

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG ELECTRIC LOGS FILE **X** WATER SANDS LOCATION INSPEC SUB. REPORT/abd.  
 990203 Ste-2ed Land Exchange; Well on 2ed Land; Lease from STA ML-45707!

DATE FILED JUNE 22, 1998

LAND: FEE & PATENTED STATE LEASE NO. ~~ML-45707~~ UTV 78054 PUBLIC LEASE NO. INDIAN

DRILLING APPROVED: SEPTEMBER 10, 1998

SPUDED IN:

COMPLETED: PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED: 12-6-99 LA'D

FIELD: WILDCAT

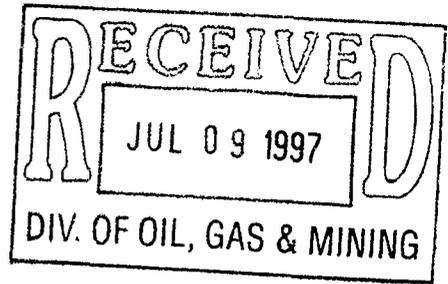
UNIT:

COUNTY: KANE

WELL NO. SMOKY MOUNTAIN STATE 36 #1 API NO. 43-025-30031

LOCATION 2575 FSL FT. FROM (N) (S) LINE. 596 FEL FT. FROM (E) (W) LINE. NE SE 1/4 - 1/4 SEC. 36

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
				40S	3E	36	CONOCO, INC.



PALEONTOLOGIC SURVEY

CONOCO, INC. Well Location

Smoky Mountain State #36-1

KANE COUNTY, UTAH

Utah State Paleontological Permit No: 97-281

Principal Investigator  
James H. Madsen Jr.

Report Author  
James H. Madsen Jr.

DINOLAB, Inc.

P.O. Box 9415  
Salt Lake City, UT 84109-0415

1 July 1997

## ABSTRACT

A paleontological resource survey and evaluation was conducted for CONOCO, INC., Midland, Texas on a proposed Kane County, Utah well site in the NE 1/4, NE 1/4, SE 1/4, Sec. 36, T40S, R3E, S.L.B.M. The areal extent of the site is approximately 3 acres.

There was fossil evidence of significance recognized in the project area, therefore an adverse effect is likely upon some paleontological resources. Paleontological clearance is recommended, but based upon adherence to the stipulations detailed in the Mitigation Section of this report (Appendix D, 1-4).

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## FIGURES

- 1-Well site location from the Geologic Map of Kane Co., Utah.
- 2-Detailed location map of drill site.
- 3-Well site plot from USGS 7.5 Min. Quadrangle, Ship Mountain Point, Utah-Kane Co. 1968.

## INTRODUCTION

Location: The CONOCO Smoky Mountain State #36-1 drill site is located in northeastern Kane County, Utah southwest of the Straight Cliffs between Ship Mountain Point and the head of Whities Canyon just to the southeast of Pilot Rock (Figures 1, 2, and 3).

The drill site covers an area of approximately 3 acres consisting of weathered sandstone outcrops of the Drip Tank Member of the Straight Cliffs Formation (Figure 1).

Geology: The surface geology of the well site and surrounding area is uncomplicated. A single member of the nearly horizontal, Late Cretaceous Straight Cliffs Formation is exposed, the Drip Tank Member, which is overlain by the Lower Wahweap Formation. These units outcrop extensively in the immediate vicinity. From the oldest below to the youngest above the Lower Wahweap and members of the Straight Cliffs Formation are:

- Lower Wahweap Formation
- Straight Cliffs Formation
  - Drip Tank Member
  - John Henry Member
  - Lower Member (includes the Smokey Hollow and underlying Tibbet Canyon Members mapped to the south)
- Tropic Shale

The four members of the Straight Cliffs Formation are of additional interest near the project area and Smoky Mountain vicinity because the geologic type sections (Peterson, 1969) are located on the southern part of the Kaiparowits Plateau. However, three of the type sections are about 8 miles south and west of the project area and the other, the Drip Tank, over two miles to the north.

The type sections of geologic formations or their subdivisions are of importance, because they are lithostratigraphic sequences, careful descriptions of which are published in geologic journals as the best example of a particular stratum and which must be treated with care, protected and preserved as permanent geological records and scientific references. None of these protected areas will be impacted or threatened by the proposed development.

Underlying the Straight Cliffs Formation are the distinctive grey beds of the Tropic Shale. Although fossils are reported throughout this marine sequence, often in significant concentrations, they are usually of marine invertebrate animals and because of their common occurrence in this instance are not of critical, paleontological concern. The Tropic Shale is not exposed in the immediate vicinity of the project.

The Tibbet Canyon Member of the Straight Cliffs Formation conformably overlies the Tropic Shale, which is in turn overlain by the Smoky Hollow Member. This stratigraphic unit, sometimes called the Lower Straight Cliffs Formation, is not exposed in the project

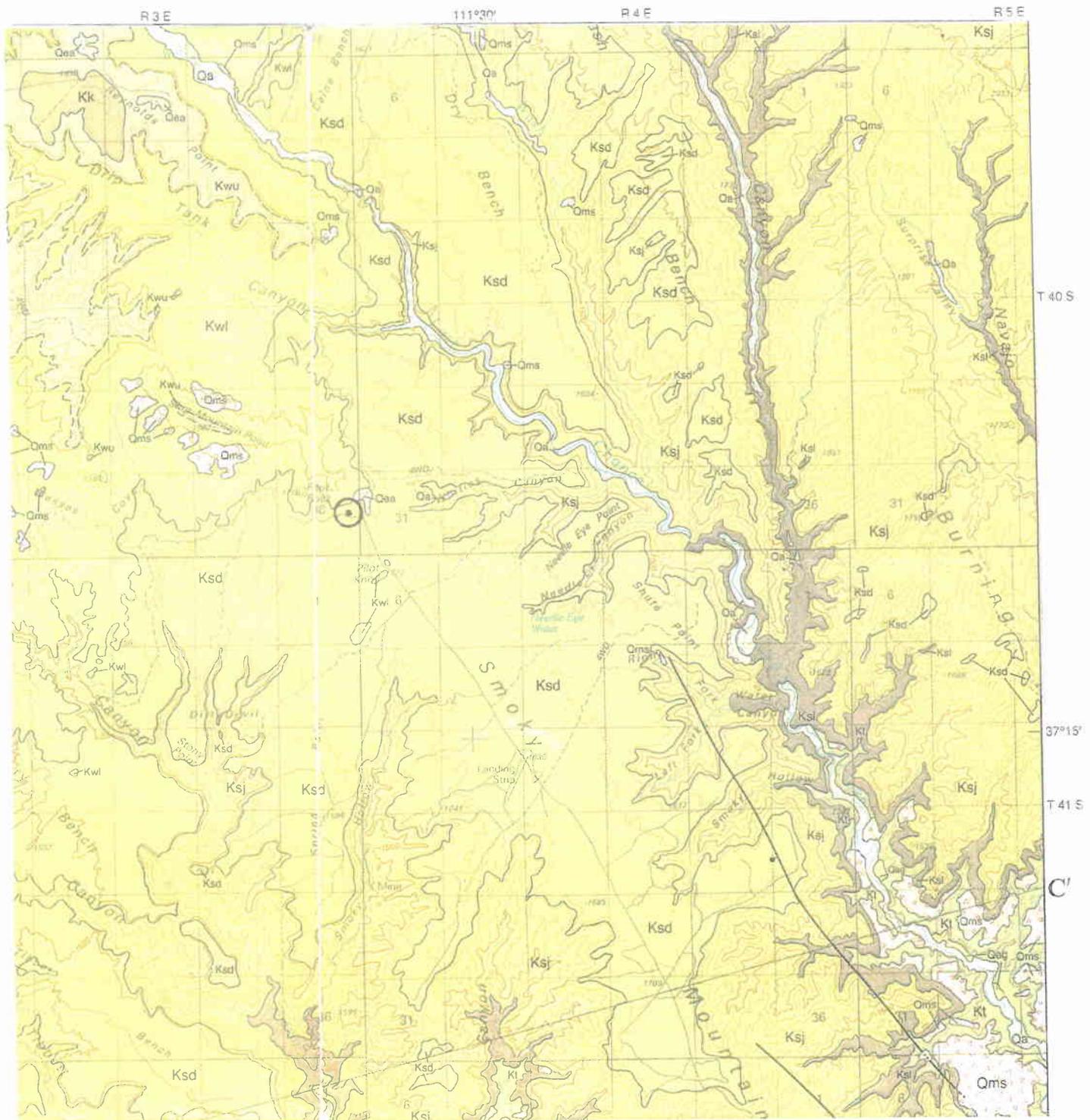
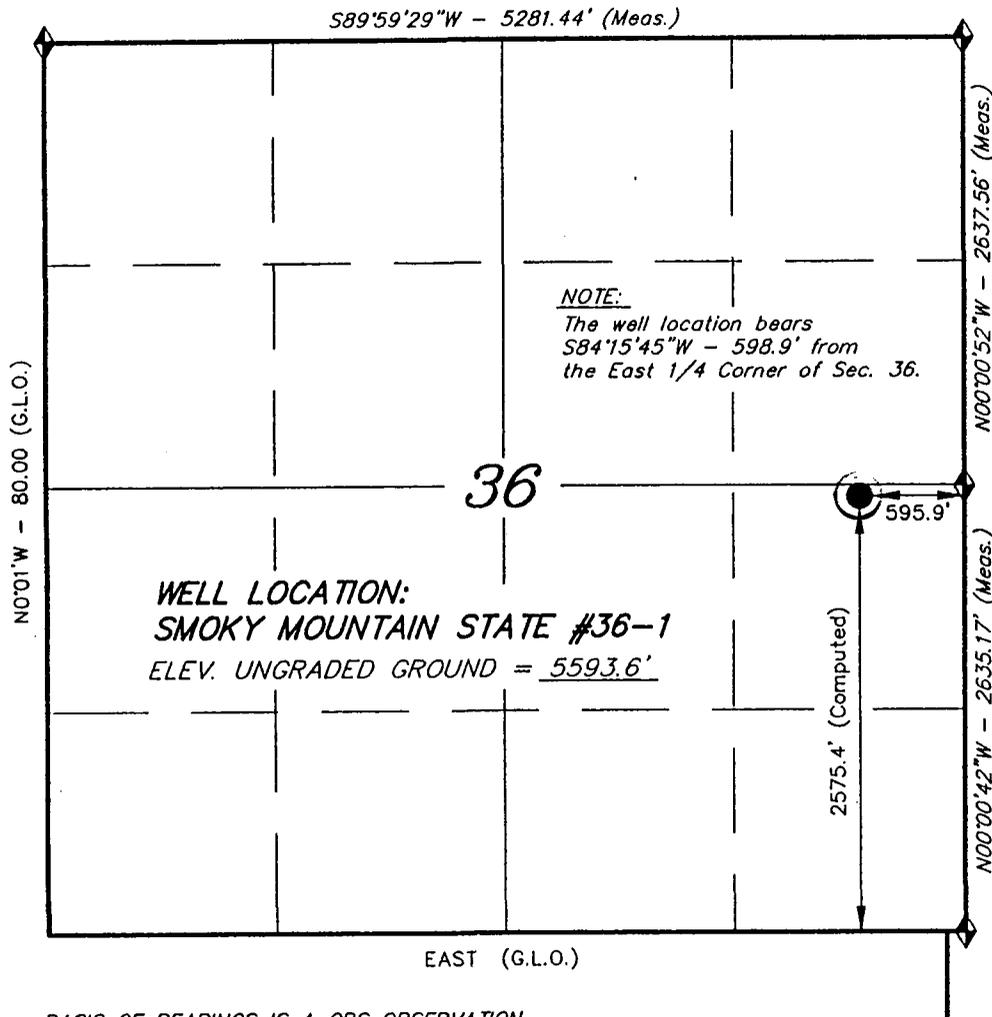


Figure 1. Well site location from the Geologic Map of Kane Co., Utah (after Doelling and Davis, 1989)

T40S, R3E, S.L.B.&M.

CONOCO, INCORPORATED

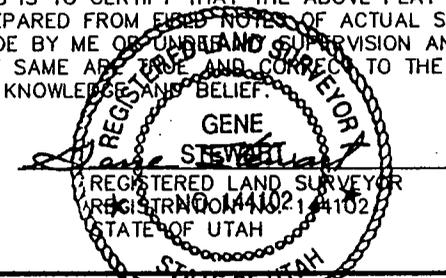
WELL LOCATION, SMOKY MOUNTAIN STATE #36-1, LOCATED AS SHOWN IN THE NE 1/4 SE 1/4 OF SECTION 36, T40S, R3E, S.L.B.&M. KANE COUNTY, UTAH.



**NOTE:**  
The well location bears  
S84°15'45"W - 598.9' from  
the East 1/4 Corner of Sec. 36.

**WELL LOCATION:**  
**SMOKY MOUNTAIN STATE #36-1**  
ELEV. UNGRADED GROUND = 5593.6'

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.



**TRI STATE LAND SURVEYING & CONSULTING**  
38 WEST 100 NORTH - VERNAL, UTAH 84078  
(801) 781-2501

SCALE: 1" = 1000'	SURVEYED BY: S.S.
DATE: 5-29-97	WEATHER: WARM
NOTES:	FILE #

BASIS OF BEARINGS IS A GPS OBSERVATION

◆ = SECTION CORNERS LOCATED

BASIS OF ELEV; U.S.G.S. 7-1/2 min QUAD (SHIP MOUNTAIN POINT)

Figure 2. Detailed location map of the drill site.

SHIP MOUNTAIN POINT QUADRANGLE  
UTAH-KANE CO.  
7.5 MINUTE SERIES (TOPOGRAPHIC)

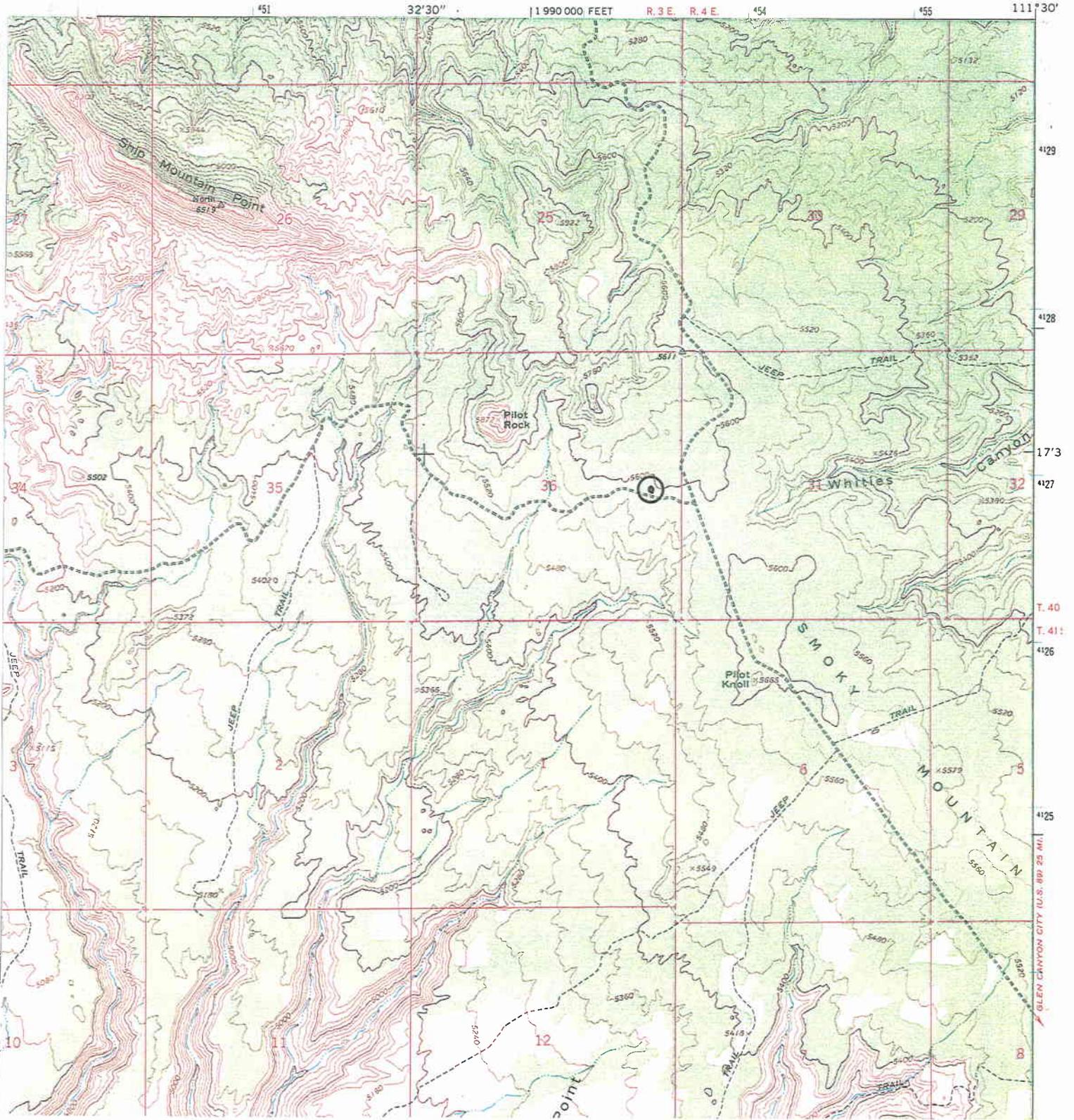


Figure 3.  Well site plot from USGS 7.5 Min. Quad Ship Mountain Point, Utah-Kane Co. 1968

area. To the south, the Smoky Hollow Member is capped with a conspicuous, white-weathering bed, the Calico and together they are usually mapped as a single unit.

Although it is the main coal producing unit in the Kaiparowits Plateau, few important fossils are reported from the John Henry Member of the Straight Cliffs Formation. Plant fossils and dinosaur tracks are paleontological resources expected in association with the underlying beds of coal in the John Henry Member, none of which are exposed near the survey area. The nearest exposures of the John Henry occur approximately one mile to the south and east.

Above the John Henry lies the Drip Tank Member of the Straight Cliffs Formation, which often is conspicuously fossiliferous near the top, yielding plant impressions as well as numerous wood fragments and a few larger sections of silicified tree trunks. The Drip Tank is extensively exposed in and around the project area; however the type section is over two and one half miles to the north and is, therefore, not threatened by the development.

#### PREVIOUS WORK

The Paleontology Locality Files, previously maintained by the Antiquities Section, Utah Division of State History, but now managed at the Utah Geological Survey office in Salt Lake City, Utah, revealed no recorded fossil localities in or immediately adjacent to the proposed well site. However, there are vertebrate localities reported in the vicinity of Tibbet Spring about 8 miles to the southwest, all of which are confined to the lower Wahweap Formation or uppermost beds of the Drip Tank Member of the Straight Cliffs Formation. Many of the other previously recorded paleontological localities are over twelve miles to the northwest of the project site.

Additional locality data was assembled from files of the Oklahoma Museum of Natural History documenting the work of Richard Cifelli and Jeffrey Eaton, both of whom maintain a research interest in the vertebrate paleontology of the Kaiparowits Plateau at the time of this report.

An earlier paleontological survey for an environmental impact study of coal-bearing formations in and near the project area was prepared by Marshall and Breed (1974).

#### FILE/LITERATURE SEARCH

A locality file and literature search were conducted by reviewing:

- 1-Utah State Paleontological Locality Files (unpublished) - maintained by the office of the Utah State Paleontologist, Utah Geological Survey.
- 2-Utah Bibliography of Paleontology - an unpublished file maintained by the Office of the Utah State Paleontologist, Utah Geological Survey.

- 3-Madsen's personal files and library.
- 4-Madsen, J.H. Jr. and W.E. Miller (1979) The Fossil Vertebrates of Utah, an annotated bibliography, B.Y.U. Geol. Studies, Vol. 26, pt. 4, 141 p.
- 5-The Bibliography of Fossil Vertebrates (a comprehensive compilation that indexes world literature on fossil vertebrates from 1929 to the present), Society of Vertebrate Paleontology.

Personal communications over the past several years with Drs. Jeff Eaton and Rich Cifelli and access to some of their published papers and unpublished files were important to the evaluation of paleontological values and current paleontological research in the project area and general vicinity.

#### FIELD SURVEY

Procedure: The drill pad and adjacent area, covering approximately three acres, were walked following a random pattern that allowed the site to be covered with special attention given to the most likely fossil prospects and bedrock exposures.

Results: Fragments of leaf impressions, questionable fragments of bone and fossil wood, not in stratigraphic context were found in and around the surveyed area, but their exact origin was not clear. Similar fossil material has been seen in other areas originating from the upper beds of Drip Tank Member of the Straight Cliffs Formation and the Lower Wahweap, both of which are exposed in or near the project site.

#### CONCLUSION

Discussion: The scientific value (paleontological significance) of a formation is determined by the importance of the fossils found therein.

Vertebrate fossils because of their relative rarity are regarded as most important by paleontologists; however, it must be noted that the rare occurrence of some invertebrate fossils, plants, and trace fossils may also be termed of high paleontological significance because of such rarity.

There is no reported record of paleontological resources in or immediately adjacent to the project area, therefore the Sensitivity Level (APPENDIX A) of the formation was regarded as Undetermined at the onset. However, the onsite survey was conducted and it produced some fossil evidence of concern, therefore the area is now regarded to be paleontologically insignificant (APPENDIX A-4). As a consequence, mitigation may be necessary to protect any important paleontological resources that are likely to be impacted by the development.

Plans for impact prediction, assessment, and mitigation (APPENDIX B) and monitoring (APPENDIX D) are not warranted at this

time; however, because of the strong likelihood of encountering fossil material of significance in the Drip Tank and Lower Wahweap formations, it is strongly recommended that the STIPULATIONS (APPENDIX D 1-4) should be followed:

- 1-A project paleontologist or earth scientist with paleontological training will be responsible for conducting or supervising all monitoring activities.
- 2-Supervisory personnel and equipment operators are to be provided adequate instruction, so that they can make simple field identifications of fossil material. Samples are to be provided.
- 3-Equipment operators and project supervisors will be made aware of paleontologically sensitive areas/geological formations prior to any surface disturbing activity.
- 4-Discoveries of opportunity will be reported immediately to the Project Supervisor and the prescribed mitigation procedures implemented as follows:
  - a-Project Paleontologist will assess the sensitivity level of the discovery.
  - b-Appropriate mitigation action will be initiated as detailed in APPENDIX B.

#### SELECTED REFERENCES

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## APPENDIX A

### SENSITIVITY LEVELS for FORMATIONS

- HIGH:** High to moderate potential for yielding vertebrate fossils or highly important non-vertebrate fossils, because numerous fossils of the same type are known to occur within a project area and/or in the same geologic unit in contiguous areas.
- MODERATE:** Low potential for containing vertebrate fossils or highly important non-vertebrate fossils because such fossils are unknown within the project area, but are rare in the same geologic unit in other areas; high to moderate potential for containing moderately important non-vertebrate fossils, because such fossils are known to occur abundantly and/or ubiquitously within or near the project area, and/or in the same geologic unit in contiguous areas.
- LOW:** Low potential for containing moderately important non-vertebrate fossils because such fossils are unknown or rare within or near the project area, and/or the same geologic unit in adjacent areas; high to low potential for containing non-vertebrate fossils of low importance.
- UNDETERMINED:** Specific project areas may be underlain by geologic units about which literature and unpublished studies are unavailable or inadequate to determine the potential for containing significant nonrenewable resources. In this case the field survey must inspect the area in order to establish a rating of high, moderate, or low.

Mitigation: The adverse, direct impacts consist of project construction and access road construction. The mitigation recommendations for impactation at the various sensitivity levels are as follows:

1. VERY SIGNIFICANT Any locality from which holotype or critical reference material, i.e., paratype, lectotype, has been collected. Any type geologic section, which is critical for future reference.

Mitigation: No action will be allowed, which will damage the fossil resource or alter its contextual relationships. Materials may be removed, but under special permit only, and then only by qualified professionals.

2. SIGNIFICANT Any locality which contains rare, exceptionally well-preserved, or critical materials for the interpretation of stratigraphic or paleoenvironmental information.

Mitigation: Depending on the size of the deposit, approved mitigation may include total salvage or may be limited to collection of a statistically valid sample of all forms present.

3. IMPORTANT Any locality which has produced plentiful, relatively common in the locality and elsewhere, fossil materials which are useful for stratigraphic and variability studies.

Mitigation: A statistically valid sample will be obtained to mitigate any adverse impact on the resource.

4. INSIGNIFICANT Any locality which produces poorly preserved, common elsewhere, or stratigraphically unimportant material.

Mitigation: Mitigation is optional. However, any fossils uncovered during excavation in an area that has not previously produced fossils should be turned over to a competent paleontologist for evaluation. This is especially important for vertebrate fossils.

5. UNIMPORTANT Any locality which has been intensively surveyed and determined; therefore, to be of minimal scientific interest. This can include outcrop of geological formations described as unfossiliferous in technical journals or publications.

Mitigation: No mitigation necessary.

## APPENDIX B

### A PLAN FOR IMPACT PREDICTION, ASSESSMENT, AND MITIGATION

A detailed paleontological resource survey of accessible exposures will be completed and used in the evaluation of probable, adverse impacts to paleontological resources. This evaluation will serve as the basis for a mitigation plan to address the proposed impact activities.

The items to be addressed in a mitigation plan for paleontologic resources must include both adverse, indirect impacts and adverse, direct impacts. The indirect impacts generally consist of:

1. Unauthorized removal of paleontologic resources by visitors and construction workers.
2. Destruction by Off-Road Vehicles.
3. Other destructive recreational activities.

Mitigation measures for these indirect impacts may include the following:

1. Avoidance - effective if proposed actions avoid paleontological localities to minimize adverse accessibility impacts.
2. Salvage - most effective mitigation measure; however, limited storage space, inadequate analytical base, and personnel shortages present problems.
3. Surveillance - effective for paleontological resources, which are to be preserved in place. This activity effectively serves as a strong deterrent, if accompanied with a public education program which stresses the need to protect scientific values.
4. Onsite Posting - limited utility, as it serves to attract attention to the resource to be protected thereby inviting vandalism.
5. Offsite Posting - Can best be utilized by posting travel routes some distance from the fossil locality, where a visitor would likely stop.
6. Fencing - limited utility as it serves to attract attention to the resource to be protected; however, with adequate surveillance, it can be used to control access into sensitive areas and be an effective temporary deterrent to vandalism.
7. Closure - effective administrative tool to limit access; however, must be accompanied by appropriate compliance checks and enforcement.
8. Withdrawal - effective administrative tool to limit access; however, must be accompanied by appropriate compliance checks and enforcement.

The adverse, direct impacts consist of project construction and access road construction. The mitigation recommendations for these impact activities are as follows:

1. VERY SIGNIFICANT Sensitivity Level Any locality from which holotype or critical reference material, i.e., paratype and lectotype, has been collected. Any Geologic Type Section, which is critical for future reference.  
Mitigation: No action will be allowed which will damage the fossil resource or alter its contextual relationships. Materials may be removed, but only by special permit to qualified professionals.
2. SIGNIFICANT Sensitivity Level: Any locality which contains rare, exceptionally well-preserved or critical materials for stratigraphic or paleoenvironmental interpretation.  
Mitigation: Depending on the size of the deposit, approved mitigation may include total salvage or may be limited to collection of a statistically valid sample of all forms present.
3. IMPORTANT Sensitivity Level: Any locality which has produced plentiful, relatively common in the locality and elsewhere, fossil materials which are useful for stratigraphic and variability studies.  
Mitigation: A statistically valid sample will be obtained to mitigate any adverse impact on the resource.
4. INSIGNIFICANT Sensitivity Level: Any locality which produces poorly preserved, common elsewhere, or stratigraphically unimportant material.  
Mitigation: Mitigation is optional. However, any fossils uncovered during excavation in an area that has not previously produced fossils should be turned over to a competent paleontologist for evaluation. This is especially important for vertebrate fossils.
5. UNIMPORTANT Sensitivity Level: Any locality which has been intensively surveyed and determined, therefore, to be of minimal scientific interest. This can include outcrop of geological formations described as unfossiliferous in technical journals or publications.  
Mitigation: Unnecessary.

All mitigation recommendations must be determined on an individual basis. At periodic intervals reports will be submitted to the Project Manager for review and comment. These reports will review current progress and future plans.

#### SEQUENCING

The initial mitigation plan will be completed after the survey report, and in fact is based upon the report. Plan may need to be

periodically revised as construction and visitor activities warrant.

#### RATIONALE

Paleontological resources are protected under federal, state and local regulations. Individual localities require individual mitigation decisions based upon Federal Energy Regulatory Commissions regulations which state, "These measures (mitigation) may include the controlled scientific removal of fossils that would otherwise be damaged or destroyed during construction . . . . This survey shall also determine whether additional mitigation measures should be implemented during construction activities."

## APPENDIX C

### PLAN FOR MONITORING

ADEQUATE MONITORING to salvage specimens. In sedimentary units with known paleontological potential, a qualified paleontologic monitor is present 100% of the time, during ground-disturbing activities unless the qualified Project Paleontologist determines that reduced monitoring is adequate until fossils are found.

Monitoring programs include contingency for backup monitors to assist in the removal of large or abundant fossils, so that delays to construction excavation can be minimized or avoided. If numerous pieces of heavy equipment are used simultaneously at diverse locations, at least one monitor should be present at each work location. Monitors must be qualified and experienced in paleontologic salvage, authorized to temporarily divert equipment to remove fossils, and equipped with tools and supplies to allow rapid removal of specimens.

Some significant, vertebrate, paleontologic resources (such as rodent, insectivore, bird, and reptile remains) are small to microscopic in size and may not be readily apparent during construction excavation. Fine-grained sedimentary horizons and paleosols are likely to contain these fossils and are sampled and tested by screen washing to determine if fossils are present. If the sediments are fossiliferous, bulk samples are processed for recovery of resources. An adequate sample size is determined by the supervising paleontologist. Generally, a sample of up to 6,000 pounds of matrix for each horizon, paleosol, or stratigraphic bed at each paleontologic locus within a sedimentary unit is considered to be adequate. The rarity or uniqueness of the recovered fossils may dictate salvage of larger amounts. To avoid construction delays, matrix samples may be removed from the path of excavation for processing on site or off site.

PREPARATION. Recovered specimens are prepared to a point of identification (not exhibition) and stabilized for preservation. Fossiliferous matrix is processed for recovery of contained fossils. Specimens are identified and catalogued into the retrievable collections of an established institution.

STORAGE. Arrangements for adequate storage of specimens recovered during monitoring are included in the program for mitigation. Adequate storage includes curation of individual specimens into the collections of a recognized, non-profit, paleontologic specimen repository with a permanent curator, such as a museum, college or university. A complete set of field notes, geologic maps, and stratigraphic sections accompany the fossil collections. Specimens are stored in a fashion that allows retrieval of specific, individual specimens by future researchers. Removal of excess matrix during the preparation and identification process reduces storage space and thus storage costs.

REPORT OF FINDINGS AND SIGNIFICANCE. A report prepared by the Project Paleontologist summarizes the salvage program. This report includes a summary of the field and laboratory methodology, site geology, site stratigraphy, faunal list, and a brief statement of significance, which includes the relationship of the site to other similar fossil localities. An itemized inventory list of curated specimens is appended to the report. The report is prepared subsequent to salvage, preparation, identification, curation, and storage of the recovered resources. A complete copy of the report is filed at the repository institution.

COMPLIANCE. The Lead Agency assures compliance with measures to afford protection of significant nonrenewable paleontologic resources from the time of project inception by requesting (1) an assessment and program for mitigation during initial planning phases, and (2) by requesting the report of findings. The supervising paleontologist is responsible for (1) assessment and development of the program for mitigation during initial planning phases, (2) the adequacy of the mitigation measures, and (3) the report of findings. When a copy of the report of findings and significance, including the specimen inventory, is filed with the lead planning agency for the project, its receipt indicates completion of the conditions of mitigation of impacts to paleontologic resources for the project.

## APPENDIX D

### STIPULATIONS

- 1-A Project Paleontologist or Earth Scientist with paleontological training will be responsible for conducting or supervising all monitoring activities.
- 2-Supervisory personnel and equipment operators are to be provided adequate instruction, so that they can make field identifications of fossil material. Samples to be provided.
- 3-Equipment operators and project supervisors will be made aware of paleontologically sensitive areas/geological formations prior to any surface disturbing activity.
- 4-Discoveries of opportunity will be reported immediately to the Project Supervisor and the prescribed mitigation procedures implemented as follows:
  - a-Project Paleontologist will assess the sensitivity level of the discovery.
  - b-Appropriate mitigation action will be initiated as detailed in APPENDIX B.
- 5-No surface disturbance of paleontological localities of record.
- 6-No surface disturbance is permitted on any part of geologic type sections.

APPENDIX E

PERMITS



July 29, 1994

James H. Madsen Jr.  
1814 E. 3900 South  
Salt Lake City, UT 84124

Dear Jim:

This letter constitutes the Utah Museum of Natural History's official designation of the use of the College of Eastern Utah Prehistoric Museum as the curation facility for specimens recovered under the 1994 state wide surface collecting permit (94-259) issued by the Division of State History for collection of vertebrate fossils on state lands.

These school and institutional trust lands are administered by the Division of State Lands and Forestry. I have attached a copy of sections of the Antiquities Protection Act governing the curation of collections recovered from state lands, with specific conditions pertaining to school and institutional trust lands highlighted. A condition of the designation as a repository is your acknowledgement that you have read and understood that you are bound by these sections of the statutes.

We have consulted with the Divisions of State Lands and Forestry regarding the designation of the CEU Prehistoric Museum as the repository for this collection.

Sincerely,

Laurel Casjens  
Curator of Collections

cc. Kenneth Wintch  
David Gillette

December 4, 1990

Jim Madsen  
Dino Lab  
1814 E. 3900 S.  
Salt Lake City, UT 84124

Dear Jim,

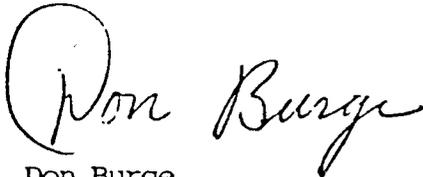
This letter is to certify that on behalf of the CEU Prehistoric Museum, we agree to curate and maintain such paleontological materials as might be collected from both State and Federal public lands under the attached permit.

If I can be of further assistance, please feel free to call.

Sincerely,



Michael A. Petersen  
President  
College of Eastern Utah



Don Burge  
Director/Curator  
CEU Prehistoric Museum

MAP:DB/ig



**PREHISTORIC MUSEUM**

**COLLEGE OF EASTERN UTAH • Price, Utah 84501 • (801) 637-2120**

**Museum Phone (801) 637-5060**



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155

IN REPLY REFER TO:  
8270  
UT-S-97-005  
(UT-933)

APR 25 1997

Mr. James H. Madsen, Jr.  
P.O. Box 9415  
Salt Lake City, UT 84109-0415

Dear Mr. *Jim* Madsen:

Enclosed please find your state wide Paleontological Resources Use Permit, UT-S-97-005. Subject to attached conditions, the expiration date for this permit will be December 31, 1997.

Please review and become familiar with the permit conditions. In particular, I want to remind you of the requirement to obtain Area Manager (or Field Office Manager) signature prior to each field season for each Resource Area in which you plan to work. Additionally, please note that the Grand Staircase-Escalante National Monument is an area under special management as described in Condition # 14. Any collection of fossils from within the Monument, and any surface disturbance, is subject to the direct authorization of the appropriate field office manager. Please contact me if you have any questions about any of the details of work under this permit.

Good luck with your work.

Sincerely,

Garth J. Portillo  
State Office Archaeologist  
Division of Natural Resources

Enclosure: permit (3 pp)

cc: All Field Offices

David Gillette, UGS

United States  
Department of the Interior  
Bureau of Land Management

Permit Number:

UT-S-97-005

# Paleontological Resources Use Permit

**A copy of this permit must be carried by the individual(s)  
named in Line 8 whenever fieldwork is in progress.**

1a. Permittee:

James H. Madsen, Jr.

1b. Affiliation:

CEU Prehistoric Museum

2. Mailing address:

Office:

P.O. Box 9415  
Salt Lake City, UT 84109-0415

3. Telephone number:

Office: 801 272-2409

Fax: Same

Field party:

same as above

Field party: same

Fax:

4. Nature of authorized paleontological fieldwork:

a. Survey and limited surface collection XX OR b. Excavation \_\_\_\_\_  
Surface impacts limited to one square meter using hand tools; see conditions attached.

5. Location of authorized paleontological fieldwork:

Public lands administered by BLM in the State of Utah

6. Authorized start date:

April 25, 1997

7. Expiration date:

December 31, 1999

8. Name(s) of individual(s) responsible for planning, supervising, and carrying out fieldwork:

James H. Madsen, Jr.

9. Repository name and address:

CEU Prehistoric Museum, Price, Utah

10. Special conditions are attached and must be adhered to: See attached, all apply.

Area Manager

Date

Area Manager

Date

*State J. P. Tull*  
State Office Archaeologist  
Division of Natural Resources

*April 25, 1997*  
Date

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
UTAH STATE OFFICE

PALEONTOLOGICAL RESOURCES USE PERMIT  
TERMS AND CONDITIONS

Paleontological Resources Use Permit No. **UT-S-97-005**

1. This permit may not be assigned to any other institution, group, or individual. Any modifications to the permit must be requested in writing to the State Office Archaeologist or the Deputy State Director.
2. This permit is valid only for the period specified. The permit may be suspended for management purposes or for cause, at the discretion of the Deputy State Director. Notification of suspension shall be in writing. Field work under this permit may be halted temporarily by either verbal or written notice from the Area Manager or District Manager for violations of permit terms and conditions.
3. All terms and conditions of this permit shall remain in effect, including reporting requirements, until all permit terms and conditions have been met, regardless of permit expiration date.
4. This permit shall not be exclusive in character, and the Bureau of Land Management reserves the right to authorize other uses of the land during the tenure of this permit. Field work shall be carried out in such a manner as to not impede other legitimate uses of the public lands, except when a provision has been made by the District/Area Manager or delegated representative.
5. The Department of Interior, including its bureaus and employees, shall be held blameless for any and all events, deeds, or mishaps, regardless of whether or not they arise from operations under this permit.
6. Other permittees may be engaged in paleontological work in the general area covered by this permit. Conflicts with respect to areas of interest under permit shall be resolved among the permittees.
7. All costs shall be borne by the permittee, including costs of curation.
8. All excavated areas shall be restored by filling in the excavations and otherwise leaving the area in as near to original condition as is practicable. Disturbed areas shall be kept to a minimum size consistent with the terms of the permit.
9. BLM District Managers/Area Managers and/or designated representatives shall have access to the study area during or after performance of field work, and shall have the right to inspect all materials removed.
10. If any evidence of archaeological resources is encountered during the course of testing or excavation, permittee shall cease work in that location and immediately notify the Area Manager. Such work shall not resume until the Area Manager has given permission.

11. Collections of paleontological materials and other material acquired from public lands under the provisions of this permit remain the property of the United States Government and may be recalled at any time for use by the BLM. Any recall or transfer of material will be coordinated by BLM. Public display of material collected under this permit shall cite the Bureau of Land Management, Utah.

12. Any stakes, flagging, or other temporary materials used to identify localities in the field shall be removed upon completion of field activity. No permanent survey monuments or markers shall be disturbed or removed during the course of field work.

13. The Bureau of Land Management, Utah shall be cited in any report, publication, paper, news article, film, television program or other media, resulting from field work under this permit.

14. Disturbance under this permit is limited to one square meter of surface in each location. ALL surface disturbance on lands with special management requirements or surface use restrictions, such as Wilderness Study Areas, Areas of Critical Environmental Concern, and Special Status Plant and Animal Species habitat, will require specific approval of the appropriate Resource Area Manager, and may require preparation of an environmental assessment.

15. Area Manager authorization is required, in writing, at the beginning of each field season prior to beginning field work. Your permit includes signature lines for two Area Managers. Continuation sheets may be needed for work in more than two Resource Areas and/or work in more than two field seasons. Additional terms and conditions regarding resource protection may be added during Resource Area processing of the authorization. A minimum of two weeks written notice to the Area Manager is suggested to allow adequate time to review and process the authorization. Where environmental assessments may be required, additional time may be needed.

16. A report of all activities conducted under this permit shall be prepared and submitted annually to the BLM Utah State Office no later than December 31 of each year during the tenure of this permit, with a copy to each affected Resource Area. The report shall include completed locality forms (Form 8270-3 or equivalent, as approved by Resource Area), a catalog of all specimens collected, a description of work conducted, and any recommendations for future research or management of localities. A copy should be forwarded to the Utah State Paleontologist, Dr. Gillette.

17. At least one individual listed in Section 8 of the permit must be in the field in direct charge of all work under this permit. A copy of this permit must be carried by the individual in direct charge of field work during the course of all work conducted under permit.

18. Pursuant to new regulations at 43 CFR 10.4(a-g), the permittee must immediately notify the appropriate Area Manager (or Field Office Manager) by telephone upon discovery of human remains, funerary objects, sacred objects or objects of cultural patrimony, with a written confirmation of the discovery. All work in the vicinity of the discovered remains must cease, and reasonable efforts made to protect the remains pending BLM action. Activities may resume within 30 days of receipt of the written confirmation of notification unless the situation is resolved sooner.

As in the past, we are asking all public land users to integrate the precepts of Leave No Trace: An Outdoor Ethic with their activities.

## PALEONTOLOGY SECTION

Utah Geological Survey

1594 W. North Temple, Box 146100

Salt Lake City UT 84114-6100

Permit Number: 97-278 March 1, 1997Approved By: W D GilletteDate: March 4, 1997Expiration Date: December 31, 1997

**PERMIT APPLICATION FOR PALEONTOLOGICAL INVESTIGATIONS,  
EXCAVATIONS, AND/OR COLLECTIONS ON PUBLIC LANDS IN UTAH\***

1. Name and Title of Principal Investigator: James H. Madsen Jr., Consul. Paleon.
2. Field Supervisors: As above.
3. Your Sponsoring Institution or Affiliation: College of Eastern Utah, Prehistoric Museum (CEUPM)
4. Address: Price, UT 84124
5. Telephone: 801/637-5060
6. Type of Permit, Check One: Surface Collecting Permit , Excavation Permit
7. Fossils you expect to collect: Survey, limited collecting
8. Purpose for collection, Check One: Salvage , Research , Exhibit , Education
9. Tools and Collecting Techniques: Hand tools and screens - no large scale excavation is anticipated.
10. Repository (Attach Curation Agreements): CEUPM
11. Locality Data (Please Attach Locality Data Sheet and Map):
  - (a) Formation/Member: Straight Cliffs Fm., John Henry Member
  - (b) Geologic Age: Upper Cretaceous
  - (c) Map Reference: Kane Co. and Utah State Geologic Maps
  - (d) Land Ownership: State of Utah/B.L.M.
12. Comments or Explanation: Unless a new application is required for each event, I would like this to be an open permit.
13. Source(s) of Information and/or Published References: Personal files and Geology of Kane County (1989) Doelling & Davis
14. Applicant signature: James H. Madsen Jr.

\*This application becomes a permit, when approved, as required by law to conduct paleontological investigations that will disturb fossils, and for any excavations or collections on public lands under the provisions of the Utah Code for the Utah Geological Survey (Paleontological Transfer Act of 1995) and implementing regulations adopted by the Board of the Utah Geological Survey. Permits are usually issued for a period not to exceed 12 months and are subject to the attached **SPECIAL CONDITIONS**.

## SPECIAL CONDITIONS

1. For paleontological investigations on **School and Institutional Trust Lands**, a **Right of Entry Permit** is required. A copy of this permit will be forwarded to Trust Lands Administration who will determine whether additional restrictions or conditions apply. A waiver of the Right of Entry fee, or payment of the fee, will be required. This permit is valid only for State-owned lands in Utah. For Federal Lands, please contact the appropriate land management agency. For private lands, the applicant should obtain permission, preferably in writing, from the landowner.
2. Resumes for the Principal Investigator and all Field Supervisors should be included with this application.
3. A **Curation Agreement** between the applicant and the sponsoring institution, or other designated repository institution qualified to maintain paleontological collections, must accompany this application. The curation agreement must be approved by the Utah Geological Survey and the Utah Museum of Natural History.
4. A brief work plan should be submitted with this application as follows. For salvage, describe areas to be disturbed, provisions for monitoring of construction activities, criteria for decision regarding whether to collect, methods to be employed in collections, and plans for record-keeping, preparation, and repository. For research, describe methods for locating fossils, research plan, reasons for the research, including plans for record-keeping, preparation, and repository. For museum exhibit, describe the expected extent and condition of the target fossils, methods of excavation, preparation plans, and record-keeping plans.
5. A year-end report summarizing all activity conducted under this permit should be submitted by December 31st of each year for which a permit is issued. This report will include listing of all sites with map coordinates and map plots; summary of activities at all sites, with lists of fossils encountered or collected; technical report for each site; location of collected specimens at time of the report; expected completions dates and plans for future work; and copies of all publications and reports arising from the project.
6. **Paleontological Locality Data Sheets** should be submitted for all newly recorded localities. Use of the **State of Utah Paleontological Locality Numbers** is requested.
7. Unless special permission is granted, all excavated areas will be restored, as nearly as possible, to their original condition.
8. All camp sites used during the course of any field investigation must be left clean, all refuse must be carried out, and adequate sanitation facilities must be maintained.
9. The Permittee in exercising the privileges granted by this permit must comply with all Federal, State, County, and Municipal laws, ordinances, or regulations which are applicable to the area or operations covered by this permit.
10. If access to the area of investigation is through fenced land, it is the responsibility of the Permittee to see that all gates are closed, or left as first encountered.
11. Other permittees may be engaged in the investigation of the same area and any resulting conflict should be resolved by the parties concerned. When this is not possible, the problem will be resolved by the office of the State Paleontologist.
12. The exploration or excavation of any grave, cemetery, or burial ground less than 200 years of age is expressly prohibited. Permits to conduct archeological excavations must be obtained from the office of the State Archeologist.
13. List names, vehicle description, and vehicle license numbers of all individuals and equipment operating under this permit. A facsimile of this permit must accompany all individuals and vehicles operating under the authority of this permit (use a separate sheet).

PLEASE INCLUDE PERMIT NUMBER ON ALL CORRESPONDENCE, REPORTS, AND LOCALITY DATA SHEETS.

1 March 1997

SPECIAL CONDITIONS

- 1-From State Paleontologist
- 2-On file, State Paleontologist
- 3-On file, State Paleontologist
- 4-A work plan can be filed, as needed after the survey. This will be a pedestrian examination of a proposed drill site, and until an evaluation is made, a work plan is impractical.
- 5-As required
- 6- " "
- 7- " "
- 8- " "
- 9-Understood
- 10- "
- 11- "
- 12- "
- 13-James H. Madsen Jr.  
Ford Bronco/FOSSIL  
Chris Madsen, Will Black

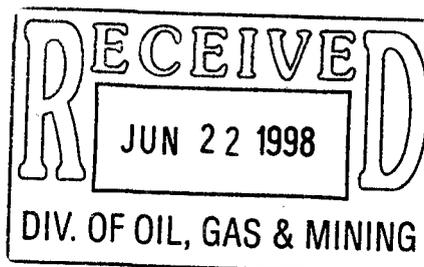


Jo Ann Johnson  
Sr. Property Analyst  
Right of Way and Claims

Conoco Inc.  
10 Desta Drive, Suite 430E  
Midland, Texas 79705-4500  
(915) 686-5515

June 19, 1998

Utah Division of Oil, Gas and Mining  
Attn: Brad Hill  
1594 West North Temple, Suite 1210  
Salt Lake City, Utah 84114-5811



Re: Application for Permit to Drill or Deepen  
Smoky Mountain State 36 #1  
Sec. 36, T40S, R3E  
Kane County, Utah

Dear Mr. Hill:

Attached is the above mentioned permit. It is a non-standard location and exception is being filed under separate cover.

Please call me at 915/686-5515 if you have questions or concerns.

Sincerely yours,

Jo Ann Johnson

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1A. Type of Work: DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/>		5. Lease Designation and Serial Number: ML 45707
B. Type of Well: OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> OTHER: _____ SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		6. If Indian, Allottee or Tribe Name:
2. Name of Operator: ** Conoco Inc.		7. Unit Agreement Name:
3. Address and Telephone Number: 10 Desta Dr. Ste 430E Midland, Tx. 79705-4500 (915)686-5515		8. Farm or Lease Name: Smoky Mountain State 36
4. Location of Well (Footages) At Surface: <sup>996'</sup> 2575.4' FSL & <sup>192'</sup> 595.9' FEL At Proposed Producing Zone:		9. Well Number: #1
10. Field and Pool, or Wildcat: Wildcat		11. Qtr/Otr, Section, Township, Range, Meridian: (NE/ SE) Sec. 36, T40S, R3E SLB & M

14. Distance in miles and direction from nearest town or post office: 30 miles north of Big Water, Utah		12. County: Kane	13. State UTAH
15. Distance to nearest property or lease line (feet): 595.9'	16. Number of acres in Lease 440	17. Number of acres assigned to the well: 440	
18. Distance to nearest well, drilling, completed, or applied for on this lease Feet: N/A	19. Proposed Depth: 15,975'	20. Rotary or Cable tools: Rotary	
21. Elevations (show whether DF, RT, GR etc.): RKB 5607' ; GL 5594'		22. Approximate date work will start: When Approved	

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" K-55 LTC	36#	3500'	2026 sx
8-3/4"	7" L-80 & C-95 BTC	26#	12,200'	1098 sx
6-1/2"	4-1/2" P-110 LTC	11.6#	15,975'	427 sx

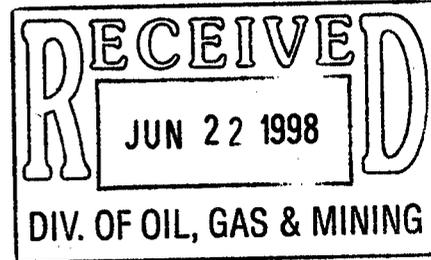
DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

See Attached Drilling Plan & Surface Use Plan.  
Conoco proposes to drill this well as a Wildcat well to a depth of 15,975'.

LEASE DESCRIPTION: Section 36: E/2, E/2 NW/4, NE/ SW/4, T40S, R3E, SLB & M  
MINERAL & SURFACE OWNERSHIP: State of Utah

This well will be drilled under Conoco's Utah Statewide Bond. #8140-60-24  
See attached for HAZARDOUS MATERIAL DECLARATION FOR SUBJECT WELL:

The reason for non standard location is attached. Exception is being filed.



453375.9  
4126934.8

24. Name & Signature: Jo Ann Johnson Title: Sr. Property Analyst Date: 6-19-98

(This space for State use only)

API Number Assigned: 43-025-30031

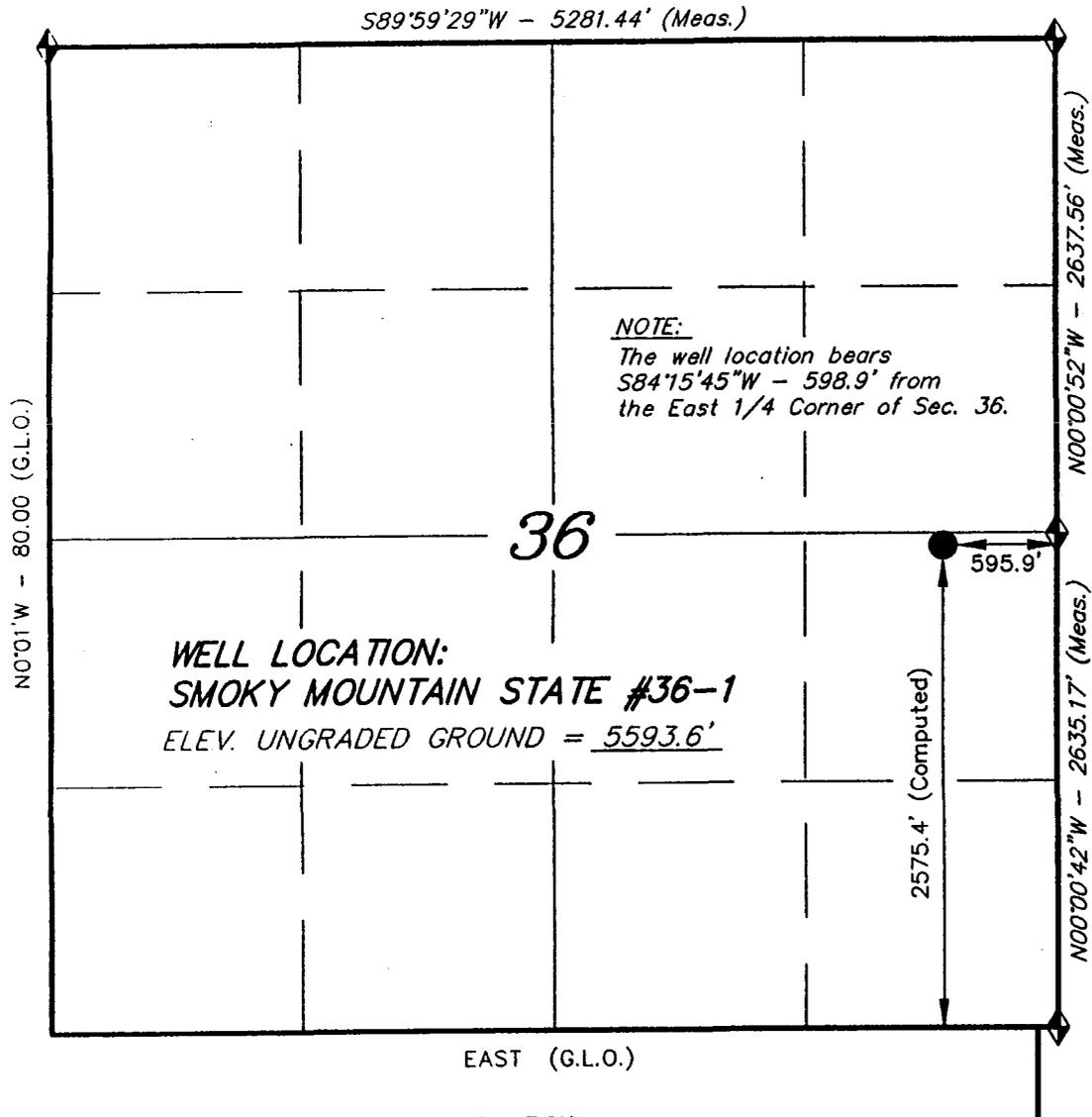
Approval: [Signature] 9/10/98

UOGM(3), BRK, TJK, LAND, Ponca, Fileroom

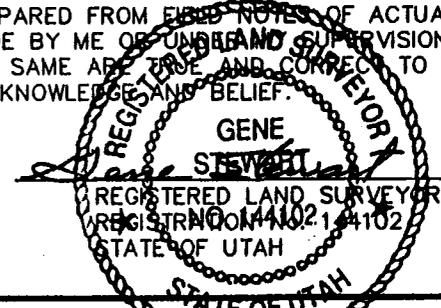
T40S, R3E, S.L.B.&M.

CONOCO INC.

WELL LOCATION, SMOKY MOUNTAIN STATE #36-1, LOCATED AS SHOWN IN THE NE, 1/4 SE 1/4 OF SECTION 36, T40S, R3E, S.L.B.&M. KANE COUNTY, UTAH.



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.



BASIS OF BEARINGS IS A GPS OBSERVATION

◆ = SECTION CORNERS LOCATED

BASIS OF ELEV; U.S.G.S. 7-1/2 min QUAD (SHIP MOUNTAIN POINT)

**TRI STATE LAND SURVEYING & CONSULTING**  
38 WEST 100 NORTH - VERNAL, UTAH 84078  
(801) 781-2501

SCALE: 1" = 1000'

SURVEYED BY: S.S.

DATE: 5-29-97

WEATHER: WARM

NOTES:

FILE #



Conoco Inc.

Request for Facsimile  
Transmission

Date  
9-8-98

From

Employee <b>Jo Ann Johnson</b>	Ext. <b>644-5515</b>
City, State, Country <b>Midland</b>	Room No. <b>Room 407</b>
Acct. No. <b>Fax 644-6503</b>	

To

Name <b>Bob KRUEGER</b>	Phone No.
Department	Room No.
City, State, Country	

FAX # 801-359-3940

No. of Pages  
3 + cover

Note

1. Your originals must have good contrast (dark detail on light background).
2. Legible.
3. 1/2 inch margin on all sides of sheet
4. Number all pages.

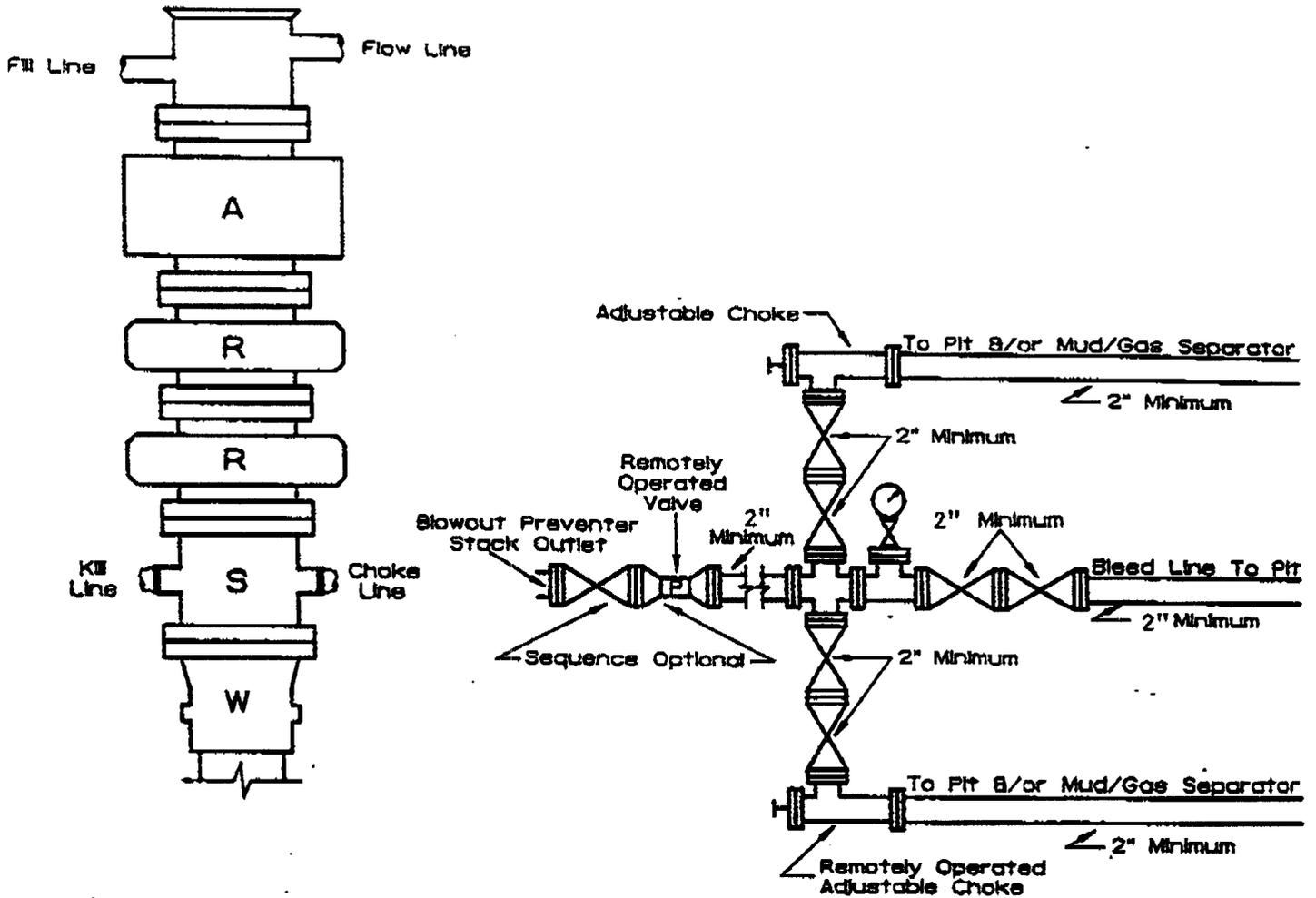
Special Instructions

BOP & H2S Plan for Smoky Mtn 26-1  
APD Package



**DOUBLE RAM TYPE PREVENTERS**

(5000 psi System)



Minimum BOP Stack	<u>5000</u> psi Working Pressure
Two Pipe Ram	<u>5000</u> psi Working Pressure
One Blind Ram	<u>5000</u> psi Working Pressure
One Annular	<u>3500</u> psi Working Pressure
Well Head	<u>5000</u> psi Working Pressure
Manifold	<u>5000</u> psi Working Pressure

## H2S DRILLING OPERATIONS PLAN

### I. Hydrogen Sulfide Training

All contractors and subcontractors employed by Conoco will receive or have received training from a qualified instructor within the last twelve months in the following areas prior to commencing drilling operations on this well.

1. The hazards and characteristics of hydrogen sulfide (H2S)
2. Safety precautions
3. Operations of safety equipment and life support systems.

In addition, contractor supervisory personnel will be trained or prepared in the following areas:

1. The effect of H2S on metal components in the system, especially high tensile strength tubulars are to be used.
2. Corrective action and shut-down procedures when drilling or reworking a well, blowout prevention and well control procedures, if the nature of work performed involves these items.
3. The contents and requirements of the contingency plan when such plan is required.

All personnel will be required to carry documentation of the above training on their person.

### II. H2S EQUIPMENT AND SYSTEMS

#### 1. Safety Equipment

The following safety equipment will be on location:

- A. Wind direction indicators as seen in attached diagram.
- B. Automatic H2S detection alarm equipment (both audio and visual).
- C. Clearly visible warning signs as seen on the attached diagram. Signs will use the words "POISON GAS" and "CAUTION" with a strong color contrast.
- D. Protective breathing equipment will be located in the dog house and at briefing areas as seen in the attached diagram.

## 2. Well Control Systems

### A. Blowout Prevention Equipment

Equipment includes but is not limited to:

- a. pipe rams to accomodate all pipe sizes
- b. blind rams
- c. choke manifold
- d. closing unit
- e. flare line and means of ignition

### B. Communication

The rig contractor will be required to have two-way communication capability. Conoco will have either land-line or mobile telephone capabilities.

### C. Mud Program

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. Proper mud weight, safe drilling practices, and the use of H<sub>2</sub>S scavengers when appropriate will minimize hazards when penetrating H<sub>2</sub>S bearing zones.

### D. Drill Stem Tests

There are no drill stem tests proposed for this well.

## III. WELL SITE DIAGRAM

A complete well site diagram including the following information is attached:

1. Rig orientation
2. Terrain
3. Briefing areas
4. Ingress and egress
5. Pits and flare lines
6. Caution and danger signs
7. Wind indicators and prevailing wind direction

WORKSHEET  
APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 06/22/98

API NO. ASSIGNED: 43-025-30031

WELL NAME: SMOKY MOUNTAIN ST 36 #1  
 OPERATOR: CONOCO INC (N0260)  
 CONTACT: Jo Ann Johnson (915) 686-5515

PROPOSED LOCATION:  
 NESE 36 - T40S - R03E  
 SURFACE: 2575-FSL-0596-FEL  
 BOTTOM: 2575-FSL-0596-FEL  
 KANE COUNTY  
 WILDCAT FIELD (001)

INSPECT LOCATION BY: 07/07/98		
TECH REVIEW	Initials	Date
Engineering	<i>JSK</i>	9-8-98
Geology		
Surface		

LEASE TYPE: STA  
 LEASE NUMBER: ML-45707  
 SURFACE OWNER: State

PROPOSED FORMATION: PRCAM

RECEIVED AND/OR REVIEWED:

Plat

Bond: Federal  State  Fee   
 (No. #8140-60-24)

Potash (Y/N)

Oil Shale (Y/N) \*190-5(B)

Water Permit  
 (No. Escalante City)

RDCC Review (Y/N)  
 (Date: 06/29/98 / Comments due 7-17-98)

St/Fee Surf Agreement (Y/N)

LOCATION AND SITING:

R649-2-3. Unit \_\_\_\_\_

R649-3-2. General

R649-3-3. Exception

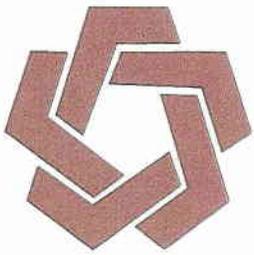
Drilling Unit  
 Board Cause No: \_\_\_\_\_  
 Date: \_\_\_\_\_

COMMENTS: \* Need add'l info. "Except. Loc." (Rec'd 6-29-98)  
\* Need presite. (conducted 7-28-98)

STIPULATIONS: ① Implement H<sub>2</sub>S Contingency Plan Rec'd 9-8-98 by FAX & incorporated into APD.

② STATEMENT OF BASIS

\*\* GRANT EXCEPTION LOCATION IN LETTER



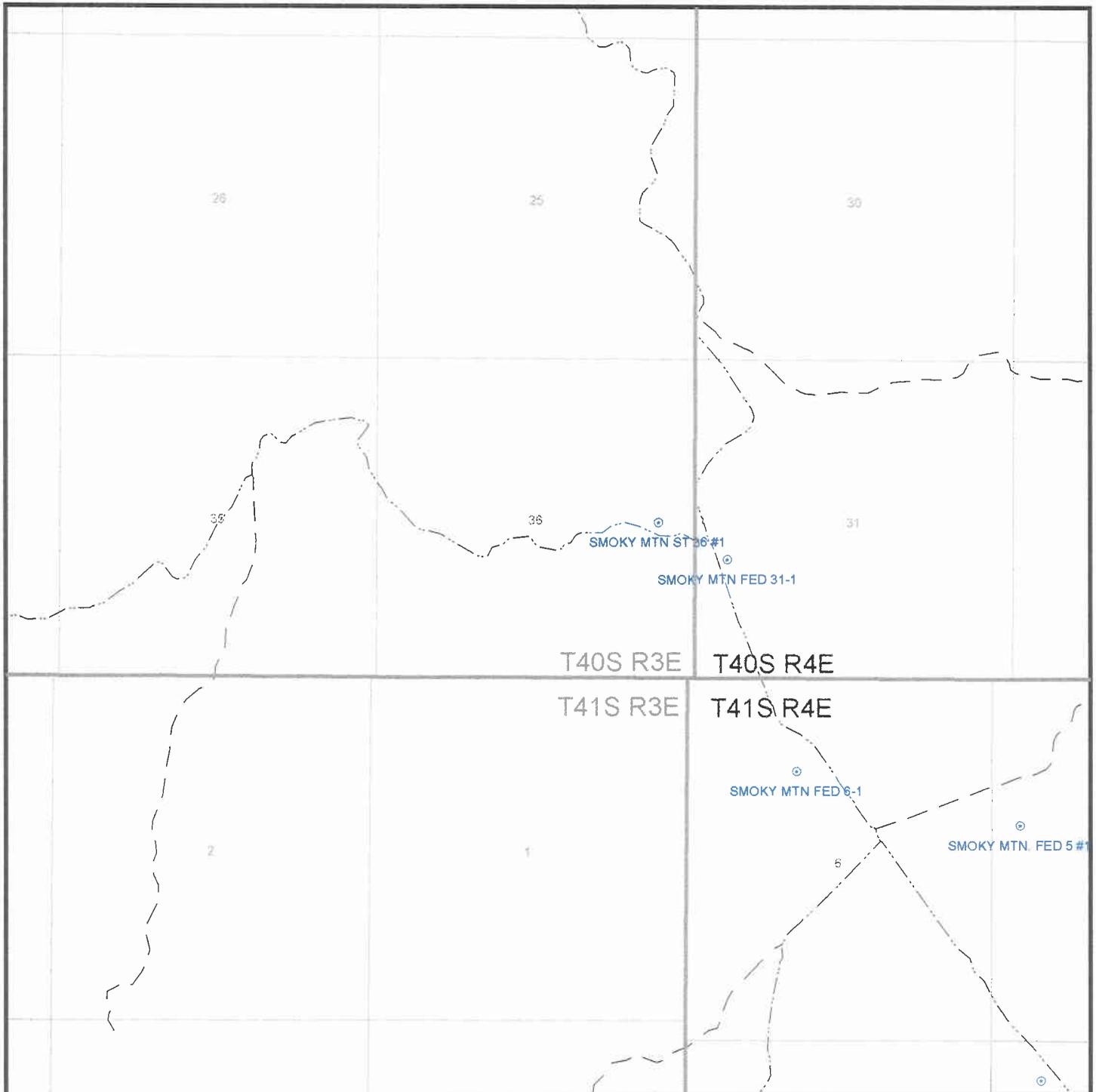
DIVISION OF OIL, GAS & MINING

OPERATOR: CONOCO INC. (N0260)

FIELD: WILDCAT (001)

SEC. 36, TWP 40S, RNG 3E

COUNTY: KANE UAC: R649-3-3 EXCEPTION



DATE PREPARED:  
24-JUNE-1998

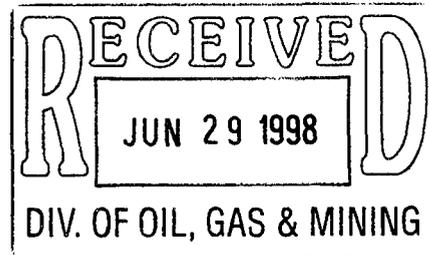


Jimmy D. Carlile  
Sr. Conservation Coordinator  
Mid-Continent Region  
Exploration-Production North America

Conoco Inc.  
10 Desta Drive, Suite 100W  
Midland, TX 79705-4500  
(915) 686-5425 Fax: (915) 686-5780

June 26, 1998

K. Michael Hebertson  
State of Utah  
Department of Natural Resources  
Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, UT 84114-5811



Dear Mr. Hebertson,

Re: Smoky Mountain State 36 No. 1,  
Non-Standard Location

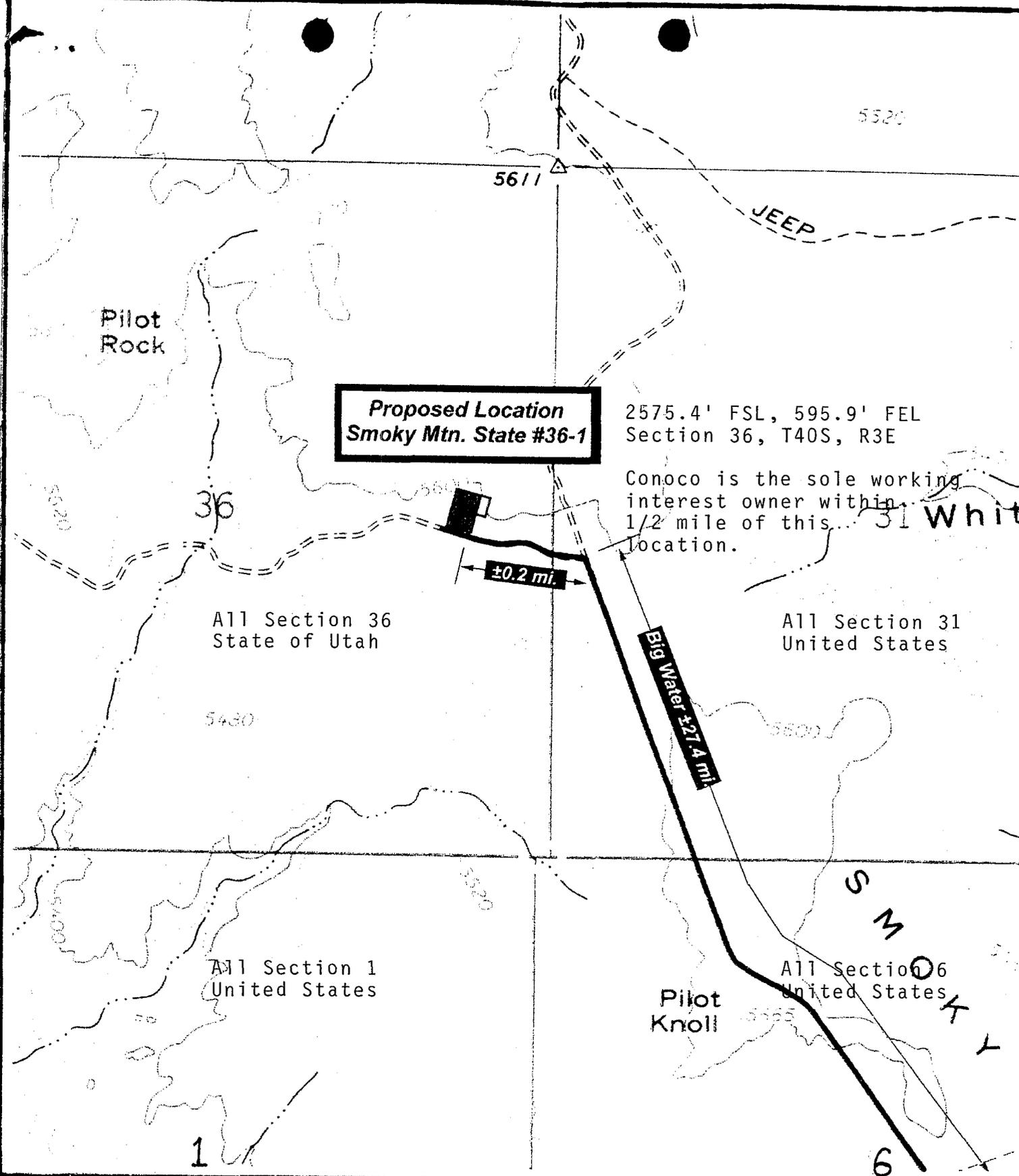
Conoco requests your approval of the non-standard location for the Smoky Mountain State 36 No. 1 located at 2575.4' FSL and 595.9' FEL, Section 36, T40S, R3E, Kane County, Utah. This location is optimal geologically to test the Mississippian Redwall and Cambrian Tapeats objectives at the maximum hydrodynamic closure. This is important because no structures in the basin are known to be full to the hydrodynamic spill-point, making flank locations high risk. The well is also located 150' from an existing road, making new location access unnecessary. This helps minimize the environmental impact of this location.

Mineral ownership within 1/2 mile of the location is divided between the State of Utah and the United States. See the attached plat for specifics. All working interest within 1/2 mile is held by Conoco, thus making notice to other parties unnecessary.

If you have any questions concerning this application, please give me a call at the number shown above.

Yours very truly,

Jimmy D. Carlile  
Sr. Conservation Coordinator



**Proposed Location  
Smoky Mtn. State #36-1**

2575.4' FSL, 595.9' FEL  
Section 36, T40S, R3E

Conoco is the sole working  
interest owner within  
1/2 mile of this... **Whit**  
location.

All Section 36  
State of Utah

All Section 31  
United States

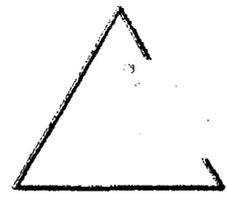
All Section 1  
United States

All Section 6  
United States

Pilot  
Knoll



**SMOKY MOUNTAIN STATE #36-1  
SEC. 36, T40S, R3E, S.L.B.&M.  
TOPO "B"**



SCALE 1" = 1000'

(801) 781-2501  
43 WEST 100 NORTH VERNAL, UTAH 84078

ATTACHMENT TO FORM 3 – APD

LEASE NO: ML-45707  
WELL NAME & NO: Smoky Mountain State 36, Well #1  
LOCATION: 2575.4' FSL & 595.9' FEL, (NE/SE) Sec. 36, T40S, R3E, SLB & M  
COUNTY & STATE: Kane, Utah

**HAZARDOUS MATERIAL DECLARATION FOR APPLICATION TO DRILL SUBJECT WELL**

No chemical subject to reporting under SARA Title III in an amount equal to or greater than 10,000 pounds will be used, stored, produced, transported or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities will be used, produced, stored, transported or disposed of in association with the drilling of this well.

DRILLING PLAN - Smoky Mountain State #36-1

1. **Location:** Section 36, R3E, T40S 2575.4' FSL & 595.9' FEL
2. **Geological Marker Tops:** (RKB: 5607' est. - GL: 5594' est)

Formation	Drilled Depth (RKB)	Datum	Estimated Pressure	Fluid / Mineral
RKB	0.00	+5607		
Dakota	1,810.00	+3797	Normal / Subnormal	
Morrison	2,037.00	+3570	"Ditto"	
Summerville	2,520.00	+3087	"Ditto"	
Entrada	2,740.00	+2867	"Ditto"	
Carmel	3,233.00	+2374	"Ditto"	
Navajo	3,515.00	+2092	"Ditto"	
Kayenta	5,285.00	+322	"Ditto"	
Wingate	5,528.00	+79	"Ditto"	
Chinle	5,849.00	-242	"Ditto"	
Shinarump	6,719.00	-1112	"Ditto"	
Moenkopi	6,985.00	-1378	"Ditto"	
Kaibab	7,615.00	-2008	"Ditto"	
Coconino	7,881.00	-2274	"Ditto"	
Organ Rock	8,281.00	-2674	"Ditto"	
Cedar Mesa	8,712.00	-3105	"Ditto"	
Hermosa	10,116.00	-4509	"Ditto"	
Molas Redbeds	10,554.00	-4947	"Ditto"	
Redwall	10,744.00	-5137	"Ditto"	
Ouray	11,421.00	-5814	"Ditto"	
Elbert	11,511.00	-5904	"Ditto"	

Lynch	11,782.00	-6175	"Ditto"	
Bright Angel	12,797.00	-7190	"Ditto"	
Tapeats	13,117.00	-7510	"Ditto"	Oil / Gas
Sixtymile Redbeds	13,330.00	-7723	"Ditto"	
Walcott	13,530.00	-7923	"Ditto"	
Awatubi	14,370.00	-8763	"Ditto"	
Carbon Butte	15,600.00	-9993	"Ditto"	Oil / Gas
Duppa	15,850.00	-10243	"Ditto"	
TD	15,975.00	-10368	"Ditto"	

3. **Casing Program:** (all new):

Depth	Size	Weight	Grade	Thread	Collapse	Burst	Tension
0 - 3500'	9-5/8"	36#	K-55	LTC	2020	3520	423,000
0 - 9500	7"	26#	L-80	BTC	5410	7240	604,000
9500 - 12200	7"	26#	C-95	BTC	5880	8600	717,000
11,800 - 15,975'	4-1/2"	11.6#	P-110	LTC	7580	10690	279,000

4. **Cementing Program:**

Casing	Coverage	Slurry	Weight (#/gal)	Volume	Type & Additives
Surface	3334-0'	Lead	12.1	1926sx 3794cuft 1.47	35:65 Poz (35% Poz:65% Class B + 2%CACL2 + .25#/sx cello flake + 8% Gel
	3500-3334'	Tail	15.6	100sx 120cuft 1.20	Class B + 2%CACL2 + .25#/sx cello flake
Interm	11471-8000'	Lead	13.5	700sx 854cuft 1.22	50:50 Poz (50% Poz:50% Class H + 3#/sx gilsonite + .25#/sx cello flake + .5% FL- 62

$$AVG = \frac{1474 + 1058 + 869}{3} = 1342 \quad \frac{869}{500} = 1.205 \frac{#}{sk}$$

1st stage	12200-11471'	Tail	16.2	100sx 110cuft 1.1 <sup>0</sup>	Class H + 3#/sx gilsonite + .25#/sx cello flake + .5% FL-62
Interm	4704-3000'	Lead	12.1	198sx 390cuft 1.9 <sup>7</sup>	35:65 Poz (35% Poz:65% Class B + 2%CACL2 + .25#/sx cello flake + 8% Gel
2nd stage	5500-4704'	Tail	15.6	100sx 120cuft 1.2 <sup>0</sup>	Class B + 2%CACL2 + .25#/sx cello flake
Liner	13750-11800'		16.2	427sx 462cuft 1.0 <sup>8</sup>	Class H + 3#/sx gilsonite + .25#/sx cello flake + .5% FL-62

Note: 1. Stage Tool @ +/- 5500'

2. Actual Cement Volumes will be calculated from caliper logs.

5. **Pressure Control Equipment:**

- A. BOP: 3000 psi w.p. Double ram blowout preventer with appropriate extension handwheels to 12,000'. 5000 psi w.p. Double ram blowout preventer with appropriate extension handwheels from 12,000 to 15,975. The pipe rams will be on top and blind rams on the bottom.
- B. A function test and visual inspection of the BOP will be performed daily.
- C. BOP equipment will be tested at least every 14 days. The BOP and casing test will conform to Onshore order No. 2.

6. **Auxiliary Equipment:**

- A. Kelly cock
- B. Drill pipe float
- C. Visual monitoring of the mud system.
- D. Rotating head

7. **Variance Request:**

- A. Conoco request a variance from the requirement to use a straight run blooie line. Where possible a straight blooie line will be used. Where it is not possible, any tees or ells in

the lines will be targeted.

8. **Drilling Fluids Program:**

Interval	Mud Type	Density (lb/gal)	Funnel Viscosity (Sec/Qt)	Water Loss
0 - 3500'	Gel/Lime / Aerated Mud	8.5-8.8	28 - 50	30 cc
3500 - 12,200'	Gel/Lime / Aerated Mud	8.5-8.8	28 - 50	20 cc
12,000 - 15,975'	Gel/Lime	8.5-8.8	32 - 50	10 cc

9. **Testing, Logging and Coring:**

A. Logging - Open hole:

DIL/GR/Sonic/LDT/CNL from TD to 3500'  
 Dipmeter - Tapeats to TD  
 Rotary Sidewall Cores - As per Geologist

B. No Cores planned

C. Possible DST in the Tapeats Sandstone

D. Final determination of the completion interval will be made by analysis of logs.

E.. Directional control shall be maintained by running a drift shot survey after every 1,000' of drilling.

10. **Abnormal Pressure or Temperatures: Potential Hazards.**

A. Lost circulation is possible throughout wellbore.

B. Due to the exploratory nature of the well an H2S contingency planned will be developed and implemented prior to reaching a depth of 4000'. H2S monitoring and air breathing apparatus will be rigged up and available prior to reaching 4000'.

11. **Additional Information:**

It is Conoco's intention to bury the cuttings on location once the pit has evaporated naturally.

*Cont. Plan faxed in, 9-8-98. & incorporated RJK*

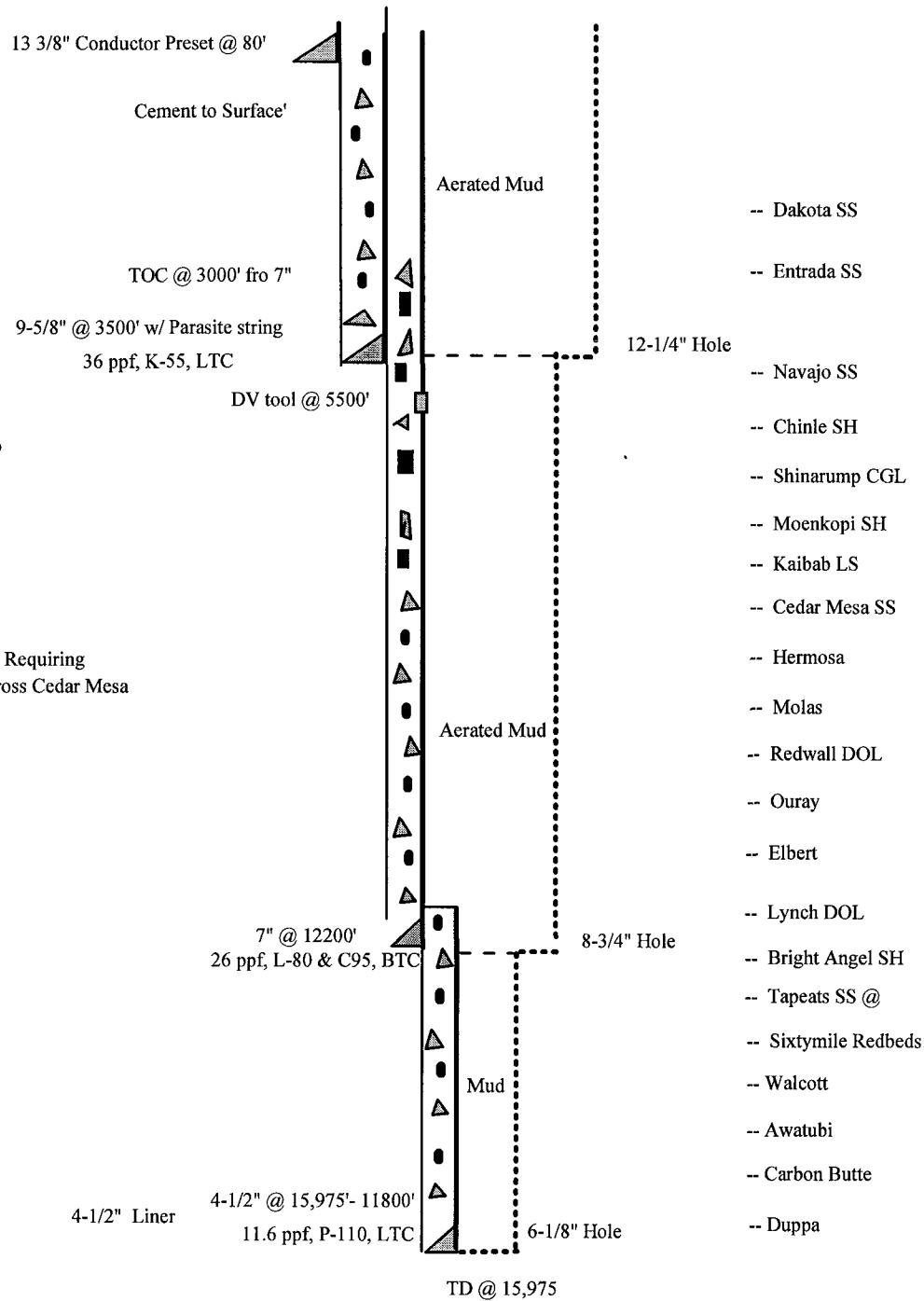
# Smokey Mountain State 36-1

## Section 36, R3E, T40S

Note: All Lead Cement Slurries  
Must exceed 500 psi compressive  
and must have lab test showing  
compressive strength.

Note: State Requiring  
Cement across Navajo

Note: State Requiring  
Cement across Cedar Mesa



## **NON-STANDARD LOCATION**

**There are two reasons for an exception or non-standard location for the subject well location:**

- 1. This location is optimal geologically to test the Mississippian Redwall and Cambrian Tapeats objectives at the maximum hydrodynamic closure. This is important because no structures in the basin are known to be full to the hydrodynamic spill-point, making flank locations high risk.**
- 2. The well was located 150' from an existing road so that no new location access road would be necessary. The wellsite is at the center of the 300' by 300' location with one side of the location coincident with the existing road. This minimizes the environmental impact of drilling.**

**Multi-Point Surface Use and Operations Plan**

CONOCO INC.  
SMOKY MOUNTAIN STATE #36-1  
NE SE SEC. 36, T40S, R3E  
KANE COUNTY, UTAH

**1. EXISTING ROADS: Refer to maps "A" & "B"**

- A. The proposed wellsite is staked and four reference stakes are present.
- B. The Smoky Mountain State #36-1 is located 30 miles North of Big Water Utah in the NE1/4 SE1/4 Sec. 36, T40S, R3E, S.L.B.&M. Kane County Utah. To reach the Smoky Mountain State #36-1 proceed East from Big Water on county road #277 for 12.5 miles to a road intersection. Turn left and continue 3.6 miles to a road intersection. Turn right and proceed 8.7 miles to a road intersection. Turn left and continue 2.9 miles to road intersection. Turn left and proceed 0.2 mile to location.

An alternate access route may be used by the drilling rig and related equipment. This access would come along existing county roads from Escalante Utah, which is approximately 65 miles to the North.

- C. Access roads - refer to maps "A" and "B"
- D. Access roads within a one mile radius - refer to map "B"
- E. The existing roads will be maintained in the same or better condition as existed prior to the commencement of operations and said maintenance will continue until final abandonment and reclamation of the well location.

**2. PLANNED ACCESS ROADS: Refer to Map "B"**

No new road construction will be required for access to the proposed well location.

**3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS**

None Known.

**4. Location of Existing and/or Proposed Facilities Owned by Conoco Inc. Within a One Mile Radius:**

A. Existing

None Known.

B. New Facilities Contemplated: In the event of production, the following will be shown.

1. Proposed location and attendant lines, by flagging, if off well pad.
2. Dimensions of facilities.
3. Construction methods and materials.
4. Protective measures and devices to protect livestock and wildlife.
5. All buried pipelines will be buried to depth of 3 feet except at road crossings where they will be buried to a depth of 4 feet.
6. Construction width of the right-of-way/pipeline route shall be restricted to 50 feet of disturbance.
7. Pipeline location warning signs shall be installed within 90 days after construction is completed.
8. Conoco Inc. shall condition pipeline right-of-ways in a manner to preclude vehicular travel upon said rights-of-way, except for access to pipeline drips and valves.
9. The area used to contain the proposed production facilities will be built using native materials. If these materials are not acceptable arrangements will be made to acquire appropriate materials from private sources.
10. A dike will be constructed completely around any of those production facilities which contain fluids (i.e. production tanks, produced water tanks etc.). These dikes will be constructed of compacted subsoil, be impervious, hold 110% of the capacity of the largest tank and be independent of the back cut.
11. All permanent (onsite for six (6) months or longer) above-the-ground constructed or installed, including pumping units, will be painted a flat non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Five State

Rocky Mountain Interagency Committee. All production facilities will be painted within six (6) months of installation. Facilities required to comply with Occupational Health and Safety Act Rules and Regulations will be excluded from this painting requirement.

- C. The production (emergency) pit will be eight (8) feet in diameter and eight (8) feet deep. It will be lined with corrugated steel with a steel mesh cover.
- D. During drilling and subsequent operations, all equipment and vehicles will be confined to the access road right-of-way and any additional areas as specified in the approved Application for Permit to Drill.
- E. Reclamation of disturbed areas no longer needed for operation will be accomplished by grading, leveling and seeding as recommended by the surface management agency.
- F. The proposed pipeline will be submitted to the authorized officer via Sundry Notice for approval of subsequent operations.
- G. Conoco Inc. will be responsible for road maintenance from the beginning to completion of operations.

#### **5. Location and Type of Water Supply**

- A. Water to be used for the drilling of this well will be hauled by truck over the roads described in item #1 and item #2, from the Escalante City water supply (which is approximately 40 miles north of the proposed location).
- B. A water well may be drilled on this location if it is determined to be more viable than hauling water.

#### **6. Source of Construction Materials**

- A. No construction materials are needed for drilling operations. In the event of production, the small amount of gravel needed for facilities will be hauled in by truck from a local gravel pit over existing access roads to the area. No special access other than for drilling operations and pipeline construction is needed.
- B. All access roads are described under item #2, and shown on Map #A.

All construction material for the drilling site shall be borrow material accumulated during the construction of the location site. No additional construction material from other sources is anticipated at this time. If in the future it is required, the appropriate actions will be taken to acquire it from private sources.

- C. All surface disturbance area is on State surface.
- D. All trees on the location shall be handled in the manner dictated by the surface management agency.
  - i. Trees shall be cut with a maximum stump height of six inches (6"), and cut to 4' lengths and stacked off location. Trees will not be dozed off the location or, access road, except on private surface where trees may be dozed. Trees may also be dozed on pipeline routes and then pulled back onto right-of-way as part of final reclamation.
  - ii. Limbs may be scattered off location, access road or along the pipeline, but not dozed off.

Rootballs shall be buried or placed off location, access road, or pipeline route to be scattered back over the disturbed area as part of final reclamation.

#### **7. Methods of Handling Waste Materials:**

- A. Cuttings - the cuttings will be deposited in the reserve/blooiie pit.
- B. Drilling fluids - including salts and chemicals will be contained in the reserve/blooiie pit. Upon termination of drilling and completion operations, the liquid contents of the reserve pit will be removed and disposed of at an approved waste disposal facility within ninety (90) days after termination of drilling and completion activities.

In the event adverse weather conditions prevent removal of the fluids from the reserve pit within this time period, an extension may be granted by the Authorized Officer upon receipt of a written request from Conoco Inc.

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

- C. Produced fluids - liquid hydrocarbons produced during completion operations will be placed in test tanks on the location. Produced waste water will be confined to a

lined pit (reserve pit) or storage tank for a period not to exceed ninety (90) days after initial production. During the ninety (90) day period, in accordance with NTL-2B, an application for approval of a permanent disposal method and location, along with the required water analysis, shall be submitted for the Authorized Officer's approval. Failure to file an application within the time frame allowed will be considered an incidence of noncompliance.

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

- D. Sewage - self-contained, chemical toilets will be provided for human waste disposal. Upon completion of operations, or as needed, the toilet holding tanks will be pumped and the contents thereof disposed of in the nearest, approved, sewage disposal facility.
- E. Garbage and other waste material - garbage, trash and other waste materials will be collected in a portable, self-contained and fully-enclosed trash cage during drilling and completion operations. Upon completion of operations (or as needed) the accumulated trash will be disposed of at an authorized sanitary landfill. No trash will be burned on location or placed in the reserve pit.
- F. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned up and removed from the well location. No adverse materials will be left on the location. Any open pits will be fenced during the drilling operation and the fencing will be maintained until such time as the pits are backfilled.
- G. The reserve and/or production pit will be constructed on the existing location and will not be located in natural drainages where a flood hazard exists or surface runoff will destroy or damage the pit walls. All pits will be constructed so as not to leak, break, or allow the discharge of liquids therefrom.

**8. Ancillary Facilities:**

None anticipated.

**9. Wellsite Layout:**

- A. Plat #1 shows the drill site layout as staked. Cross sections have been drafted to visualize the planned cuts

and fills across the location. An average minimum of eight (8) inches of topsoil will be stripped from the location (including areas of cut, fill, and/or subsoil storage) and stockpiled for future reclamation of the well site. Refer to Figure #1 for the location of the topsoil and subsoil stockpiles.

- B. Plat #2 is a diagram showing the rig layout. No permanent living facilities are planned. There will be one (1) trailer on location during drilling operation for the toolpusher.
- C. A diagram showing the proposed production facility layout will be submitted to the Authorized Officer via Sundry Notice (Form 3160-5) for approval of subsequent operations.
- D. If determined to be necessary the reserve pit will be lined with a plastic liner.
- E. Prior to the commencement of drilling operations, the reserve pit will be fenced on three (3) sides using three strands of barbed wire according to the following minimum standards:
  - 1. Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
  - 2. Standard steel, wood, or pipe posts shall be used between the corner braces. The maximum distance between any two (2) posts shall be no greater than sixteen (16) feet.
  - 3. All wire shall be stretched, by using a stretching device, before it is attached to the corner posts.The fourth side of the reserve pit will be fenced immediately upon removal of the drilling rig and the fencing will be maintained until the pit is backfilled.
- F. Any hydrocarbons on the pit will be removed from the pit as soon as possible after drilling operations are completed.

**10. Plans for Reclamation of the Surface:**

The State of Utah will be contacted prior to commencement of any reclamation operations.

A. Production

1. Immediately upon well completion, the well location and surrounding area(s) will be cleared of all debris, materials, trash and junk not required for production.
2. Immediately upon well completion, any hydrocarbons in the pit shall be removed in accordance with 43 CFR 3162.7-1.
3. If a plastic or nylon reinforced pit liner is used, it shall be torn and perforated before backfilling of the reserve pit.
4. Before any dirt work to restore the location takes place, the reserve pit will be completely dry and all cans, barrels, pipe, etc. will be removed.

Other waste and spoil materials will be disposed of immediately upon completion of drilling and workover activities.

5. The reserve pit and that portion of the location and access road not needed for production facilities/operations will be reclaimed within ninety (90) days from the date of well completion, weather permitting.
6. If the well is a producer, Conoco will:  
Upgrade and maintain access roads as necessary to prevent soil erosion, and accommodate year round traffic. Reshape areas unnecessary to operations, distribute topsoil, disk and seed all disturbed areas outside the work area according to the State of Utah recommended seed mixture.

If the well is abandoned/dry hole, Conoco will:  
Restore the access road and location to approximately the original contours. During reclamation of the site, push the fill material into cuts and up over the backslope. Leave no depressions that will trap water or form ponds. Distribute topsoil evenly over the location, and seed according to the recommended seed mixture. The access road and location shall be ripped or disked prior to seeding. Perennial vegetation must be established. Additional work shall be required in case of seeding failures, etc.

Seedbed will be prepared by disking. Seed will be drilled on contours at a depth no greater than one-half

inch (1/2"). In areas that cannot be drilled, seed will be broadcast at double the seeding rate and harrowed into soil. Certified seed will be used whenever available.

Fall seeding will be completed after September 1 and prior to prolonged ground frost. Spring seeding, to be effective, will be completed after the frost has left the ground and prior to May 15th.

7. Upon completion of backfilling, leveling and recontouring, the stockpiled topsoil will be evenly spread over the reclaimed area(s). Prior to reseeding, all disturbed surfaces will be scarified and left with a rough surface. No depressions will be left that would trap water and form ponds. All disturbed surfaces will be reseeded with a seed mixture to be recommended by the State of Utah.

Seed will be drilled on the contour to a approximate depth of one-half (1/2) inch. All seeding will be conducted after September 1 and prior to ground frost. Spring seeding will be done after the frost leaves the ground and no later than May 15. If the seeding is unsuccessful, Conoco Incorporated may be required to make subsequent seedings.

#### B. Dry Hole/Abandoned Location

1. On lands administered by the State of Utah the abandoned well site, roads, or other disturbed areas will be restored to near their original condition. This procedure will include:
  - (a) re-establishing drainage patterns where applicable,
  - (b) re-establishing soil conditions in such a way as to ensure revegetation of disturbed areas.
2. All disturbed surfaces will be recontoured to the approximate natural contours and reseeded according to surface management agency specifications. Reclamation of the well pad and access road will be performed as soon as practical after final abandonment and reseeding operations will be performed in the fall or spring following completion of reclamation operations.

## **11. Surface Ownership:**

The well site and access roads are situated on surface lands administered by the State of Utah.

## **12. Other Information:**

- A. Topographic and geologic features of the area (reference Topographic Map #A) are:

The Smoky Mountain area lies North of Big Water Utah on the Kaiparowits Plateau. The area is bounded on the South by Lake Powell, on the Southwest by Smoky Mountain and on the Northeast by Fiftymile Mountain.

Last Chance Creek, a perennial stream, drains the area southerly from the top of the Kaiparowits Plateau. This area has a steep gradient and is highly eroded, typical of the semi-arid rimrock and canyon regions of South central Utah.

Last Chance Creek carries most drainage from this area Southerly to the Colorado River (Lake Powell).

Reese Canyon and Rogers Canyon provide major intermittent drainage to the Colorado River and the Smoky Mountain Roadway provides access to the area.

The area is accessed via the Smohy Hollow road from Big Water to the South. (See Maps #A and #B).

The area slopes from the top of the Kaiparowits Plateau to the North to the Colorado River to the South. The area is interlaced with numerous canyons and ridges which are extremely steep with numerous ledges formed in sandstone, conglomerates and shale deposits.

The soils in the semi-arid area of the Williams Fork Formation (Upper Cretaceous) and Wasatch Formation (Eocene) consist of light brownish gray clay (OL) to sand soil (SM-ML) type with poorly graded gravels.

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

The topsoils in the area range from a sandy clay (SM-ML) type soil 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 heavy rain storms of long duration

which are rare as the normal annual rainfall in the area is only 8".

The flora of the area includes pinon and juniper trees, sagebrush, mountain mahogany, serviceberry, rabbit brush, greasewood, four-wing saltbush, Gambel scrub oak, willow, tamarack, shadscale, Spanish bayonet, indian rice grass, cheatgrass, wheatgrass, curly grass, crested wheatgrass, sweet clover, gum weed, foxtail, mustard, Canadian thistle, Russian thistle, Kochia, sunflowers and cacti.

The fauna of the area includes cattle, horses, elk, deer, coyotes, rabbits, rodents, lizards, bull snakes, rattle snakes, water snakes and horned toads. Birds of the area are ground sparrows, bluejays, bluebirds, magpies, ravens, raptors, morning doves, swallows, nighthawks, hummingbirds, and chukar.

- B. The surface ownership is State. The surface use is grazing.
- C. 1. The nearest live water is the Colorado River, (Lake Powell), which lies approximately 12 miles Southeasterly of the area.
- 2. There are no known occupied dwellings in the area.
- 3. An archaeological report will be forwarded upon completion.
- 4. There are no reported restrictions or reservations noted on the oil and gas lease.

**13. Lessee's or Operator's Representative:**

Mike L. Mankin  
Right of Way Agent  
Conoco Inc.  
10 Desta Drive, Suite 430E  
Midland, Texas 79705-4500  
(915) 686-5794

**Certification:**

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

operations, and any applicable Notice to Lessees.

Conoco Inc. will be fully responsible for the actions of their subcontractors.

A complete copy of the approved Application for Permit to Drill will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Conoco Inc. its' contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

<u>Mike L. Marking</u>	<u>6-19-98</u>	<u>Right of Way Agent</u>
Authorized Signature	Date	Title



*LOOKING NORTH*



*LOOKING SOUTH*

SHEET 1 OF 2

*CONOCO, INC.*

*SMOKY MOUNTAIN STATE #36-1  
SEC. 36, T40S, R3E, S.L.B.&M.*

*Tri State*  
*Land Surveying, Inc.*  
(801) 781-2501

38 WEST 100 NORTH VERNAL, UTAH 84078



*LOOKING EAST*



*LOOKING WEST*

SHEET 2 OF 2

*CONOCO, INC.*

*SMOKY MOUNTAIN STATE #36-1  
SEC. 36, T40S, R3E, S.L.B.&M.*

*Tri State*  
*Land Surveying, Inc.*  
(801) 781-2501

38 WEST 100 NORTH VERNAL, UTAH 84078



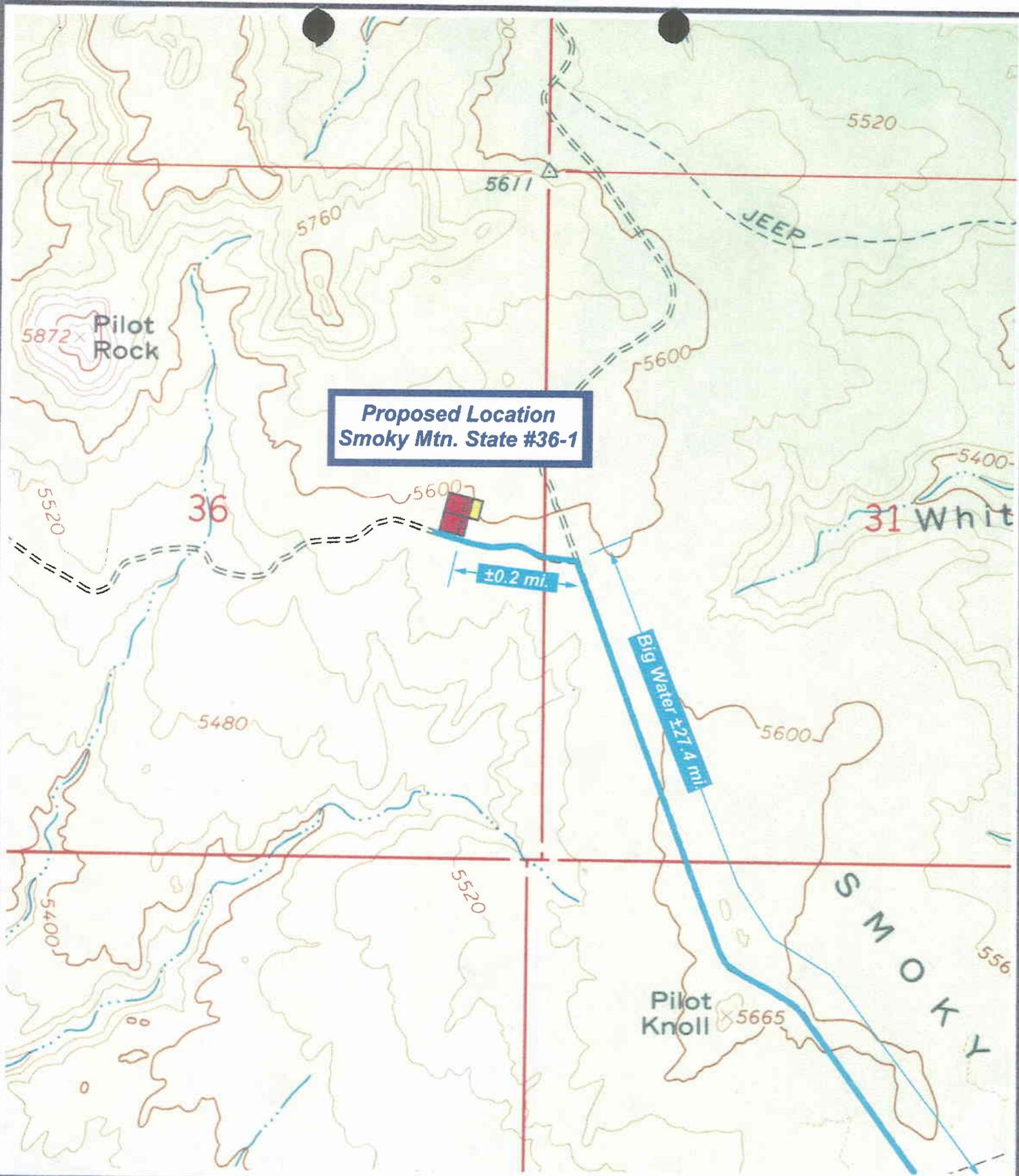
**Proposed Location  
Smoky Mtn. State #36-1**



**SMOKY MOUNTAIN STATE #36-1  
SEC. 36, T40S, R3E, S.L.B.&M.  
TOPO "A"**



*Tri-State  
Land Surveying Inc.*  
(801) 781-2501  
38 WEST 100 NORTH VERNAL, UTAH 84078



**Proposed Location  
Smoky Mtn. State #36-1**



**SMOKY MOUNTAIN STATE #36-1  
SEC. 36, T40S, R3E, S.L.B.&M.  
TOPO "B"**



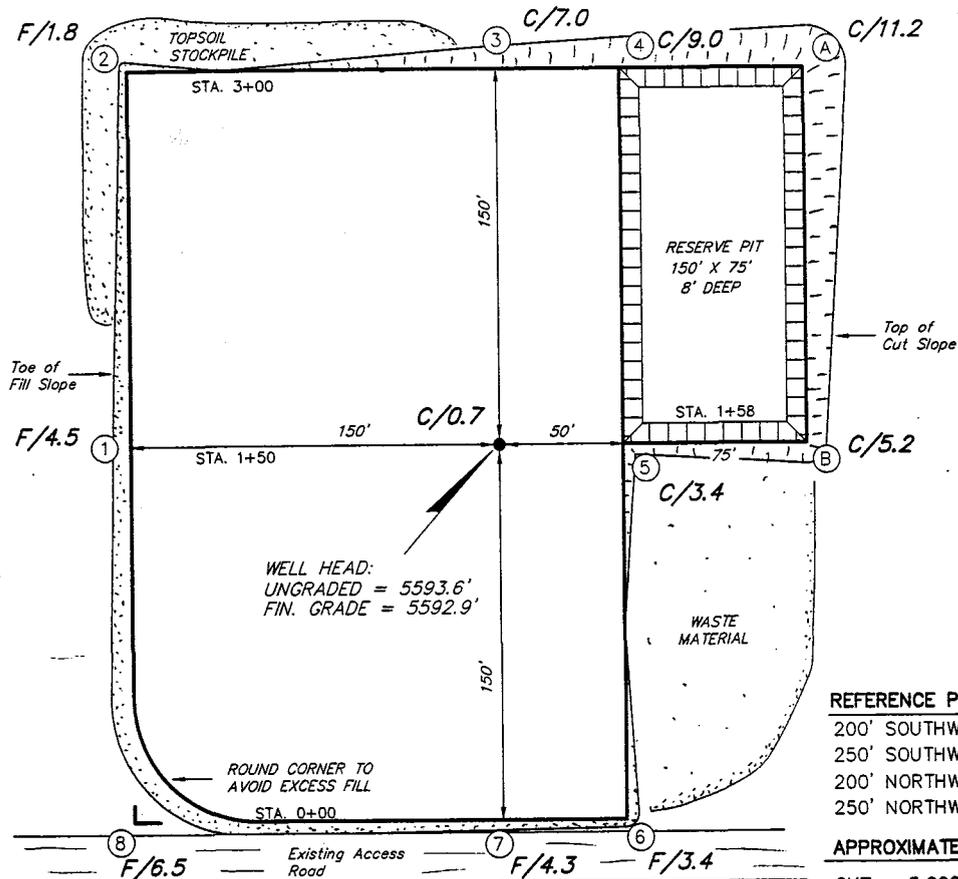
SCALE 1" = 1000'

*Tri-State  
Land Surveying Inc.*  
(801) 781-2501  
38 WEST 100 NORTH VERNAL, UTAH 84078

# Plat 1

CONOCO INC.

SMOKY MOUNTAIN STATE #36-1  
SEC. 36, T40S, R3E, S.L.B.&M.

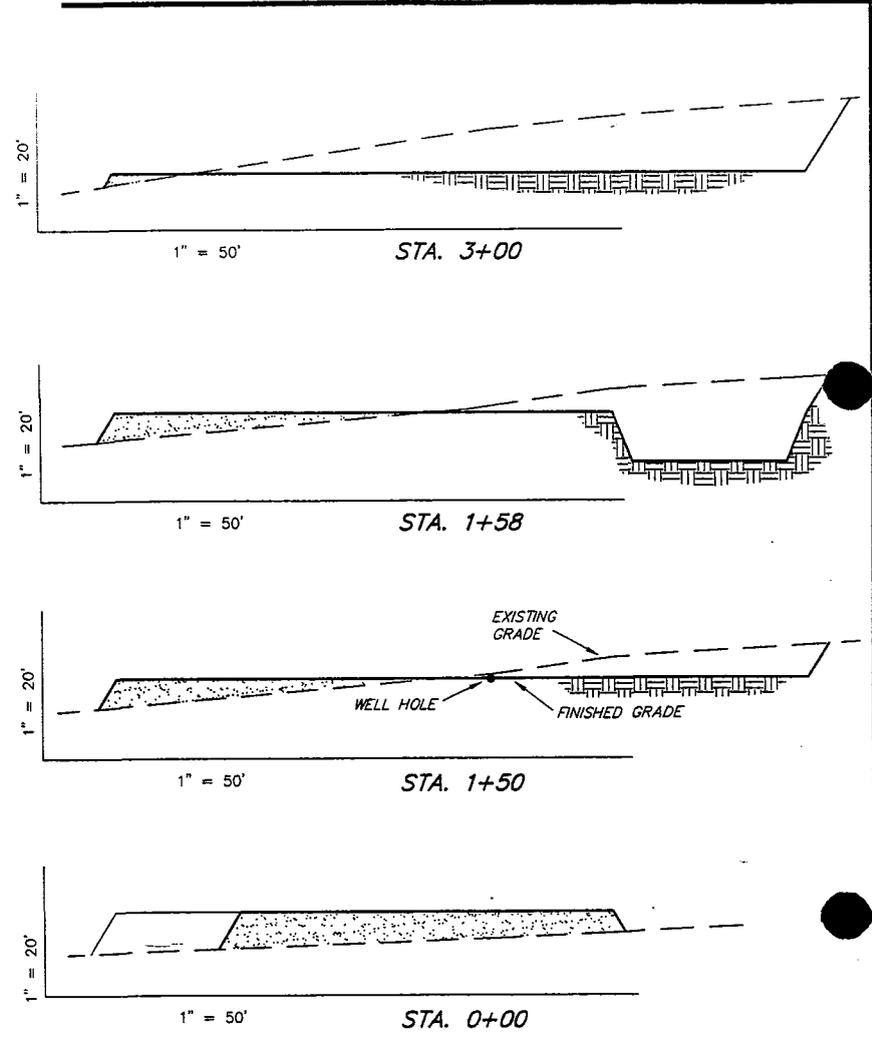


**REFERENCE POINTS**

- 200' SOUTHWEST = 5587.0'
- 250' SOUTHWEST = 5586.1'
- 200' NORTHWEST = 5586.9'
- 250' NORTHWEST = 5587.4'

**APPROXIMATE YARDAGES**

- CUT = 5,060 Cu. Yds.
- FILL = 5,040 Cu. Yds.
- PIT = 2,820 Cu. Yds.
- 6" TOPSOIL = 1,320 Cu. Yds.



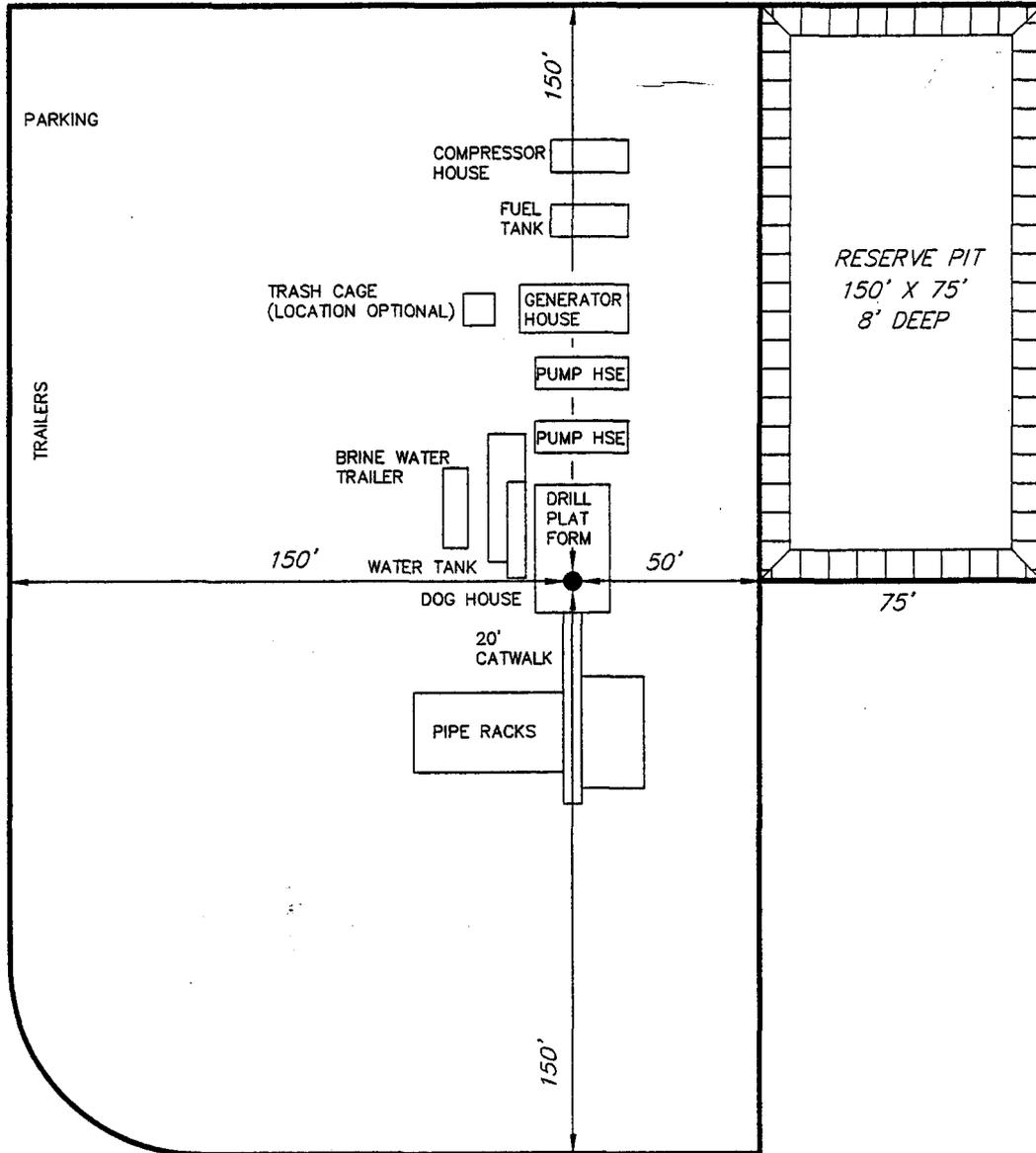
SURVEYED BY: S.S.
DRAWN BY: J.R.S.
DATE: 5-29-97
SCALE: 1" = 50'
FILE:

**Tri State**  
Land Surveying, Inc.  
(801) 781-2501

38 WEST 100 NORTH VERNAL, UTAH 84078

# TYPICAL RIG LAYOUT

**SMOKY MOUNTAIN STATE #36-1  
SEC. 36, T40S, R3E, S.L.B.&M.**

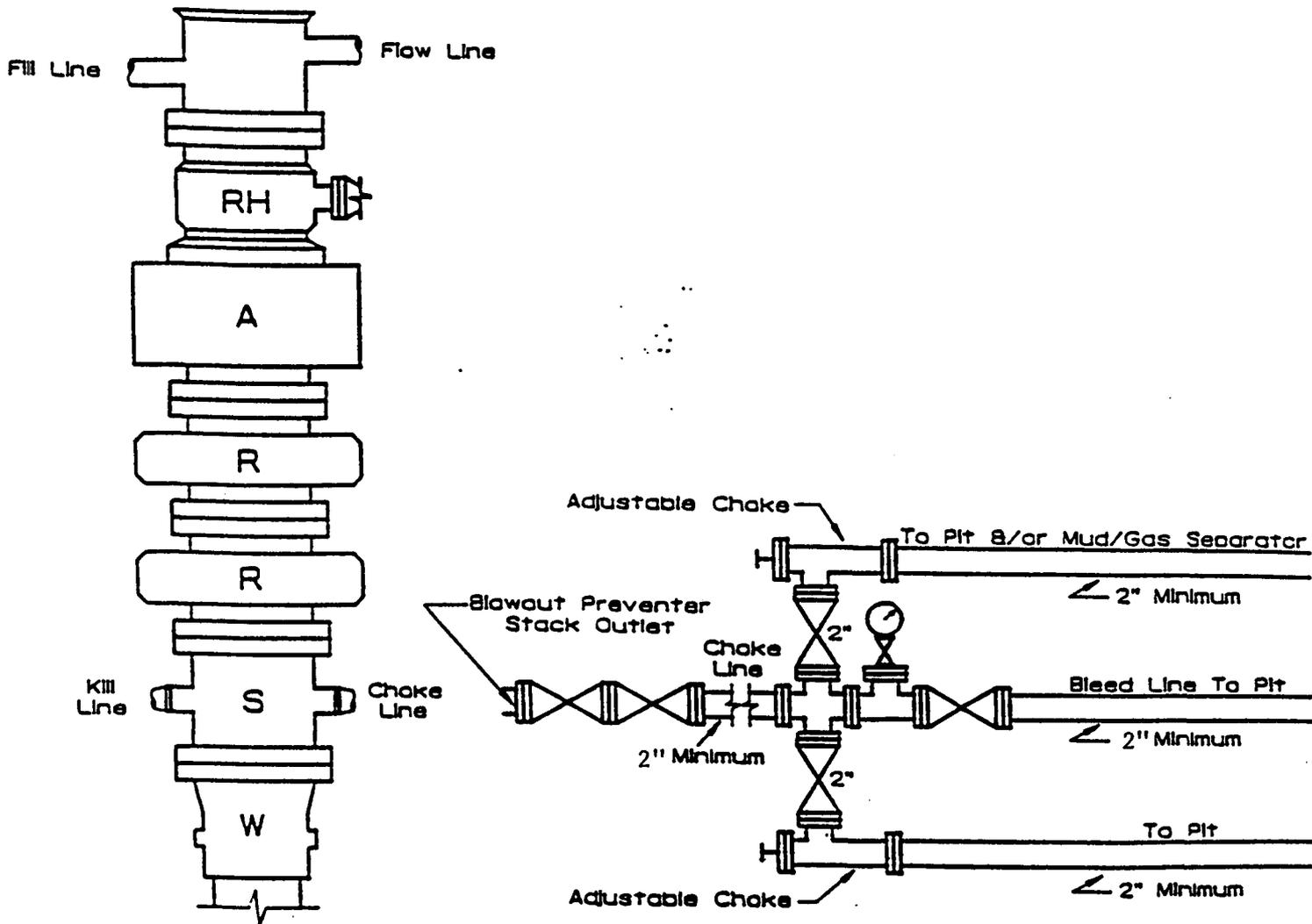


Plat 2

**Tri State**  
Land Surveying, Inc.  
(801) 781-2501  
38 WEST 100 NORTH, VERNAL, UTAH 84078



# DOUBLE RAM TYPE PREVENTERS WITH ROTATING HEAD (3000 psi System)

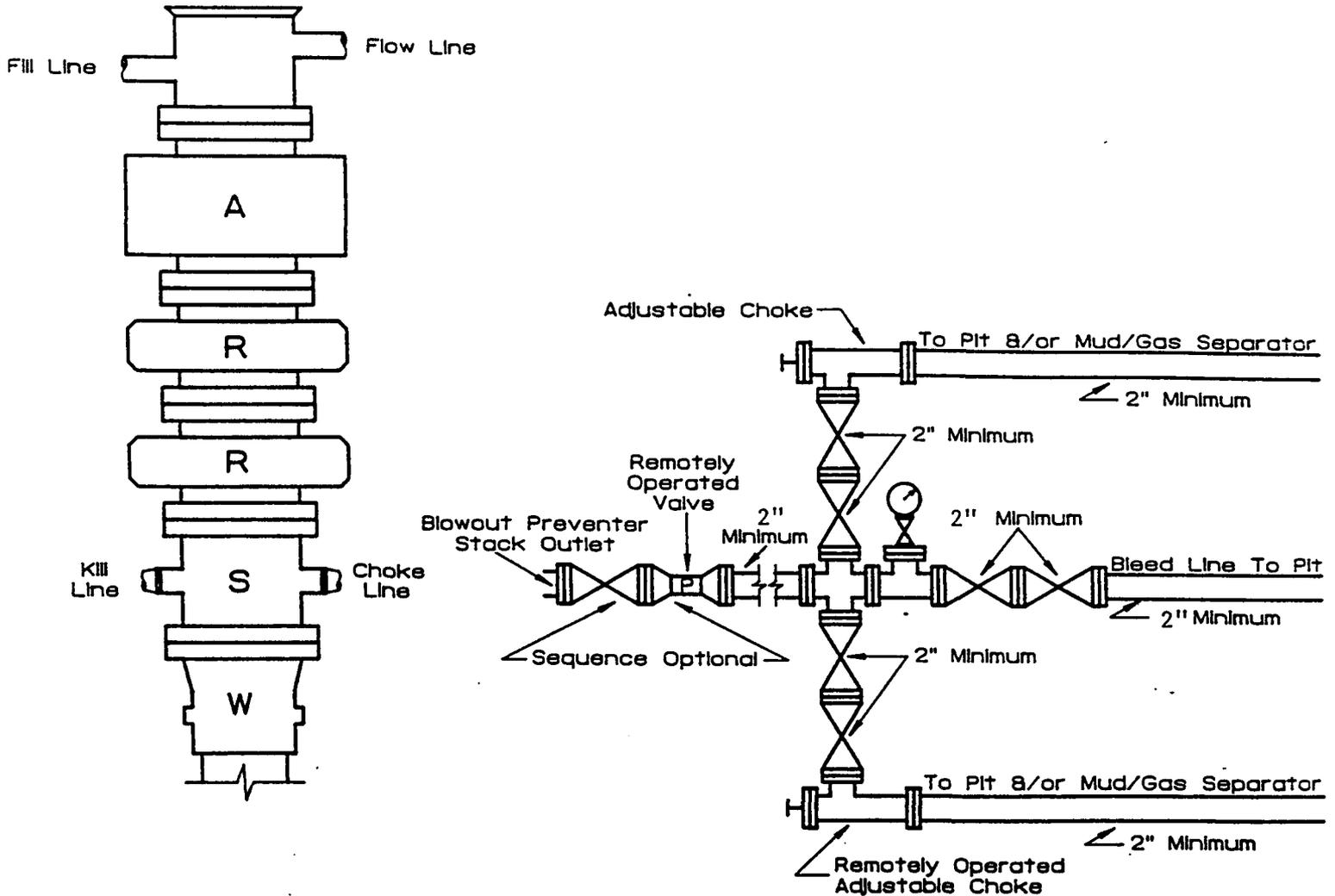


Minimum BOP Stack	<u>3000</u> psi Working Pressure
One Pipe Ram	<u>3000</u> psi Working Pressure
One Blind Ram	<u>3000</u> psi Working Pressure
One Annular	<u>3000</u> psi Working Pressure
Well Head	<u>3000</u> psi Working Pressure
Manifold	<u>3000</u> psi Working Pressure
Rotating Head	<u>500</u> psi Working Pressure



## DOUBLE RAM TYPE PREVENTERS

(5000 psi System)

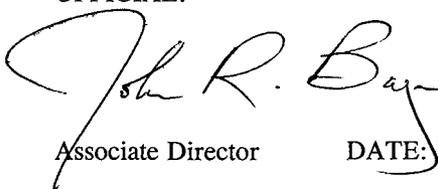


Minimum BOP Stack	<u>5000</u> psi Working Pressure
Two Pipe Ram	<u>5000</u> psi Working Pressure
One Blind Ram	<u>5000</u> psi Working Pressure
One Annular	<u>3500</u> psi Working Pressure
Well Head	<u>5000</u> psi Working Pressure
Manifold	<u>5000</u> psi Working Pressure

STATE ACTIONS

Mail to:  
RDCC Coordinator  
116 State Capitol  
Salt Lake City, Utah 84114

- 
1. ADMINISTERING STATE AGENCY  
OIL, GAS AND MINING  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, Utah 84114-5801
2. STATE APPLICATION IDENTIFIER NUMBER:  
(assigned by State Clearinghouse)
- 
3. APPROXIMATE DATE PROJECT WILL START:  
Upon Approval
- 
4. AREAWIDE CLEARING HOUSE(S) RECEIVING STATE ACTIONS:  
(to be sent out by agency in block 1)  
Five Counties Association of Governments
- 
5. TYPE OF ACTION:  Lease  Permit  License  Land Acquisition  
 Land Sale  Land Exchange  Other \_\_\_\_\_
- 
6. TITLE OF PROPOSED ACTION:  
Application for Permit to Drill
- 
7. DESCRIPTION:  
Conoco, Inc. proposes to drill the Smoky Mountain State 36 #1 well (wildcat) on state lease ML-45707, Kane County, Utah. This action is being presented to RDCC for consideration of resource issues affecting state interests. The Division of Oil, Gas and Mining is the primary administrative agency in this action and must issue approval before operations commence.
- 
8. LAND AFFECTED (site location map required) (indicate county)  
NE/4, SE/4, Section 36, Township 40 South, Range 3 East, Kane County, Utah
- 
9. HAS THE LOCAL GOVERNMENT(S) BEEN CONTACTED?  
No
- 
10. POSSIBLE SIGNIFICANT IMPACTS LIKELY TO OCCUR:  
Degree of impact is based on the discovery of oil or gas in commercial quantities.
- 
11. NAME AND PHONE NUMBER OF DISTRICT REPRESENTATIVE FROM YOUR AGENCY NEAR PROJECT SITE, IF APPLICABLE:
- 
12. FOR FURTHER INFORMATION, CONTACT:

13. SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL:  
  
Associate Director

DATE: June 30, 1998

John R. Baza  
PHONE: 538-5334

**VII. Private Entities**

19. UT980617-030

Michael Baker Corporation: SR 248  
Improvements in Park City - road  
improvements. Comments due 7/14/98.

**VIII. 404 Permits**

20. UT980623-030

U.S. Army Corps of Engineers/Cache  
County: Public Notice no. 199850306 -  
permit to place fill in wetlands. Comments  
due 7/20/98.

**IX. Short Turnaround**

21. UT980623-020

Division of Oil, Gas and Mining/Summit  
County: Application for Permit to Drill -  
proposal to drill a wildcat well the Yellow  
Creek Deep 5-1 well on a private lease (Sec.  
5, T5N, R8E). Comments due 7/14/98.

22. UT980701-040

DOGMA/Garfield County: Application for  
Permit to Drill - proposal to drill a wildcat  
well, Circle Cliffs State 16 #1 well on state  
lease ML-45391 (Sec. 16, T33S, R7E).  
Comments due 7/17/98.

23. UT980701-050

DOGMA/Garfield County: Application for  
Permit to Drill - proposal to drill a wildcat  
well, Circle Cliffs State 36 #1 well on state  
lease ML-45307 (Sec. 36, T32S, R6E).  
Comments due 7/17/98.

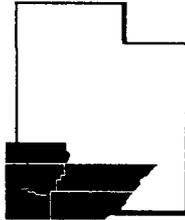
24. UT9890701-060

DOGMA/Garfield County: Application for  
Permit to Drill - proposal to drill a wildcat  
well, Smoky Mountain State 36 #1 well on  
state lease ML-45707 (Sec. 36, T40S, R3E).  
Comments due 7/17/98.

# Five County Association of Governments

906 North 1400 West  
St. George, Utah 84770

Fax (435) 673-3540



SOUTHWEST UTAH

Post Office Box 1550  
St. George, Utah 84771

Office (435) 673-3548

## AREAWIDE CLEARINGHOUSE A-95 REVIEW

Type of Action: Pre-Application \_\_\_\_\_ Notification of Intent  x  Application \_\_\_\_\_  
Notice of Federal Action \_\_\_\_\_

Receipt Date 07-01-98 SAI Number \_\_\_\_\_ ACH Number \_\_\_\_\_

Applicant Identification, Address

**Oil, Gas and Mining**  
1594 West North Temple, Suite 1210  
P.O. Box 145801  
Salt Lake City, UT 84114-5801

Applicant's Project Title:

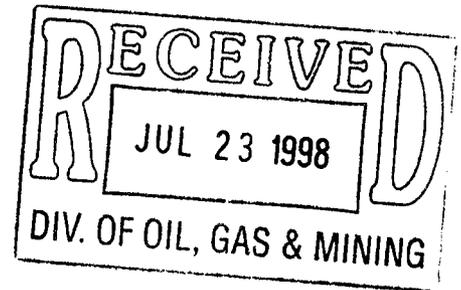
**APPLICATION FOR PERMIT TO DRILL (ML-45707)**

Funding:

Federal  
Supplemental  
State  
Local  
Other

N/A

Description: Conoco, Inc. proposes to drill the Smoky Mountain State 36 #1 well (wildcat) on state lease ML-45707, Kane County, Utah. TOTAL



### AREAWIDE CLEARINGHOUSE COMMENTS ON PROPOSAL FOR FEDERAL AID

Staff review completed (date): **07-02-98**

Screening Committee review completed (date)

Executive Board Review Completed (date) **07-20-98**

Referred to original for additional information (date)

- Recommend Approval  x  Comments (see reverse side of page)  x
- Conditionally approved as follows (see reverse side of page) \_\_\_\_\_
- Recommend Disapproval \_\_\_\_\_ Comments (see reverse side of page) \_\_\_\_\_
- The project described above ( x ) does ( ) not conform with the policy or planning of the multijurisdictional area it directly impacts. Additional information ( ) Is ( x ) Is not needed.
- We also serve notice that all requirements of the Project Notification and Review System for this multijurisdictional area have been met. Therefore, attach this letter to your application and forward to the federal funding agency.
- If this project will be a renewal or continuation grant, please submit your application next year to this areawide clearinghouse for re-review 30 days prior to submission to federal funding agency.
- We would anticipate reviewing final project application 30 days prior to submission for funding.

If any Clearinghouse Comments go unresolved, Federal law requires the Applicant to attach a copy of all negative comments to the project application and forward them both to the Federal Funding Agency(ies).

  
\_\_\_\_\_  
Authorizing Official

\_\_\_\_\_  
07-20-98  
Date

Copy of review sent to applicant

## **AREAWIDE CLEARINGHOUSE COMMENTS**

**The request by Conoco, Inc. is to drill a wildcat oil well on a State owned mineral lease parcel located in the Smokey Mountains of Kane County. The parcel is more accurately defined as Section 36, Township 40 South, Range 3 East. The proposed well is within the boundaries of the new Grand Staircase-Escalante National Monument; however, Conoco had a valid State of Utah lease prior to nomination and by Presidential Proclamation, continues to have the legal right to exercise that prior lease. Kane County has historically been very supportive of mining operations within their jurisdictional boundaries. That strong support is continued by the current Kane County Commission. The Planning Commission does not review oil and gas leases, but the proposed well is a permitted activity in the zone in which the parcel is located. Recommend: approval. (Robert Hugie)**

**APPLICATION FOR PERMIT TO DRILL  
STATEMENT OF BASIS**

**Operator:** CONOCO Inc.  
**Well Name & Number:** Smokey Mountain State 36-1  
**API Number:** 43-025-30031  
**Location:** 1/4,1/4 NESE Sec. 36 T. 40S R. 3E

**Geology/Ground Water:**

The proposed well is located on the Kaiparowits Plateau on nearly flat lying sediments with a ground surface which dips slightly to the south. The well location sits on the Drip Tank Member of the Straight Cliffs Formation. High quality ground-water may be encountered in the Straight Cliffs Formation but with low expected yields. Fresh to slightly saline water may be encountered in the Entrada, Carmel, Navajo, Kayenta, and Wingate Formations. The proposed casing program will set surface casing at the approximate top of the Navajo Formation and cemented to the surface. Intermediate casing will be set in the Lynch Dolomite at 12,200'. The proposed cement program should isolate the Navajo and cover potential Paleozoic aquifers and hydrogen sulfide zones. The propose casing and cement program should adequately protect and isolate any aquifers encountered.

Reviewer: Brad Hill Date: 9/2/98

**Surface:**

An onsite review of the proposed location was done on 7/29/98. Representatives from Conoco, School and Institutional Trust Lands Administration, and Bureau of Land Management were in attendance. An archeological and paleontological survey have been done on the proposed site. Access to the location will be on existing roads with only minor upgrades needed. A small drainage on the northwest corner of the pad should be avoided and Conoco agreed to round off that corner of the location. The reserve pit may be lined with compacted bentonite providing no sandstone layers are encountered during construction. If rock is encountered a synthetic liner shall be installed in a properly prepared pit such that the liner is not punctured by the underlying material.

Reviewer: Brad Hill Date: 8/3/98

**Conditions of Approval/Application for Permit to Drill:**

1. A drainage diversion shall be placed on the uphill side of the location.
2. A berm shall be placed around the entire pad to prevent any fluids from running off of the pad.
3. The drainage on the northwest corner of the location will be kept open or diverted.
4. The reserve pit is to be evaluated by Conoco personnel to determine if a synthetic liner is needed. If no rock is encountered a compacted bentonite liner may be used.

Well name:	<b>Smokey Mountain State #36-1</b>		
Operator:	<b>Conoco Inc.</b>		
String type:	<b>Surface</b>		Project ID: <b>43-025-30031</b>
Location:	<b>Kane County</b>		

<p><b>Design parameters:</b></p> <p><u>Collapse</u> Mud weight: 8.800 ppg Design is based on evacuated pipe.</p> <p><u>Burst</u> Max anticipated surface pressure: 0 psi Internal gradient: 0.457 psi/ft Calculated BHP: 1,600 psi  No backup mud specified.</p>	<p><b>Minimum design factors:</b></p> <p><u>Collapse:</u> Design factor: 1.125</p> <p><u>Burst:</u> Design factor: 1.00</p> <p><u>Tension:</u> 8 Round STC: 1.80 (J) 8 Round LTC: 1.80 (J) Buttress: 1.60 (J) Premium: 1.50 (J) Body yield: 1.50 (B)</p> <p>Tension is based on buoyed weight. Neutral point: 3,044 ft</p>	<p><b>Environment:</b> H2S considered? No Surface temperature: 75 °F Bottom hole temperature: 124 °F Temperature gradient: 1.40 °F/100ft Minimum section length: 1,500 ft</p> <p>Cement top: Surface</p> <p>Non-directional string.</p> <p><b>Re subsequent strings:</b> Next setting depth: 9,500 ft Next mud weight: 8.800 ppg Next setting BHP: 4,343 psi Fracture mud wt: 19.250 ppg Fracture depth: 7,500 ft Injection pressure: 7,500 psi</p>
--	--	---

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	3500	9.625	36.00	K-55	LT&C	3500	3500	8.765	249.2

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	1600	2020	1.26	1600	3520	2.20	110	489	4.46 J

Prepared by: RJK Department of Natural Resources	Phone: (801) 538-5274 FAX: (801) 359-3940	Date: September 8, 1998 State of Utah
---	--	--

STIPULATIONS: H2S Contingency Plan Required.  
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
Collapse is based on a vertical depth of 3500 ft, a mud weight of 8.8 ppg The casing is considered to be evacuated for collapse purposes.  
Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>Smokey Mountain State #36-1</b>	
Operator:	<b>Conoco Inc.</b>	Project ID:
String type:	<b>Intermediate</b>	<b>43-025-30031</b>
Location:	<b>Kane County</b>	

**Design parameters:**

**Collapse**  
 Mud weight: 8.800 ppg  
 Design is based on evacuated pipe.

**Burst**  
 Max anticipated surface pressure: 0 psi  
 Internal gradient: 0.457 psi/ft  
 Calculated BHP: 5,577 psi  
 No backup mud specified.

**Minimum design factors:**

**Collapse:**  
 Design factor: 1.125

**Burst:**  
 Design factor: 1.00

**Tension:**  
 8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.50 (B)  
 Tension is based on buoyed weight.  
 Neutral point: 10,581 ft

**Environment:**

H2S considered? No  
 Surface temperature: 75 °F  
 Bottom hole temperature: 246 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,500 ft  
 Cement top: 8,886 ft

Non-directional string.

**Re subsequent strings:**  
 Next setting depth: 12,200 ft  
 Next mud weight: 8.800 ppg  
 Next setting BHP: 5,577 psi  
 Fracture mud wt: 19.250 ppg  
 Fracture depth: 12,200 ft  
 Injection pressure: 12,200 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	12200	7	26.00	L-80	Buttress	12200	12200	6.151	639.6
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	5577	5410	0.97	5577	7240	1.30	275	604	2.20 B

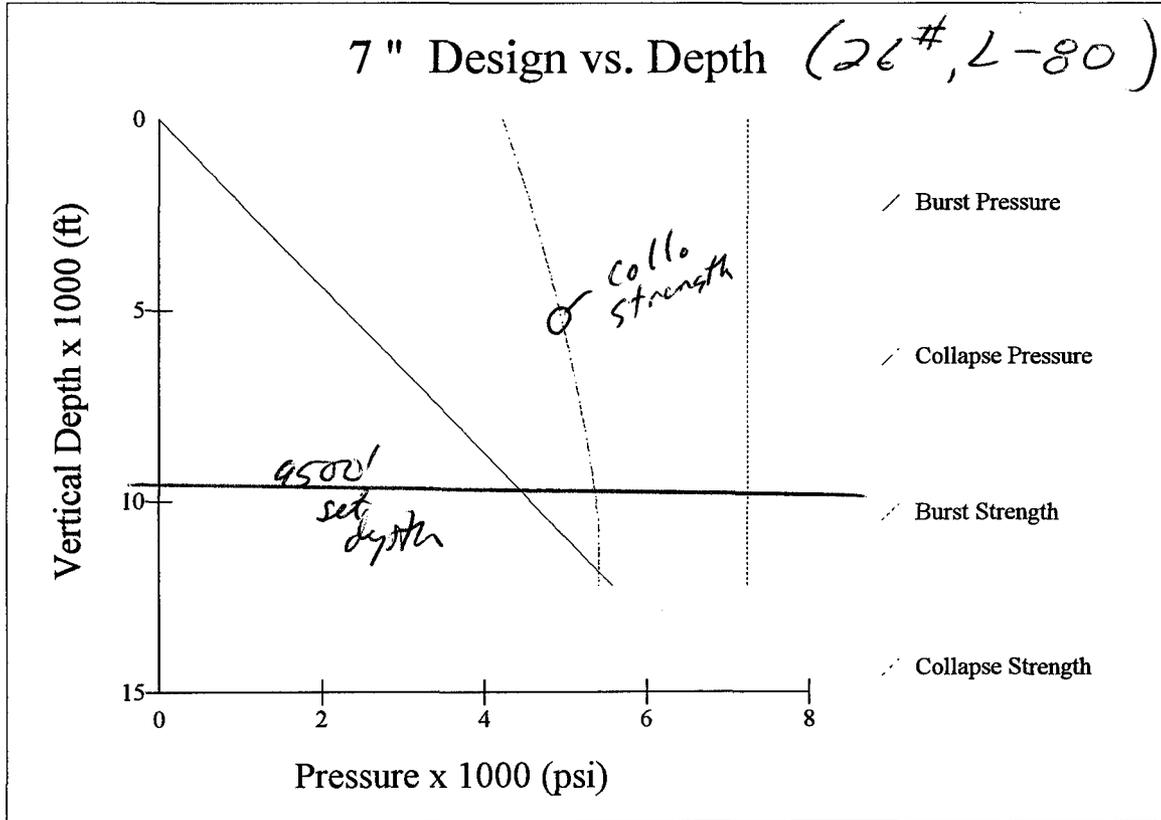
*OK to 9500 set depth!  
 see chart next page.*

Prepared by: RJK Department of Natural Resources  
 Phone: (801) 538-5274 FAX: (801) 359-3940  
 Date: September 8, 1998 State of Utah

STIPULATIONS: H2S Contingency Plan Required.  
 Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
 Collapse is based on a vertical depth of 12200 ft, a mud weight of 8.8 ppg The casing is considered to be evacuated for collapse purposes.  
 Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Smokey Mountain State #36-1 - Intermediate



<b>Well name:</b>	<b>Smokey Mountain State #36-1</b>	
<b>Operator:</b>	<b>Conoco Inc.</b>	
<b>String type:</b>	<b>Intermediate</b>	
<b>Location:</b>	<b>Kane County</b>	
	<b>Project ID:</b>	<b>43-025-30031</b>

**Design parameters:**

**Collapse**

Mud weight: 8.800 ppg  
 Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 0 psi  
 Internal gradient: 0.457 psi/ft  
 Calculated BHP: 5,577 psi  
  
 No backup mud specified.

**Minimum design factors:**

**Collapse:**

Design factor: 1.125

**Burst:**

Design factor: 1.00

**Tension:**

8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.50 (B)

Tension is based on buoyed weight.  
 Neutral point: 10,581 ft

**Environment:**

H2S considered? No  
 Surface temperature: 75 °F  
 Bottom hole temperature: 246 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,500 ft

Cement top: 8,886 ft

Non-directional string.

**Re subsequent strings:**

Next setting depth: 12,200 ft  
 Next mud weight: 8.800 ppg  
 Next setting BHP: 5,577 psi  
 Fracture mud wt: 19.250 ppg  
 Fracture depth: 12,200 ft  
 Injection pressure: 12,200 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	12200	7	26.00	C-95	Buttress	12200	12200	6.151	639.6
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	5577	5880	1.05	5577	8600	1.54	275	717	2.61 B

*with no fluid in pipe  
 2.11 w/ pipe 1/2 full  
 see next page*

Prepared by: RJK  
 Department of Natural Resources

Phone: (801) 538-5274  
 FAX: (801) 359-3940

Date: September 8, 1998  
 State of Utah

STIPULATIONS: H2S Contingency Plan Required.  
 Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
 Collapse is based on a vertical depth of 12200 ft, a mud weight of 8.8 ppg The casing is considered to be evacuated for collapse purposes.  
 Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	<b>Smokey Mountain State #36-1</b>	
Operator:	<b>Conoco Inc.</b>	Project ID:
String type:	<b>Intermediate</b>	<b>43-025-30031</b>
Location:	<b>Kane County</b>	

**Design parameters:**

**Collapse**

Mud weight: 8.800 ppg  
 Internal fluid density: 4.400 ppg

**Burst**

Max anticipated surface pressure: 0 psi  
 Internal gradient: 0.457 psi/ft  
 Calculated BHP: 5,577 psi

No backup mud specified.

**Minimum design factors:**

**Collapse:**

Design factor: 1.125

**Burst:**

Design factor: 1.00

**Tension:**

8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.50 (B)

Tension is based on buoyed weight.  
 Neutral point: 10,581 ft

**Environment:**

H2S considered? No  
 Surface temperature: 75 °F  
 Bottom hole temperature: 246 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,500 ft

Cement top: 8,886 ft

Non-directional string.

**Re subsequent strings:**

Next setting depth: 12,200 ft  
 Next mud weight: 8.800 ppg  
 Next setting BHP: 5,577 psi  
 Fracture mud wt: 19.250 ppg  
 Fracture depth: 12,200 ft  
 Injection pressure: 12,200 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	12200	7	26.00	C-95	Buttress	12200	12200	6.151	639.6
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	2789	5880	2.11	5577	8600	1.54	275	717	2.61 B

OK

Prepared by: RJK  
 Department of Natural Resources

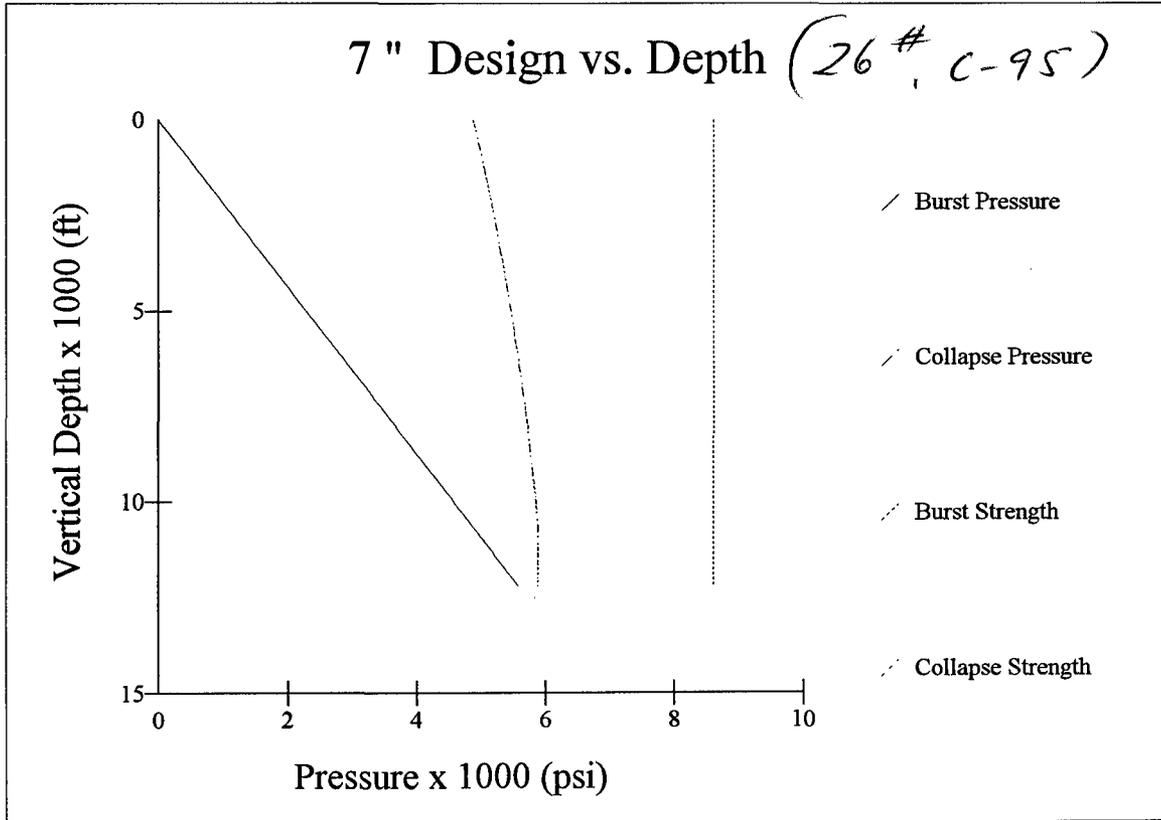
Phone: (801) 538-5274  
 FAX: (801) 359-3940

Date: September 8, 1998  
 State of Utah

STIPULATIONS: H2S Contingency Plan Required.  
 Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
 Collapse is based on a vertical depth of 12200 ft, a mud weight of 8.8 ppg. An internal gradient of .229 psi/ft was used for collapse from TD to 0 ft.  
 Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Smokey Mountain State #36-1 - Intermediate



Well name:	<b>Smokey Mountain State #36-1</b>		Project ID:
Operator:	<b>Conoco Inc.</b>		43-025-30031
String type:	<b>Liner: Production</b>		
Location:	<b>Kane County</b>		

**Design parameters:**

**Collapse**

Mud weight: 8.800 ppg  
 Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 0 psi  
 Internal gradient: 0.457 psi/ft  
 Calculated BHP: 7,303 psi  
  
 No backup mud specified.

**Minimum design factors:**

**Collapse:**

Design factor: 1.125

**Burst:**

Design factor: 1.00

**Tension:**

8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.50 (B)

Tension is based on buoyed weight.  
 Neutral point: 15,426 ft

**Environment:**

H2S considered? No  
 Surface temperature: 75 °F  
 Bottom hole temperature: 299 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 1,500 ft

Cement top: 12,132 ft

Liner top: 11,800 ft  
 Non-directional string.

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Internal Capacity (ft³)
1	4175	4.5	11.60	P-110	LT&C	15975	15975	3.875	96.8
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (Kips)	Tension Strength (Kips)	Tension Design Factor
1	7303	7580	1.04	7303	10690	1.46	42	279	6.63 J

Prepared by: RJK  
 Department of Natural Resources

Phone: (801) 538-5274  
 FAX: (801) 359-3940

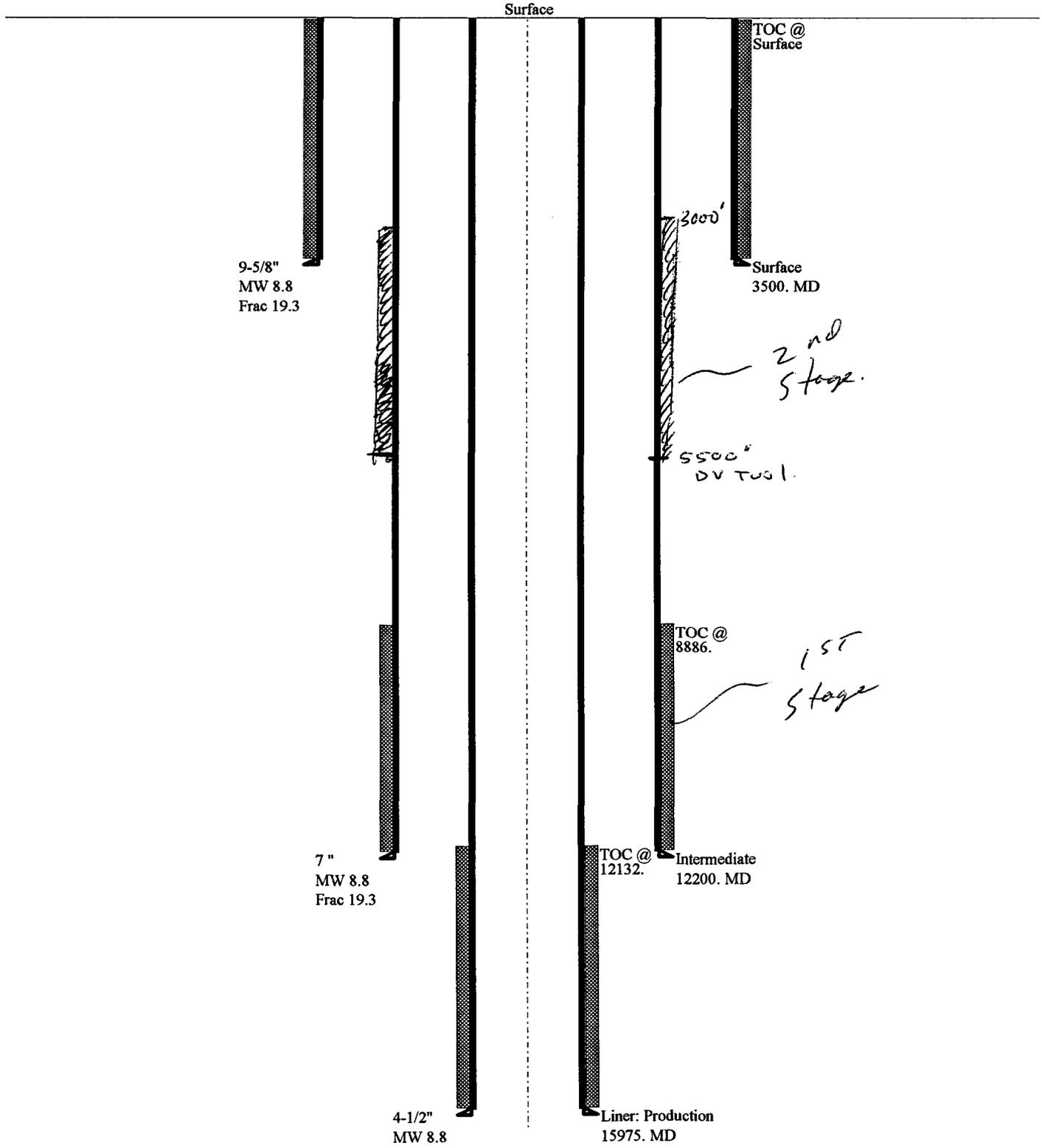
Date: September 8, 1998  
 State of Utah

STIPULATIONS: H2S Contingency Plan Required.  
 Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.  
 For this liner string, the top is rounded to the nearest 100 ft. Collapse is based on a vertical depth of 15975 ft, a mud weight of 8.8 ppg. The casing Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

# Smokey Mountain State #36-1

## Casing Schematic



Division of Oil, Gas and Mining  
PHONE CONVERSATION DOCUMENTATION FORM

Route original/copy to:

Well File \_\_\_\_\_

Suspense  
(Return Date) \_\_\_\_\_

Other  
\_\_\_\_\_

(Loc.) Sec 36 Twp 40S Rng. 3E  
(API No.) 43-025-30031

(To-Initials) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

1. Date of Phone Call: 9-8-98 Time: 9:40AM

2. DOGM Employee (name) RJK ( Initiated Call)

Talked to:

Name JO ANN JOHNSON ( Initiated Call) - Phone No. (~~815~~ <sup>915</sup> 686-5515)  
of (Company/Organization) \_\_\_\_\_

3. Topic of Conversation: R-649-3-4  
① BOP Schematic (2.6.3) ② Hz S Cont. Plan. (2.6.7)

4. Highlights of Conversation: To Ann to Fox ① + ② above  
to be incorporated into A.P.D.



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

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
Lowell P. Braxton  
Division Director

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

UTAH DIVISION OF OIL, GAS AND MINING  
FACSIMILE COVER SHEET

DATE: JUNE 26, 1998  
FAX#: 355-0922  
ATTN: JIM COOPER  
COMPANY: SITLA  
DEPARTMENT: \_\_\_\_\_  
NUMBER OF PAGES:(INCLUDING THIS ONE) 7  
From: LISHA CORDOVA

If you do not receive all of the pages, or if they are illegible, please call (801)538-5340.  
We are sending from a sharp facsimile machine. Our telecopier number is (801)359-3940.

MESSAGES:

\*CIRCLE CLIFFS STATE 16 #1 (STATE MINERALS, FEDERAL SURFACE)

I AM MAILING COMPLETE APPLICATIONS (3) WELLS TO YOU TODAY. ANY QUESTIONS,  
PLEASE FEEL FREE TO CALL ME AT 538-5296 OR JOHN BAZA AT 538-5334.

Important: This message is intended for the use of the individual or entity of which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and return this original message to us at the above address via regular postal service. Thank you.

ON-SITE PREDRILL EVALUATION

**Division of Oil, Gas and Mining**

OPERATOR: CONOCO INC.  
WELL NAME & NUMBER: Smoky Mountain State 36-1  
API NUMBER: 43-025-30031  
LEASE: ML-45707 FIELD/UNIT: Wildcat  
LOCATION: 1/4,1/4 NWSE Sec: 36 TWP:40S RNG: 3E 2575 FSL 596 FEL  
LEGAL WELL SITING: 460 F SEC. LINE; 460 F 1/4,1/4 LINE; \_\_\_ F ANOTHER WELL.  
SURFACE OWNER: SITLA (Located within the boundary of the Grand Staircase-  
Escalante National Monument)

PARTICIPANTS

Mike Mankin-CONOCO; Brad Hill & Gil Hunt-DOGM; Ed Bonner-SITLA; Doug  
Powell, Harry Barber, Terry Catlin, Verlin Smith, Laren Mermejo, Greg  
Thayn, Paige Ballard, Stefanie Macbain, Mariette Eaton, Douglas  
McFadden, Al McKee, Bob Hendricks,, Tim O'Brien & Paul Chapman-BLM;  
Stacy Stewart & Kris Stewart-Tri State Land Survey; John Rienour-NPS

REGIONAL/LOCAL SETTING & TOPOGRAPHY

The proposed location is approximately 30 miles north and east of Big  
Water, Utah on the Kaiparowits Plateau. The pad will be situated on a  
gently dipping slope to the south with the cliffs of Ship Mountain  
Point to the northwest. A small drainage crosses the northwest corner  
of the proposed location.

SURFACE USE PLAN

CURRENT SURFACE USE: Grazing, wildlife habitat and outdoor recreation.

PROPOSED SURFACE DISTURBANCE: A rectangular pad with approximate  
dimensions of 300' X 275' will be constructed. This area includes a  
150' X 75' reserve pit on the northeast corner and a waste material  
stockpile on the south east corner. Existing roads will be used for  
access with minor upgrades as needed. This includes a small (~100  
yard) section of road across BLM administered acreage which would  
require BLM approval if any changes are to be made to this section of  
road.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: None Known

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: CONOCO discusses potential production facilities in the APD.

SOURCE OF CONSTRUCTION MATERIAL: All materials to be used for construction will be derived from onsite materials.

ANCILLARY FACILITIES: Conoco has stated that no ancillary facilities are anticipated.

#### WASTE MANAGEMENT PLAN:

The waste management plan is discussed in detail in the APD. The plan as outlined in the APD is acceptable to DOGM.

#### ENVIRONMENTAL PARAMETERS

AFFECTED FLOODPLAINS AND/OR WETLANDS: None.

FLORA/FAUNA: Snakeweed, Ephedra, Juniper, Pinion, Silverleaf Buffalo berry, yucca, cactus, saltbush, scattered grasses/deer, birds, rodents, snakes, lizards.

SOIL TYPE AND CHARACTERISTICS: Sandy-silty clay soil with abundant rock fragments.

SURFACE FORMATION & CHARACTERISTICS: Drip Tank Member of the Straight Cliffs Formation and Quaternary alluvium derived from the Drip Tank Member.

EROSION/SEDIMENTATION/STABILITY: No significant erosion or sedimentation was observed. The location should be stable.

PALEONTOLOGICAL POTENTIAL: There are scattered occurrences of petrified wood on the proposed site. No other paleontological material was observed. A paleontological survey was done by Jim Madsen of DINOLAB Inc.

#### RESERVE PIT

CHARACTERISTICS: A rectangular reserve pit with approximate dimensions of 150' X 75' X 8' will be constructed in cut on the northeast side of the location.

LINER REQUIREMENTS (Site Ranking Form attached): The pit is to be evaluated by Conoco personnel after excavation. A compacted bentonite liner will be required unless sandstone layers are encountered in which case a synthetic liner will be necessary.

SURFACE RESTORATION/RECLAMATION PLAN

Reclamation of the surface will be done as stipulated by SITLA.

SURFACE AGREEMENT: SITLA lease agreement.

CULTURAL RESOURCES/ARCHAEOLOGY: Survey was done by Casa Archeological.

OTHER OBSERVATIONS/COMMENTS

The proposed location is located on SITLA lands, within the Grand Staircase-Escalante National Monument, that are part of the proposed land-swap with the federal government.

ATTACHMENTS

Photographs will be placed on file.

Brad Hill & Gil Hunt

DOGM REPRESENTATIVE

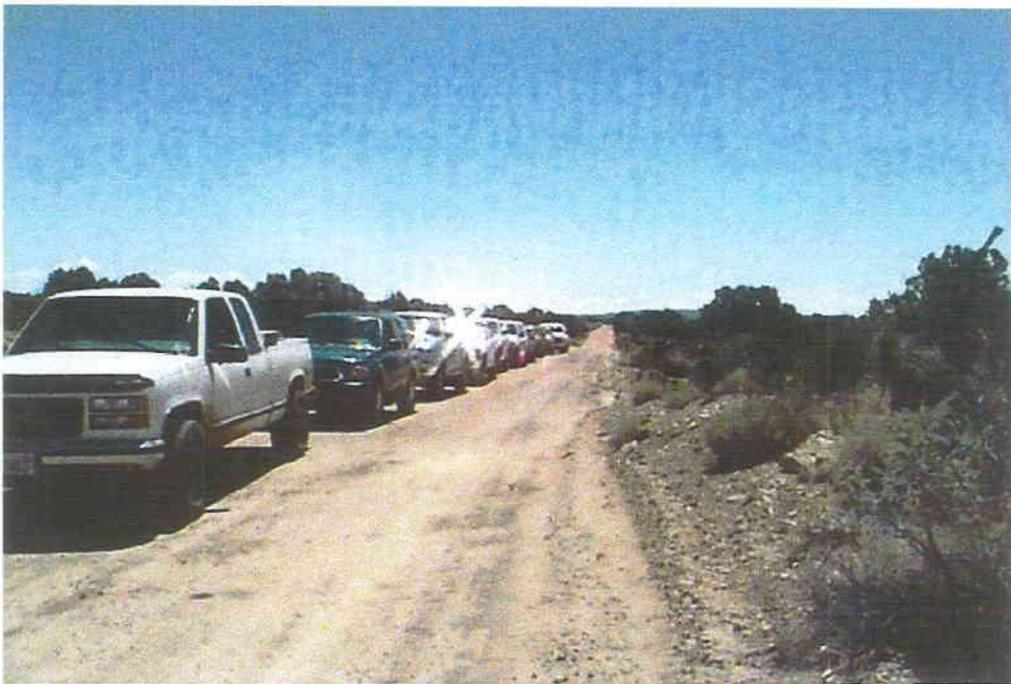
7/28/98 11:00

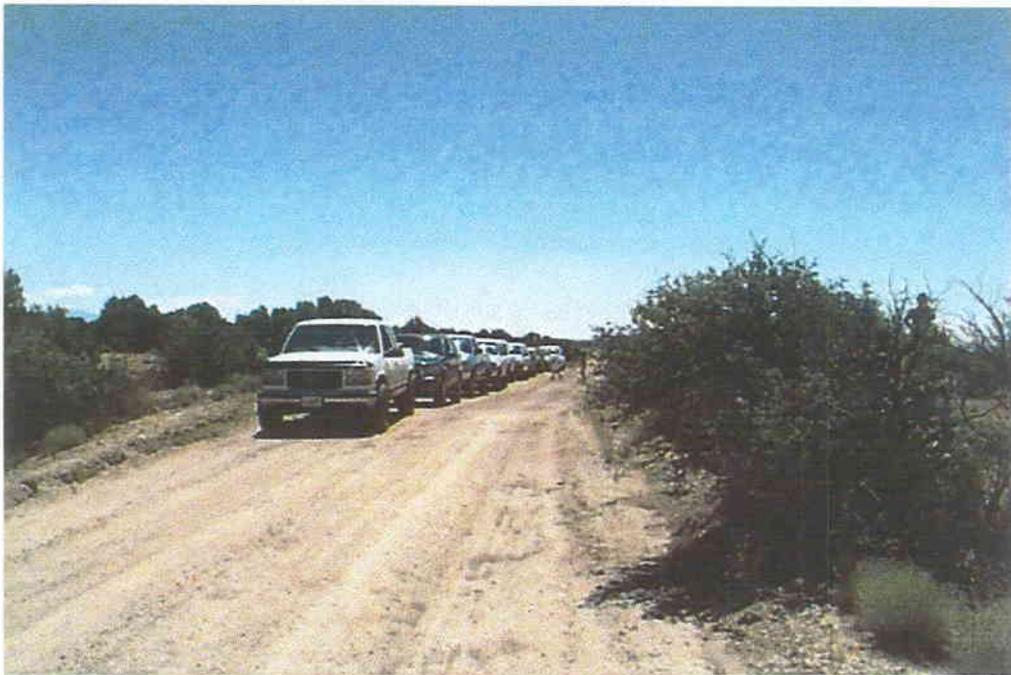
DATE/TIME

**Evaluation Ranking Criteria and Ranking Score  
For Reserve and Onsite Pit Liner Requirements**

<u>Site-Specific Factors</u>	<u>Ranking</u>	<u>Site Ranking</u>
Distance to Groundwater (feet)		
>200	0	
100 to 200	5	
75 to 100	10	
25 to 75	15	0
<25 or recharge area	20	_____
Distance to Surf. Water (feet)		
>1000	0	
300 to 1000	2	
200 to 300	10	
100 to 200	15	0
< 100	20	_____
Distance to Nearest Municipal Well (feet)		
>5280	0	
1320 to 5280	5	
500 to 1320	10	
<500	20	0
		_____
Distance to Other Wells (feet)		
>1320	0	
300 to 1320	10	
<300	20	0
		_____
Native Soil Type		
Low permeability	0	
Mod. permeability	10	
High permeability	20	8
		_____
Fluid Type		
Air/mist	0	
Fresh Water	5	
TDS >5000 and <10000	10	
TDS >10000 or Oil Base Mud Fluid	15	
containing significant levels of		
hazardous constituents	20	5
		_____
Drill Cuttings		
Normal Rock	0	
Salt or detrimental	10	0
		_____
Annual Precipitation (inches)		
<10	0	
10 to 20	5	
>20	10	5
		_____
Affected Populations		
<10	0	
10 to 30	6	
30 to 50	8	
>50	10	0
		_____
Presence of Nearby Utility		
Conduits		
Not Present	0	
Unknown	10	
Present	15	0
		_____

Final Score























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

1594 West North Temple, Suite 1210  
PO Box 145801  
Salt Lake City, Utah 84114-5801  
801-538-5340  
801-359-3940 (Fax)  
801-538-7223 (TDD)

Michael O. Leavitt  
Governor  
Lowell P. Braxton  
Division Director

September 10, 1998

Conoco, Inc.  
10 Desta Drive, Suite 430E  
Midland, Texas 79705-4500

Re: Smoky Mountain State 36 #1 Well, 2575' FSL, 596' FEL, NE SE,  
Sec. 36, T. 40 S., R. 3 E., Kane County, Utah

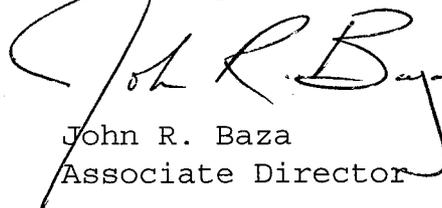
Gentlemen:

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

Appropriate information has been submitted to DOGM by Conoco, Inc. and administrative approval of the requested exception location is hereby granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-025-30031.

Sincerely,



John R. Baza  
Associate Director

lwp

Enclosures

cc: Kane County Assessor  
Bureau of Land Management, Cedar City District Office

Operator: Conoco, Inc.  
Well Name & Number: Smoky Mountain State 36 #1  
API Number: 43-025-30031  
Lease: ML 45707  
Location: NE SE Sec. 36 T. 40 S. R. 3 E.

### Conditions of Approval

1. General

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

2. Notification Requirements

Notify the Division within 24 hours prior to spudding the well. Contact Jim Thompson at (801)538-5336.

Notify the Division prior to commencing operations to plug and abandon the well. Contact Dan Jarvis at (801) 538-5338 or Robert Krueger at (801) 538-5274.

3. Reporting Requirements

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

4. Implement H<sup>2</sup>S contingency plan received September 8, 1998 by Fax and incorporated into APD.

5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

**From:** Teresa Thompson <t3thomps@ut.blm.gov>  
**To:** NRDOMAIN.NROGM(JBAZA)  
**Date:** Wed, Feb 3, 1999 10:47 AM  
**Subject:** Conoco Well Files

**CONFIDENTIAL**

John,

As you are aware, the State Land Exchange was approved on January 7, 1999. Under this exchange, the Conoco Wells: Stud Horse Peaks #1-16 (UTU78085), Death Hollow #1-32 (UTU78077) and Smokey Mountain State 36 #1 (UTU78054) are located on Federal lands. We would appreciate copies of the three wells approved by your Division for our records. We understand that these files have been requested to be held confidential and all information will be held confidential.

Thank you for your assistance.

43 025 30031  
405 03E 36

**From:** John Baza  
**To:** Vicky Dyson  
**Date:** Wed, Feb 3, 1999 10:56 AM  
**Subject:** Fwd: Conoco Well Files

Vicky,

I feel that the attached e-mail from the BLM handles our concerns about well confidentiality for the referenced wells. At this point, I have no problem with Jim copying the files and delivering them to the BLM. You should copy the e-mail from the BLM and place it in the referenced well files for documentation.

Thanks,  
JRB

**CC:** Brad Hill, Gil Hunt, Jim Thompson, Lisha Cordov...



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, UT 84145-0155

DOGm  
'LA'  
DATE

RECEIVED

DEC - 6 1999

DIVISION OF OIL, GAS & MINING

IN REPLY REFER TO:

3162.3  
(U-931)

December 2, 1999

CERTIFIED MAIL - Return Receipt Requested

Conoco Inc.  
10 Desta Dr. Suite 100W  
Midland, TX 79705-4500

Re: Smoky Mountain State 36-1 (43-025-30031) NE $\frac{1}{4}$ SE $\frac{1}{4}$ , Sec. 36, T. 40 S., R. 3 E., SLB Kane County, Utah Lease UTU-78054 (ML-45707)

Studhorse State 36-1 (43-017-30142) SW $\frac{1}{4}$ NE $\frac{1}{4}$ , Sec. 36, T. 33 S., R. 7 E., SLB Garfield County, Utah Lease UTU-78085(ML-45298)

Death Hollow State 32-1 (43-017-30141) NE $\frac{1}{4}$ NE $\frac{1}{4}$ , Sec. 32, T. 34 S., R. 7 E., SLB Garfield County, Utah Lease UTU-78077 (ML-45333)

Gentlemen:

With the Utah Schools and Lands Exchange Act of 1998 (Public Law 105-335), the administration of the Applications for Permit to Drill (APDs) for the referenced wells now falls within the regulatory authority of the Bureau of Land Management (BLM). The Smoky Mountain State 36-1 APD was approved by the State of Utah, Division of Oil, Gas and Mining (DOGm) on September 10, 1998, and the Studhorse State 36-1 and the Death Hollow State 32-1 APDs on November 3, 1998. Each approval contained the following provision:

"This approval shall expire one year from the [approval date] unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date."

No requests for extensions of time were received, and no known activity has transpired at the approved locations. Therefore, approval of these referenced applications expired effective the end of their respective one-year periods. If you intend to drill at any of these locations at a future date, new APDs must be submitted.

Sincerely,

*Robert A. Bennett*

for Sally Wisely  
State Director

cc: Utah DOGM

bcc: Well Files (3)  
McKee  
Thayn  
U-932  
GSENM (Attn: Doug Powell)

AmcKee:jt:12/2/99  
McKee\Rescind2