Top of fish @ 6,317', length of fish 491'. Picked up bit. Ran in hole to top of fish @ 6,317'. Now circulating. LSND. MW 8.5#; Vis 44; WL 9.8; Chlorides 350. Cum. mud cost: \$9,915. Parker #116. 0 - 60 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/17/85: Pulling out of hole w/fish. Depth 7,343'. 12 $\frac{1}{4}$ " hole. Hermosa formation. Circulated above fish. Pulled out of hole. Picked up fishing assembly and ran in hole. Circulated. Screwed into fish. Circulated and jarred on fish. Fish came free, gained 65,000#'s string weight. Circulated. Now pulling out of hole w/fish. LSND. MW 8.5#; Vis 50; WL 10; Chlorides 350. Cum. mud cost: \$10,192. Parker #116. 0 - 61 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/18/85: Reaming @ 6,716'. Depth 7,343'. 12 $\frac{1}{4}$ " hole. Hermosa formation. Pulled out of hole. Recovered all of fish. Laid down fishing tools. Inspected BHA. Laid down 7" drill collar. Picked up reaming assembly and ran in hole. Washed and reamed from 6,255'-6,716'. Now reaming to T.D. LSND. MW 8.5#; Vis 44; WL 10.8; Chlorides 350. Cum. mud cost: \$10,192. Parker #116. 0 - 62 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/19/85: Drilling. Depth 7,390'. Made 47'. 12 $\frac{1}{4}$ " hole. Hermosa formation. Washed from 6,716'-7,029'. Hit bridge. Reamed 7,029'-7,343'. Drilled to 7,348'. Pulled out of hole. Checked wearbushing. Changed BHA. Picked up new monel and shock sub and ran in hole. Washed 75' to bottom. Now drilling ahead. LSND. MW 8.5#; Vis 45; WL 13.2; Chlorides 300. Cum. mud cost: \$10,674. Parker #116. 0 - 63 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

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Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

05/20/85: Circulating and conditioning mud @ 6,051'. Depth 7,435'. Made 45'. 12 $\frac{1}{4}$ " hole. Paradox Salt @ 7,391'. Drilled to 7,395'. Circulated up break. Chlorides increased from 300 to 2,800 ppm. Surveyed. Drilled to 7,416'. Pulled out of hole 40'. Circulated and ran in hole. No excessive fill or drag. Drilled to 7,435'. Pulled out of hole to 7,380'. Circulated. Pulled out of hole to casing shoe. Dumped mud pits. Build salt mud. Displaced fresh mud to reserve pit. Circulated. Ran in hole to 4,840'. Circulated w/salt mud. Ran in hole to 6,051'. Circulated w/salt mud. Dev.: 4 $\frac{1}{4}$ ° S59W @ 7,342'. Salt Starch. MW 9.8#; Vis 42; WL 12; Chlorides 180,000; Salinity 250,000. Cum. mud cost: \$16,197. Parker #116. 0 - 64 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/21/85: Pulling out of hole. Depth 7,501'. Made 66'. 12 $\frac{1}{4}$ " hole. Hermosa formation. Circulated to 6,501'. Ran in hole to 7,340'. Circulated salt mud. Washed 95' to bottom. Drilled to 7,471'. Lost 150#. Pulled out of hole to 7,375'. Repaired pumps and ran in hole. Drilled to 7,501'. Now pulling out of hole. Salt Starch. MW 9.5#; Vis 37; WL 7; Chlorides 94,000; Salinity 155,000. Cum. mud cost: \$22,750. Parker #116. 0 - 65 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/22/85: Drilling. Depth 7,597'. Made 96'. 12 $\frac{1}{4}$ " hole. 2nd Paradox Salt @ 7,536'. Surveyed. Pulled out of hole. Changed bit and ran in hole. Washed 124' to bottom. Circulated. Repaired motors. Now drilling ahead. BGG-4, TG-0. Dev.: 4° S60W @ 7,439'. Salt Starch. MW 9.5#; Vis 36; WL 9; Chlorides 112,000; Salinity 185,000. Cum. mud cost: \$24,231. Parker #116. 0 - 66 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/23/85: Drilling. Depth 7,750'. Made 153'. 12 $\frac{1}{4}$ " hole. Paradox (Clastic #6) formation. Drilling ahead. BGG-3/4. Salt Starch. MW 10#; Vis 39; WL 10; Chlorides 155,000; Salinity 256,000. Cum. mud cost: \$27,736. Parker #116. 0 - 67 $\frac{1}{2}$ - 0. Drilling Foreman: Schaaf.

05/24/85: Drilling. Depth 7,820'. Made 70'. 12 $\frac{1}{4}$ " hole. Paradox (Clastic #6) formation. Drilling and surveying ahead. BGG-1/2. Dev.: 4° S63W @ 7,682'. Salt Starch. MW 10.2#; Vis 43; WL 16; Chlorides 180,000; Salinity 297,000. Cum. mud cost: \$29,476. Parker #116. 0 - 68 $\frac{1}{2}$ - 0. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

05/25/85: Drilling. Depth 8,056'. Made 236'. 12¼" hole. Paradox (Salt #7) formation. Drilling and surveying ahead. BGG-4/5. Dev.: 4½° S64W @ 7,928'. Salt Starch. MW 10.2#; Vis 40; WL 16; Chlorides 188,000; Salinity 310,000. Cum. mud cost: \$30,953. Parker #116. 0 - 69½ - 0. Drilling Foreman: Jackson.

05/26/85: Pulling out of hole. Depth 8,126'. Made 70'. 12¼" hole. Paradox (Clastic #8) formation. Drilled to 8,126'. Pulling out of hole for bit. BGG-10/15. Salt Starch. MW 10.2#; Vis 41; WL 16.8; Chlorides 188,000; Salinity 310,000. Cum. mud cost: \$32,585. Parker #116. 0 - 70½ - 0. Drilling Foreman: Jackson.

05/27/85: Drilling. Depth 8,182'. Made 56'. 12¼" hole. Paradox (Clastic #8) formation. Finished pulling out of hole. Changed bit. Repaired compound chain and ran in hole. Washed 20' to bottom. Now drilling ahead. BGG-4/6, TG-30. Salt Starch. MW 10.2+#; Vis 39; WL 18; Chlorides 188,000; Salinity 310,000. Cum. mud cost: \$34,191. Parker #116. 0 - 71½ - 0. Drilling Foreman: Jackson.

05/28/85: Drilling. Depth 8,380'. Made 198'. 12¼" hole. Paradox Salt. Drilling and surveying ahead. BGG-4/5. Dev.: 4½° S66W @ 8,175'. Salt Starch. MW 10.2#; Vis 41; WL 19.2; Chlorides 188,000; Salinity 310,000. Cum. mud cost: \$36,003. Parker #116. 0 - 72½ - 0. Drilling Foreman: Jackson.

05/29/85: Drilling. Depth 8,451'. Made 71'. 12¼" hole. Paradox Salt formation. Drilling ahead. BGG-80/120. Salt Starch. MW 10.4#; Vis 41; WL 18; Chlorides 186,000; Salinity 307,000. Cum. mud cost: \$38,033. Parker #116. 0 - 73½ - 0. Drilling Foreman: Jackson.

05/30/85: Drilling. Depth 8,551'. Made 100'. 12¼" hole. Paradox Salt #10 formation. Drilling and surveying ahead. BGG-6/8. Dev.: 4 3/4° S69W @ 8,422'. Salt Starch. MW 10.4#; Vis 40; WL 19.2; Chlorides 188,000; Salinity 310,000. Cum. mud cost: \$40,460. Parker #116. 0 - 74½ - 0. Drilling Foreman: Jackson.

05/31/85: Pulling out of hole. Depth 8,714'. Made 163'. 12¼" hole. Paradox Salt #10 formation. Drilled to 8,714'. Surveyed. Now pulling out of hole. BGG-2/3. Dev.: 5° S73W @ 8,670'. Salt Starch. MW 10.4#; Vis 38; WL 16.8; Chlorides 191,000; Salinity 315,000. Cum. mud cost: \$42,697. Parker #116. 0 - 75½ - 0. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

06/01/85: Drilling. Depth 8,817'. Made 103'. 12¼" hole. Paradox Salt #10 formation. Pulled out of hole. Tested BOP's (etc.) to 5,000#, okay. Tested Hydril to 2,500#, okay. Changed bit and ran in hole. Washed 17' to bottom. Now drilling ahead. BGG-2/3, TG-25. Salt Starch. MW 10.4#; Vis 38; WL 17; Chlorides 190,000; Salinity 314,000. Cum. mud cost: \$43,678. Parker #116. 0 - 76½ - 0. Drilling Foreman: Jackson.

06/02/85: Drilling. Depth 9,042'. Made 225'. 12¼" hole. Paradox Salt #10 formation. Drilling and surveying ahead. BGG-1/2. Dev.: 4 3/4° S75W @ 8,921'. Salt Starch. MW 10.3#; Vis 40; WL 10; Chlorides 184,000; Salinity 304,000. Cum. mud cost: \$46,964. Parker #116. 0 - 77½ - 0. Drilling Foreman: Jackson.

06/03/85: Drilling. Depth 9,278'. Made 236'. 12¼" hole. Paradox Salt formation. Drilling and surveying ahead (reserve pit has slow leak). BGG-Trace/1. Dev.: 4 3/4° S83W @ 9,168'. Salt Starch. MW 10.3#; Vis 39; WL 10.2; Chlorides 188,000p; Salinity 310,000. Cum. mud cost: \$49,571. 0 - 78½ - 0. Parker #116. Drilling Foreman: Jackson.

06/04/85: Drilling. Depth 9,447'. Made 169'. 12¼" hole. Paradox Salt formation. Drilling ahead. BGG-Trace/1. Salt Starch. MW 10.4#; Vis 37; WL 10.4; Chlorides 195,000; Salinity 322,000. Cum. mud cost: \$53,596. 0 - 79½ - 0. Parker #116. Drilling Foreman: Jackson.

06/05/85: Drilling. Depth 9,543'. Made 96'. 12¼" hole. Paradox Salt formation. Drilling and surveying ahead (losing 5 BPH mud returns). BGG-1. Salt Starch. MW 10.4#; Vis 37; WL 9.8; Chlorides 195,000; Salinity 322,000. Cum. mud cost: \$55,859. 0 - 80½ - 0. Parker #116. Drilling Foreman: Jackson.

06/06/85: Pulling out of hole. Depth 9,681'. Made 138'. 12¼" hole. Paradox Clastic formation. Drilled to 9,681'. Now pulling out of hole for bit (tight hole @ 5,703'). BGG-1/2. Salt Starch. MW 10.5#; Vis 39; WL 13.6; Chlorides 195,000; Salinity 322,000. Cum. mud cost: \$58,792. 0 - 81½ - 0. Parker #116. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

06/07/85: Drilling. Depth 9,689'. Made 8'. 12 $\frac{1}{4}$ " hole. Paradox Clastic formation. Pulled out of hole. Inspected BHA. Replaced 2 drill collars w/cracked boxes. Changed out reamers, stabilizers, jars and shock sub. Changed bit. Ran in hole to 5,233'. Reamed to 5,649' and ran in hole. Reamed from 5,974'-6,050' and ran in hole. Reamed from 7,737'-7,841' and ran in hole. Washed 25' to bottom. Now drilling ahead. BGG-15, TG-47. Salt Starch. MW 10.5#; Vis 40; WL 12; Chlorides 195,000; Salinity 322,000. Cum. mud cost: \$60,271. 0 - 82 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Jackson/Williams.

06/08/85: Drilling. Depth 9,853'. Made 169'. 12 $\frac{1}{4}$ " hole. Paradox Salt formation. Drilling and surveying ahead (losing mud @ 5 BPH). BGG-1/2. Dev.: 4 3/4° S78W @ 9,658'. Salt Starch. MW 10.5#; Vis 40; WL 13; Chlorides 195,000; Salinity 322,000. Cum. mud cost: \$61,666. 0 - 83 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

06/09/85: Drilling. Depth 10,056'. Made 203'. 12 $\frac{1}{4}$ " hole. Paradox Clastic formation. Drilling and surveying ahead. Lost 50 bbls. mud @ 10,000'. Pumped 2 LCM pills. Drilling w/95+% returns. BGG-1/2. Dev.: 4 3/4° S80W @ 9,938'. Salt Starch. MW 10.4#; Vis 38; WL 12; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$62,637. 0 - 84 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

06/10/85: Drilling. Depth 10,095'. Made 39'. 12 $\frac{1}{4}$ " hole. Drilled to 10,064'. Lost 200 psi pump pressure. Switch pumps, same. Pulled out of hole for washout. Could not find washout. Ran in hole and washed from 5,530'-5,580', 6,935'-6,965' and 7,935'-7,965'. Ran in hole. Now drilling ahead w/full pump pressure. BGG-6/10, TG-58. Salt Starch. MW 10.4#; Vis 39; WL 12.6; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$63,918. 0 - 85 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

06/11/85: Drilling. Depth 10,234'. Made 139'. 12 $\frac{1}{4}$ " hole. Paradox Salt formation. Drilling ahead. BGG-6/62. Salt Starch. MW 10.4#; Vis 43; WL 14.4; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$65,840. 0 - 86 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

06/12/85: Drilling. Depth 10,357'. Made 123'. 12 $\frac{1}{4}$ " hole. Paradox Clastic formation. Drilling and surveying ahead (mud loses nil). BGG-10/20.

Shows: 10,319', BGG/ 4-145-70
10,326', BGG/70-200-10
10,354', BGG/10-145-35

Dev.: 5° S83W @ 10,184'. Salt Starch. MW 10.4#; Vis 41; WL 17; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$66,778. 0 - 87 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

06/13/85: Drilling. Depth 10,412'. Made 55'. 12 $\frac{1}{4}$ " hole. Drilling ahead. BGG-30/40. Salt Starch. MW 10.5#; Vis 43; WL 17; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$68,206. 0 - 88 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

06/14/85: Drilling. Depth 10,461'. Made 49'. 12 $\frac{1}{4}$ " hole. Drilling ahead. BGG-8/12. Salt Starch. MW 10.4#; Vis 43; WL 16.2; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$69,367. 0 - 89 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

06/15/85: Laying down 12 $\frac{1}{4}$ " tools. Depth 10,494'. Made 33'. 12 $\frac{1}{4}$ " hole. Drilled to 10,494'. Ran survey. Pumped pill. Pulled out of hole (SLM). Now laying down 12 $\frac{1}{4}$ " tools (mud seepage 10 BPH). BGG-10/12. Dev.: 4 $\frac{1}{2}$ ° S80W @ 10,431'. Salt Starch. MW 10.3#; Vis 41; WL 17.6; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$70,776. 0 - 90 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

06/16/85: Reaming @ 6,759'. Depth 10,494'. Reamed 100'. 12 $\frac{1}{4}$ " hole. Finished laying down 12 $\frac{1}{4}$ " tools. Picked up 8 3/4" bit and new BHA. Ran in hole to 6,659'. Hit bridge. Reamed to 6,759'. Getting excessive torque. Now reaming. BGG-1/2. Salt Starch. MW 10.3#; Vis 41; WL 16.8; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$71,839. 0 - 91 $\frac{1}{2}$ - 0. Parker #116. Drilling Foreman: Williams.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

06/17/85: Washing @ 6,456'. Depth 10,494'. 12¼" hole. Reamed @ 6,759'. Lost 1,000# pump pressure. Lost 4-6,000#'s weight. Pulled out of hole. Saver sub on shock sub backed out. Lost bit, 6-point reamer, monel, 3-point reamer, 7" drill collar, 3-point reamer, shock sub (89'). Top of fish @ 6,669'. Laid down jars and 2 drill collars. W/O fishing tools. Picked up fishing tool assembly. Ran in hole to 6,466'. Tight hole, could not work past. Pulled out of hole. Laid down skirted screw in sub. Ran in hole w/ unskirted screw in sub. Now washing @ 6,466'. BGG-1/2. Salt Starch. MW 10.3#; Vis 44; WL 16; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$72,660. 0 - 92½ - 0. Parker #116. Drilling Foreman: Williams.

06/18/85: Reaming @ 6,660'. Depth 10,494'. 12¼" hole. Reamed 205'. Washed w/screw-in sub to 6,470'. Unable to wash further. Pulled out of hole. Laid down fishing tools. Picked up 12¼" bit and reamers. Ran in hole to 6,455'. Reamed to 6,626'. High torque. Pulled out of hole. Checked bit and BHA and ran in hole. Reamed from 6,626'-6,660'. Now reaming ahead. BGG-1/2, TG-6. Salt Starch. MW 10.3#; Vis 44; WL 13.6; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$73,942. 0 - 93½ - 0. Parker #116. Drilling Foreman: Williams.

06/19/85: Picking up 12¼" bit. Depth 10,494'. 12¼" hole. Reamed from 6,660'-6,671'. Increased torque @ 6,670'. Pumped sweep. Pulled out of hole. Picked up fishing tools and ran in hole. Fished from 6,650'-6,698'. Tool stopped @ 6,698', no sign of fish. Pulled out of hole. Laid down fishing tools. Now picking up 12¼" bit. Salt Starch. MW 10.3#; Vis 45; WL 13.2; Chlorides 198,000; Salinity 326,700. Cum. mud cost: \$74,567. 0 - 94½ - 0. Parker #116. Drilling Foreman: Williams.

06/20/85: Ran in hole w/fishing tools. Depth 10,494'. 12¼" hole. Picked up 12¼" bit and ran in hole to 6,671'. Washed and reamed to 6,676'. Ran in hole to 10,370'. Washed to 10,415'. Tagged top of fish. Circulated. Pulled out of hole. Laid down bit. Picked up fishing tools. Now running in hole. BGG-20, TG-200. Salt Starch. MW 10.3#; Vis 43; WL 14.4; Chlorides 200,000; Salinity 330,000. Cum. mud cost: \$75,012. 0 - 95½ - 0. Parker #116. Drilling Foreman: Williams/Jackson.

06/21/85: Laid down fish. Depth 10,494'. 12¼" hole. RIH with skirted screw in sub. Screwed into fish, would not hold. POOH. Picked up 10 5/8" overshot with extension. RIH. Engaged fish. POOH. Recovered all of fish. Now laying down fish and fishing tools. BGG - 20. Salt Starch. MW 10.4#; Vis 44; WL 14; Chlorides 200,000; Salinity 330,000. Cum. mud cost: \$75,038. 0 - 96½ - 0. Parker #116. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

06/22/85: Logging. Depth 10,494'. 12¼" hole. Pinkerton Trail formation. Laid down fishing tools. RIH with bit. Washed 80' to bottom. Circulated. Short trip 30 stds. Circulated. POOH. Rigged up to log. Ran BHC sonic/GR from 10,479'-3,079'. Now RIH with DLL/MSFL. BGG - 10/15, TG - 65. Salt Starch. MW 10.4#; Vis 45; WL 14.4; Chlorides 198,000; Salinity 327,000. Cum. mud cost: \$75,220. 0 - 97½ - 0. Parker #116. Drilling Foreman: Jackson.

06/23/85: Circulating to run 9 5/8" casing. Depth 10,494'. 12¼" hole. Pinkerton Trail formation. Ran DLL/MSFL/GR from 10,470'-3,021'. Ran LDT/CNL/GR from 10,484'-3,021'. Ran dipmeter from 10,484'-10,000', 8,200'-6,400'. RD loggers. RIH with bit. Washed 17' to bottom. Now circulating and preparing to run 9 5/8" casing. Salt Starch. MW 10.4#; Vis 44; WL 13.6; Chlorides 198,000; Salinity 327,000. Cum. mud cost: \$72,626. 0 - 98½ - 0. Parker #116. Drilling Foreman: Jackson.

06/24/85: Displacing first stage cement. Depth 10,494'. PBSD 10,393'. 12¼" hole. Circulated to run casing. POOH. Rigged up casing crew. RIH with 9 5/8" casing to 10,475' as follows: 67 joints, 53.5#, P110, LT&C; 30 joints, 53.5#, L80, LT&C; 36 joints, 43.5#, N80, LT&C; 1 Crossover joint, 47#, MN80, BTRCXLTC; 18 joints, 47# MN80, BTRC, 104 joints 47#, L80, BTRC with shoe @ 10,475', collar @ 10,393' and DV tool @ 8,972'. Ran 25 centralizers. Circulated. Rigged up Halliburton. Cemented first stage with 1,700 sacks Class "H" plus 18% salt, .2% HR-7, and .6% Halad 22A. Had mud returns (lost 42 bbls. mud) and no cement returns. Now displacing first stage cement. Salt Starch. MW 10.4#; Vis 45; WL 13.8; Chlorides 198,000; Salinity 327,000. Cum. mud cost: \$72,748. 0 - 99½ - 0. Parker #116. Drilling Foreman: Jackson.

06/25/85: Nippling up BOP's. Depth 10,494'. PBSD 10,393'. 12¼" hole. Displaced 1st stage. Opened stage collar. Circulated. Cemented 2nd stage w/1,400 sacks 65:35 Poz plus 18% salt and .3% HR-7; followed by 100 sacks Class "H" plus 18% salt, .2% HR-7, .6% Halad 22-A and 6% gel. Had mud returns and no cement returns. Preceded cement w/20 bbls. of flush. Circulated out 120 bbls. of cement-cut mud between stages. LSND. MW 8.5#; Vis 36; WL NC. Cum. mud cost: \$74,033. 0 - 100½ - 0. Parker #116. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

06/26/85: Drilling. Depth 10,500'. Made 6'. 12½" hole. Lower Hermosa formation. Nipped up BOP's. Tested BOP's to 5,000#, okay. Tested Hydril to 2,500#, okay and ran in hole. Drilled DV tool @ 8,971'. Displaced salt mud. Build volume and circulated. Ran in hole to 10,371'. Tested casing to 1,500#, okay. Drilled cement and float equipment. Circulated cement contaminated mud. Drilled to 10,496'. Ran leak-off test to 11 ppg EMW. Now drilling ahead. BGG-1/2. LSND. MW 8.5#; Vis 34; WL NC. Cum. mud cost: \$80,335. 0 - 101½ - 0. Parker #116. Drilling Foreman: Jackson.

06/27/85: Drilling. Depth 10,551'. Made 51'. 8½" hole. Lower Hermosa formation. Drilled to 10,517'. Pulled out of hole. Changed bit. Inspected BHA. Picked up monel and shock sub and ran in hole. Circulated. Now drilling ahead. BGG-4/6. Dispersed. MW 8.5#; Vis 36; WL 19.8; Chlorides 1,000. Cum. mud cost: \$82,354. 0 - 102½ - 0. Parker #116. Drilling Foreman: Jackson.

06/28/85: Drilling. Depth 10,631'. Made 80'. 8½" hole. Lower Hermosa formation. Drilled to 10,614'. Surveyed. Pulled out of hole. Changed BHA. Ran in hole. Washed 29' to bottom. Now drilling ahead. BGG-2/3, TG-10. Dev.: 4½° S82W @ 10,564'. Dispersed. MW 8.5#; Vis 40; WL 18.2; Chlorides 1,000. Cum. mud cost: \$84,704. 0 - 103½ - 0. Parker #116. Drilling Foreman: Jackson.

06/29/85: RIH for DST #1. Depth 10,693'. Made 62'. 8½" hole. Mississippian-Leadville formation. Drilled to 10,693'. Circulated. Short trip. Circulated. POOH for DST #1. Laid down jars, stabilization and Monel. PU test tools. Break: 10,669'-10,693', 10-5 MPF, BGG 2-42-6, no fluorescence or cut, poor stain, spotty dead oil, fair porosity, 80% dolomite and 20% limestone. DST #1 test interval: 10,659'-10,693', packers @ 10,659' and 10,653', and water cushion 0'. Now RIH. Dispersed. MW 8.6#; Vis 42; WL 13.6; Chlorides 1,100. Cum. mud cost: \$86,136. 0 - 104½ - 0. Parker #116. Drilling Foreman: Jackson.

06/30/85: Drilling. Depth 10,717'. Made 24'. 8½" hole. Leadville formation. RIH with test tools. Ran DST #1. POOH. Laid down test tools. PU bit and BHA. RIH. Washed 13' to bottom. Now drilling ahead. BGG-10, TG-95 with trace of CO₂. Dispersed. MW 8.6#; Vis 50; WL 13.2; Chlorides 1,100. Cum. mud cost: \$86,277. 0 - 105½ - 0. Parker #116. Drilling Foreman: Jackson.

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CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'

API No.: 43-019-31180

Federal Lease No.: U-50694

Objective: Leadville - 11,715'

DST #1 (Mississippian Leadville):

	<u>Min/Time</u>	<u>Inside Recorders</u>	<u>Outside Recorders</u>
Instrument			
No's.		045	2192
Depth		10,629'	10,664'
IHP		4,938	4,990
IHP	10	139-158	128-147
ISIP	60	3,646	3,704
FFP	73	176-158	128-128
FSIP	210	4,181	4,264
FHP		4,864	4,943

IHP (10 min.): open w/2" blow, 6 psi in 10 min.

ISIP (60 min.): 6 psi @ close, 1 psi @ 60 min.

FFP (73 min.): open w/2 psi, 15 psi in 10 min., 15 psi-15 min., 10 psi-73 min.

FSIP (210 min.): close w/10 psi, 0 psi in 210 min.

Sampler Data C. F. Gas 16 @ 2,300#

Recovery Mud 0.9 bbls./184'

07/01/85: RIH for DST #2. Depth 10,781'. Made 64'. 8½" hole. Leadville formation. Drilled to 10,756'. Circulated. Drilled to 10,781'. Circulated. POOH for DST No. 2. Laid down BHA. PU test tools. Now RIH for DST No. 2. DST #2 test interval: 10,726'-10,781', packers @ 10,726 and 10,720', and water cushion 0'. Show: 10,732'-10,770', 7½-2½-9 MPF, BGG 4-88-4, CO₂-200 ppm, poor fluorescence, no cut, poor spotty stain, fair porosity, 100% dolomite. Dispersed. MW 8.6#; Vis 39; WL 13.8; Chlorides 600. Cum. mud cost: \$86,586. 0 - 106½ - 0. Parker #116. Drilling Foreman: Jackson.

07/02/85: Drilling. Depth 10,813'. Made 32'. 8½" hole. Leadville formation. Ran in hole. Ran DST #2. Pulled out of hole. Laid down test tools. Picked up bit and BHA and ran in hole. Washed 39' to bottom. Now drilling ahead. BGG-20, TG-765, CG-120. Dispersed. MW 8.6#; Vis 40; WL 14; Chlorides 900. Cum. mud cost: \$86,738. 0 - 107½ - 0. Parker #116. Drilling Foreman: Jackson.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

07/02/85 (cont'd):

DST #2 (Leadville):

	<u>Min/Time</u>	<u>Inside Recorders</u>	<u>Outside Recorder</u>
Instrument			
No's.		045	2192
Depth		10,698'	10,728'
Temperature °F		174°F	174°F
IHP		4,956	4,929
IFP	5	763- 684	458- 421
ISIP	60	5,152	4,855
FFP	138	909-2,254	532-1,973
FSIP	410	5,144	4,855
FHP		4,901	4,818

Test Interval: 10,726'-10,781'
Packers @ 10,726', 10,720'
Water Cushion: 0'

IFP (5 min.): open w/4" blow, 135 psi in 5 minutes
ISIP (60 min.): close w/135 psi; 5 psi in 60 minutes
FFP (138 min.): open w/5 psi; 1,400 psi in 120 minutes; stabilized @ 1,400 psi (estimated rate @ 1.85 MMCFPD on 1/4" choke, gas non-flammable)
FSIP (410 min.): close w/1,400 psi; 0 psi in 300 minutes

07/03/85: Running in hole for DST #3. Depth 10,825'. Made 12'. 8 1/2" hole. Leadville formation. Drilled to 10,819'. Circulated. Surveyed. Drilled to 10,825'. Circulated. Pulled out of hole. Laid down BHA. W/O testers. Picked up test tools. Now running in hole for DST #3.

Test Interval: 10,790'-10,825'
Packers @ 10,790', 10,784
Water Cushion: 0'

Show: 10,792'-10,818', 10-1 1/2-6 MPF, BGG 3-80-10, no fluorescence or cut, fair porosity, 100% dolomite

Dev.: 1 3/4° S74W @ 10,769. Dispersed. MW 8.6#; Vis 40; WL 12.6; Chlorides 900. Cum. mud cost: \$87,415. 0 - 108 1/2 - 0. Parker #116. Drilling Foreman: Jackson.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Expl) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

07/04/85: Drilling. Depth 10,841'. Made 16'. 8½" hole. Leadville formation. RIH. Ran DST No. 3.

DST #3 (Leadville)

	<u>Min/Time</u>	<u>Inside Recorders</u>	<u>Outside Recorder</u>
Instrument			
No's.		045	Not reported
Depth		10,760'	
Temperature °F		175°F	
IHP		5,172	
IFP	7	287- Clock stopped	
ISIP	60	5,002	
FFP	114	360- 674	
FSIP	332	4,980	
FHP		5,057	

Test Interval: 10,790'-10,825'
Packers @ 10,790', 10,784'
Water Cushion: 0'

IFP (7 min.): open w/2" blow, 4½ psi in 7 minutes
ISIP (60 min.): close w/4½ psi; 0 psi in 60 minutes
FFP (114 min.): open w/6" blow, 6 psi in 37 min.; 4 psi - 114 min.
FSIP (332 min.): close w/4 psi; 0 psi in 332 minutes

POOH. Laid down test tools. Picked up bit and BHA. RIH. Washed 20' to bottom. Now drilling ahead. BGG-100, CO₂ - 100 ppm, TG-330. Dispersed. MW 8.6#; Vis 38; WL 10.8; Chlorides 900.² Cum. mud cost: \$87,415. 0 - 109½ - 0. Parker #116. Drilling Forman: Jackson.

07/05/85: Drilling. Depth 11,078'. Made 237'. 8½" hole. Devonian Elbert formation. Drilling and surveying ahead. BGG - 2/4.

Formation Tops:

Devonian Ouray @ 10,926'

Devonian Elbert @ 11,030'

Dispersed. MW 8.8#; Vis 50; WL 13.8; Chlorides 3,500. Cum. mud cost: \$87,609. 0 - 110½ - 0. Parker #116. Drilling Forman: Jackson.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

07/06/85: Drilling. Depth 11,148'. Made 70'. 8½" hole. Devonian McCracken formation. Drilled to 11,140'. Pulled out of hole. Changed bit and ran in hole. Washed and reamed from 11,054'-11,140'. Now drilling ahead. BGG-2, TG-81. Dispersed. MW 8.9#; Vis 43; WL 11.2; Chlorides 3,000. Cum. mud cost: \$88,189. 0 - 111½ - 0. Parker #116. Drilling Foreman: Jackson.

07/07/85: Drilling. Depth 11,277'. Made 129'. 8½" hole. McCracken @ 11,182' and Lynch @ 11,236'. Drilling ahead. BGG-2/4. Dispersed. MW 8.8#; Vis 46; WL 11.2; Chlorides 2,000. Cum. mud cost: \$88,593. 0 - 112½ - 0. Parker #116. Drilling Foreman: Jackson/Gaukel.

07/08/85: Logging. TD 11,300'. Made 23'. 8½" hole. Cambrian formation. Drilled to 11,300'. Circulated. Surveyed. Short trip. Circulated. Pulled out of hole. Rigged up loggers. Ran DIL/BHC/GR from 11,293'-10,460'. Now running LDT/CNL. BGG-2/4. Dev.: 3° S48E @ 11,255'. Dispersed. MW 8.8#; Vis 46; WL 10.6; Chlorides 2,000. Cum. mud cot: \$89,421. 0 - 113½ - 0. Parker #116. Drilling Foreman: Gaukel.

07/09/85: Circulating and W.O.O. TD 11,300'. 8½" hole. Cambrian formation. Ran LDT/CNL/GR/Caliper from 11,290'-10,460'. Ran DLL/MSFL/GR/Caliper from 11,293'-10,460'. Ran HDP from 11,000'-10,460'. Rigged down loggers. Laid down drill collars and ran in hole w/drill pipe open-ended to 11,008'. Now circulating and W.O.O. Dispersed. MW 8.7#; Vis 45; WL 10.6; Chlorides 2,000. Cum. mud cot: \$89,421. 0 - 114½ - 0. Parker #116. Drilling Foreman: Gaukel.

07/10/85: Logging. TD 11,300'. 8½" hole. Circulated and W.O.O. Ran in hole w/drill pipe to 11,294'. Circulated. Pulled out of hole. Rigged up Schlumberger. Now running velocity survey from 11,250'. Dispersed. MW 8.7#; Vis 44; WL 11; Chlorides 2,000. Cum. mud cost: \$89,351. 0 - 115½ - 0. Parker #116. Drilling Foreman: Gaukel.

07/11/85: Pulling out of hole. TD 11,300'. PBD 10,908'. 8½" hole. Ran velocity survey from 11,250'-surface. Ran in hole w/drill pipe open-ended to 11,294'. Circulated. W.O.O. Laid down drill pipe to 11,008'. Circulated. Spotted plug #1 w/59 sacks Class "H" cement from 11,008'-10,908'. Now pulling out of hole for cement retainer. Dispersed. MW 8.7#; Vis 44; WL 11; Chlorides 2,000. Cum. mud cost: \$89,351. 0 - 116½ - 0. Parker #116. Drilling Foreman: Gaukel.

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

CHIMNEY ROCK PROSPECT - Grand County, UT. - .6860700 Post Make-Up Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Elevations: GL 4,369, KB 4,395, KB 26'
API No.: 43-019-31180 Federal Lease No.: U-50694
Objective: Leadville - 11,715'

07/12/85: Nippling down BOP's. TD 11,300'. PBDT 2,900'. 8½" hole. Pulled out of hole. Picked up EZ drill packer and ran in hole. Set packer @ 10,325'. Spotted plug #2 from 10,650'-10,375' w/144 sacks of Class "H" cement. Laid down drill pipe to 6,000'. Pulled out of hole. Laid down packer setting tool. Ran in hole to 6,000'. Spotted plug #3 from 6,000'-5,800' w/71 sacks Class "H" cement. Laid down drill pipe to 3,100'. Spotted plug #4 from 3,100'-2,900' w/69 sacks Class "H" cement. Finished laying down drill pipe. Spotted plug #5 between 13 3/8" x 9 5/8" annulus w/57 sacks Class "H" cement. Now nippling down BOP's. Dispersed. No other mud properties reported. Cum. mud cost: \$89,351. 0 -117½ - 0. Parker #116.
Drilling Foreman: Gaukel.

07/13/85: TD 11,300'. 8½" hole. Nippled down BOP's. Cleaned mud tanks. Released rig on 07-17-85 @ 5:00 p.m. Dispersed. No other mud properties reported. Cum. mud cost: \$89,351. 0 -118 - 0. Parker #116. Drilling Foreman: Gaukel.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

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

10

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
Conoco Inc.

3. ADDRESS OF OPERATOR
907 N. Poplar Casper, Wyoming 82601

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements).
At surface 1,972' FSL & 1,973' FEL, NW/SE
At top prod. interval reported below NA
At total depth 1,668' FSL & 2,370' FEL, NW/SE

14. PERMIT NO. 43-019-31180 DATE ISSUED 12/10/84
12. COUNTY OR PARISH Grand 13. STATE Utah

15. DATE SPUNDED 3/17/85 16. DATE T.D. REACHED 7/8/85 17. DATE COMPL. (Ready to prod.) P&A 7/13/85
18. ELEVATIONS (OF, RKB, RT, GR, ETC.)* GL 4,369' 4399 KIB 19. ELEV. CASINGHEAD 4,363'

20. TOTAL DEPTH, MD & TVD 11,300' MD 11,279' TVD 21. PLUG, BACK T.D., MD & TVD 0'
22. IF MULTIPLE COMPL., HOW MANY* NA 23. INTERVALS DRILLED BY ROTARY TOOLS 0'-TD CABLE TOOLS NA

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

26. TYPE ELECTRIC AND OTHER LOGS RUN
DIL-GR, LDT-CNL, LDT-CNL-GR-Ca1., ~~HDP-MSET-GR-Ca1.~~ HRCO Mud
27. WAS WELL CORED No

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

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
13 3/8"	68 & 61	3,029'	17 1/2"	2,330 sacks Class H	None
9 5/8"	53.5 & 47	10,475'	12 1/4"	3,100 sacks Class H	None

29. LINER RECORD 30. TUBING RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
NA					NA		

31. PERFORATION RECORD (Interval, size and number) NA
32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
NA	

33.* PRODUCTION

DATE FIRST PRODUCTION	PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)	WELL STATUS (Producing or shut-in)
NA	NA	P&A

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

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

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

35. LIST OF ATTACHMENTS
P&A Procedure; Directional Survey

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records
SIGNED J.C. Thompson TITLE Administrative Supervisor DATE Aug. 29, 1985

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DIVISION OF OIL
GAS & MINING
CONFIDENTIAL

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*(See Instructions and Spaces for Additional Data 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.

37. SUMMARY OF POROUS ZONES: (Show all important zones of porosity and contents thereof; cored intervals; and all drill-stem, tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries):

FORMATION	TOP		BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	TOP																
	MEAS. DEPTH	TRUE VERT. DEPTH				MEAS. DEPTH	TRUE VERT. DEPTH															
Miss. Leadville	10,659'	10,693	10,693	<p>DST No. 1: Water cushion used,</p> <table border="0"> <tr> <td>IFP</td> <td>Minutes</td> <td>PSI</td> </tr> <tr> <td></td> <td>10</td> <td>139-158</td> </tr> <tr> <td>ISIP</td> <td>60</td> <td>3,646</td> </tr> <tr> <td>FFP</td> <td>73</td> <td>176-158</td> </tr> <tr> <td>FSIP</td> <td>210</td> <td>4,181</td> </tr> </table> <p>Sampler Data: 16 CFG @ 2,300 psi Recovery: 0.9 bb1 mud/184'</p>	IFP	Minutes	PSI		10	139-158	ISIP	60	3,646	FFP	73	176-158	FSIP	210	4,181	Cutler Hermosa Paradox Salt Leadville Ouray Elbert McCracken Sand Cambrian	Surface	
	IFP	Minutes	PSI																			
	10	139-158																				
ISIP	60	3,646																				
FFP	73	176-158																				
FSIP	210	4,181																				
				6,430'																		
Miss. Leadville	10,726'	10,781'	10,781'	<p>DST No. 2: Water cushion used</p> <table border="0"> <tr> <td>IFP</td> <td>Minutes</td> <td>PSI</td> </tr> <tr> <td></td> <td>5</td> <td>763-684</td> </tr> <tr> <td>ISIP</td> <td>60</td> <td>5,152</td> </tr> <tr> <td>FFP</td> <td>138</td> <td>909-2,254</td> </tr> <tr> <td>FSIP</td> <td>410</td> <td>5,144</td> </tr> </table> <p>Sampler and recovery data not reported.</p>	IFP	Minutes	PSI		5	763-684	ISIP	60	5,152	FFP	138	909-2,254	FSIP	410	5,144		11,000'	
	IFP	Minutes	PSI																			
	5	763-684																				
ISIP	60	5,152																				
FFP	138	909-2,254																				
FSIP	410	5,144																				
				11,144'																		
Miss. Leadville	10,790'	10,825'	10,825'	<p>DST No. 3: Water cushion used</p> <table border="0"> <tr> <td>IFP</td> <td>Minutes</td> <td>PSI</td> </tr> <tr> <td></td> <td>7</td> <td>287-Clock stopped</td> </tr> <tr> <td>ISIP</td> <td>60</td> <td>5,002</td> </tr> <tr> <td>FFP</td> <td>114</td> <td>360-574</td> </tr> <tr> <td>FSIP</td> <td>332</td> <td>4,980</td> </tr> </table> <p>Sampler and recovery data not reported.</p>	IFP	Minutes	PSI		7	287-Clock stopped	ISIP	60	5,002	FFP	114	360-574	FSIP	332	4,980		11,228'	
	IFP	Minutes	PSI																			
	7	287-Clock stopped																				
ISIP	60	5,002																				
FFP	114	360-574																				
FSIP	332	4,980																				

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38. GEOLOGIC MARKERS

Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

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FINALS ON COMPLETED DRILLING WELLS

07/31/85

DIVISION OF OIL
GAS & MINING

CHIMNEY ROCK PROSPECT - Leadville - Grand County, UT. - .6860700 Post Make-Up
Period

Federal 31 #1 (Exp1) CONFIDENTIAL-COMAN - AFE 12-20-3708 & AFE 12-20-3709

Location: 1,972' FSL, 1,973' FEL, NW/SE Section 31, T24S, R23E
Spudded: 03-17-85 Rig Released: 07-17-85
API No.: 43-019-31180 Federal Lease No.: U-50694
TD: 11,300' PBTD: Surface Elevations: GL 4,369', KB 4,395', RB 26'

Formation Tops:

Cutler	Surface	Ouray	10,900'
Hermosa	6,430'	Elbert	11,000'
Paradox Salt	7,377'	McCracken Sand	11,144'
Leadville	10,448'	Cambrian	11,228'

P&A'd on 07-13-85 w/Class "H" cement as follows:

Plug #1: 11,008'-10,908' w/ 59 sacks
Plug #2: 10,650'-10,375' w/144 sacks
Plug #3: 6,000'- 5,800' w/ 71 sacks
Plug #4: 3,100'- 2,900' w/ 69 sacks
Plug #5: between 13 3/8" x 9 5/8" annulus w/57 sacks

Final Gross Cost Estimate: \$2,913,600

FINAL REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE*
(Other instructions on re-verse side)

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NO.
U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME
Conoco Federal 31

9. WELL NO.
1

10. FIELD AND POOL, OR WILDCAT
Wildcat/Leadville

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 31, T24S, R23E

12. COUNTY OR PARISH
Grand

13. STATE
Utah

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1. OIL WELL GAS WELL OTHER Dry Hole

2. NAME OF OPERATOR
Conoco Inc.

3. ADDRESS OF OPERATOR
907 N. Poplar Casper, WY 82601

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
1,972' FSL, 1,973' FEL (NW/SE)

14. PERMIT NO.
43-019-31180

15. ELEVATIONS (Show whether DF, RT, GR, etc.)
4,369' GL

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETION <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	
(Other) <input type="checkbox"/>			

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The subject well was plugged and abandoned on 7-13-85 as follows:

Plug #1	59 sacks	11,008'-10,908'
Plug #2	144 sacks	10,650'-10,375'
Plug #3	71 sacks	6,000'- 5,800'
Plug #4	69 sacks	3,100'- 2,900'
Plug #5	57 sacks	between 13 3/8" & 9 5/8" annulus

The location will be restored as closely as possible to its original condition by October 31, 1985, weather permitting.

Note: All cement is Class "H."

ACCEPTED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING
DATE: 9/30/85
BY: John R. Bay

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

SIGNED J. E. Thompson TITLE Administrative Supervisor DATE Sept. 20, 1985

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:
BLM-Moab(3)
UOGCC(2)
File 3708 (SCE)

*See Instructions on Reverse Side

Conoco Federal 31 No. 1

P&A Procedure

Quantity Cement

59 sacks, class H
144 sacks, class H
71 sacks, class H
69 sacks, class H
57 sacks, class H

Depth

11,008'-10,908'
10,650'-10,375'
6,000'- 5,800'
3,100'- 2,900'
Surface

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**DIVISION OF OIL
GAS & MINING**



Production Department
Casper Division

Conoco Inc.
907 North Poplar
Casper, WY 82601
(307) 234-7311

August 30, 1985

Bureau of Land Management
Branch of Fluid Minerals
University Club Building
136 East South Temple
Salt Lake City, Utah 84111

Attn: Stehane Barela

Gentlemen:

Conoco Federal 31 No. 1, Lease No. U-50694
Sec. 31, T24S, R23E
Grand County, Utah
File: PC-410-CF

Conoco would like to request that the subject well be considered confidential. This is a wildcat well and we request that no proprietary information be released to the public.

If you have any questions, please call Steve Erwin at this office.

Very truly yours,

T. C. Thompson
Administrative Supervisor

hfs

cc: BLM, Moab

RECEIVED

SEP 10 1985

DIVISION OF OIL
GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

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

Copy

SUNDRY NOTICES AND REPORTS ON WELLS

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

5. LEASE DESIGNATION AND SERIAL NO.

U-50694

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Conoco Federal 31

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat/Leadville

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

Section 31, T24S, R23E

12. COUNTY OR PARISH | 13. STATE

Grand

Utah

1. OIL WELL GAS WELL OTHER Dry Hole

RECEIVED

2. NAME OF OPERATOR

Conoco Inc.

NOV 18 1985

3. ADDRESS OF OPERATOR

907 North Poplar Street, Casper, WY 82601

DIVISION OF OIL
GAS & MINING

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

1,972' FSL, 1,973' FEL (NW/SE)

14. PERMIT NO.

43-019-31180

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

4,369' GL

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

PULL OR ALTER CASING

WATER SHUT-OFF

REPAIRING WELL

FRACTURE TREAT

MULTIPLE COMPLETE

FRACTURE TREATMENT

ALTERING CASING

SHOOT OR ACIDIZE

ABANDON*

SHOOTING OR ACIDIZING

ABANDONMENT*

REPAIR WELL

CHANGE PLANS

(Other) Location Restoration

(Other)

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

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The above-referenced well location has been restored as closely as possible to its original condition. The work was performed as follows:

- Emptied and removed pit liner and hauled to dump.
- Backfilled reserve pit.
- Cleaned location of all trash.
- Re-contoured and spread stockpiled subsurface soil and top soil.
- Re-contoured access road back to county road.
- Re-seeded the location and access road with mix as shown on the attached seed mixture analysis.

The location is ready for inspection by BLM personnel.

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

SIGNED

J.C. Thompson

TITLE Administrative Supervisor

DATE November 14, 1985

(This space for Federal or State office use)

APPROVED BY _____

TITLE _____

DATE _____

CONDITIONS OF APPROVAL, IF ANY:

BLM-Moab (3), UOGCC (2), AFE File 3708 (SCE)

*See Instructions on Reverse Side

Southwest Seed, Inc.

13200 CO. RD. 29
DOLORES, CO. 81323
(303) 565-8722

SEEDS FOR ALL NEEDS
SEED CONSULTING SERVICE

Seed/Mixture Analysis

NAME: J. & W Oilfield Service
ADDRESS: Box 146
CITY: MOAB, UTAH 84532

ORDER NUMBER: W-1844

RECEIVED

DATE: SEPTEMBER 25, 1985

NOV 18 1985

DIVISION OF OIL

GAS & MINING
RESI.

ITEM #	SPECIES	LOT #	ORIG	PURE	INERT	CROP	WEED	NOX	NOX	GERM	pls%	DATE	pls#	BULK#	bulk, pls % of MIX
1	FAIRWAY CRESTED	X-46	CA	92.75	7.22	.00	.00	.00	.00	91		2/85		20	
2	VIVA GALLETIA	00071	TX	38.35	61.62	.00	.03	.00	.00	87		2/85		20	
3	INDIAN RICEGRASS	203012	NM	99.97	.03	.00	.00	.00	.00	69		6/85		20	
4	4-WING SALT BUSH	00143	NM	99.31	.69	.00	.00	.00	.00	74 <small>cms TEST</small>		2/85		20	
5	WINTERFAT	00276	NM	76.07	23.93	.00	.00	.00	.00	65		2/85		20	
6	SUNFLOWER	S.O.	CO	99.99	.01	.00	.00	.00	.00	99 fill		9/85		10	
7	RINEER Alfalfa	00202	SD	99.75	.16	.05	.04	.00	.00	91		2/85		10	
8	Elychnalocn	00280	NM	63.29	36.14	.06	.49	.00	.00	64		7/85		10	
PACKED IN 3 BAGS OF 43.8" each															
<p>Note: Atriplex nuttallii (Nuttall Saltbush) was not available total crop failure due to grasshopper Paul Brown (B.L.M. - Moab) was aware of situation</p>															