OCD-ARTESIA

UNITED STATES

ATS-08-614 E4-06-1151

AUG 29 2008

OCD-ARTES!

FORM APPROVED OMB No 1004-0137 Expires March 31, 2007

Lease Serial No.

DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MAN	NM-029128			
APPLICATION FOR PERMIT TO I			6 If Indian, Allotee or Tri	be Name
1a. Type of work: DRILL DUN W WI REENTE	R		7 If Unit or CA Agreement	, Name and No.
lb. Type of Well: Oil Well Gas Well Other	Single Zone Multip	ole Zone	8. Lease Name and Well N Basin 15 Federal #1	
2. Name of Operator Myco Industries, Inc.			9 API Well No.	5-36653
3a. Address P.O. Box 840	3b. Phone No. (include area code)		10. Field and Pool, or Explor	atory
Artesia, New Mexico 88211-0840	505-748-1471		Catclaw Draw (Dela	aware) Oil
4. Location of Well (Report location clearly and in accordance with any	State requirements.*)		11. Sec, T. R. M. or Blk. and	Survey or Area
At surface 1745' FSL AND 1455' FWL				
At proposed prod. zone	- 1		Sec 15, T-21S-R25E	,
14 Distance in miles and direction from nearest town or post office*			12. County or Parish	13. State
8 miles west of Carlsbad, New Mexico			Eddy	NM
15. Distance from proposed* location to nearest	16. No of acres in lease	17. Spacir	ng Unit dedicated to this well	
property or lease line, ft (Also to nearest drig unit line, 1f any)  1455'	1600	40		
18. Distance from proposed location*	19 Proposed Depth	20. BLM/	BIA Bond No. on file	
to nearest well, drilling, completed, applied for, on this lease, ft.	4000'	NMB	000376	
21 Elevations (Show whether DF, KDB, RT, GL, etc.)	22 Approximate date work will sta	rt*	23. Estimated duration	
GL 3434'	07/15/2008		10 days	
	24. Attachments			
The following, completed in accordance with the requirements of Onshor	e Oil and Gas Order No.1, shall be a	ttached to th	is form	
Well plat certified by a registered surveyor.     A Drilling Plan.	4. Bond to cover the ltem 20 above).	he operatio	ns unless covered by an existing	ng bond on file (see
3. A Surface Use Plan (if the location is on National Forest System l	·	cation		

Form 3160-3

(April 2004)

- SUPO shall be filed with the appropriate Forest Service Office)
- Such other site specific information and/or plans as may be required by the authorized officer.

Fille Det FIELD MA	NAGER	Office CARLSBAD FIELD OFFICE	
Approved by (Signature)	/s/ Don Peterson	Name (Printed/Typed) /s/ Don Peterson	Date AUG 1 9 2008
Title Exploration a	nd Operations Manager, Myco Indus	Stries, Inc.	
23. Signature ain munuy-PELS		Nelson Muncy	05/15/2008
25. Signature		Name (17mea/1ypea)	Date

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. APPROVAL FOR TWO YEARS Conditions of approval, if any, are attached

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on page 2)

SEE ATTACHED FOR CONDITIONS OF APPROVAL **Carlsbad Controlled Water Basin** 

NOTE: NEW PIT RULE 19-15-17 NMAC PART 17 A form C-144 must be approved before starting drilling operations.



Approval Subject to General Requirements & Special Stipulations Attached

#### State of New Mexico

DISTRICT I 1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT IV

Energy, Minerals and Natural Resources Department

DISTRICT II 1301 W. GRAND AVENUE, ARTESIA, NM 88210

OIL CONSERVATION DIVISION 1220 SOUTH ST. FRANCIS DR.

Form C-102 Revised October 12, 2005 Submit to Appropriate District Office State Lease - 4 Copies

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410 Santa Fe, New Mexico 87505

WELL-LOCATION AND ACREAGE DEDICATION PLAT

Fee Lease - 3 Copies

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505	WELL LOCATION AND	ACREAGE DEDICATION	PLAT	☐ AMENDED REPORT
30-015-36653	Pool Code 10480	Catelaw Draw	Pool Name (Delaware)	0:1
Property Code	Prop		Well Number	
3/335	BASIN 15 FEDERAL			1
OGRID No.	Operator Name			Elevation
15445	MYCO IND	USTRIES, INC.		3434'

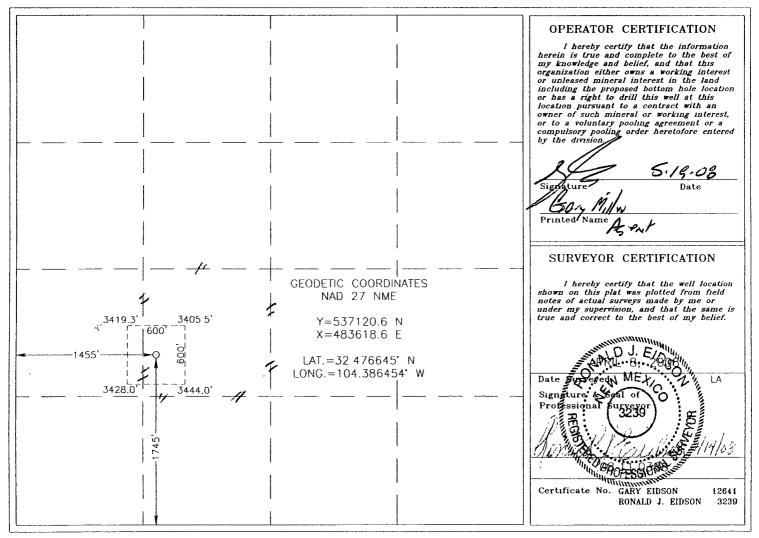
# Surface Location

UL of	r lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
	K	15	21-S	25-E		1745	SOUTH	1455	WEST	EDDY

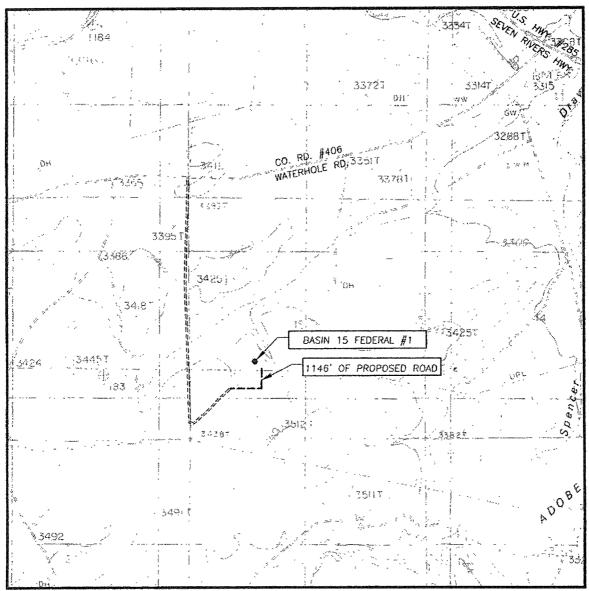
#### Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint o	r Infill Co	nsolidation (	Code Or	der No.		1	L	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SEC. 15 TWP. 21—S RGE. 25—E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1745' FSL & 1455' FWL

ELEVATION 3434'

OPERATOR MYCO INDUSTRIES, INC.

LEASE BASIN 15 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP

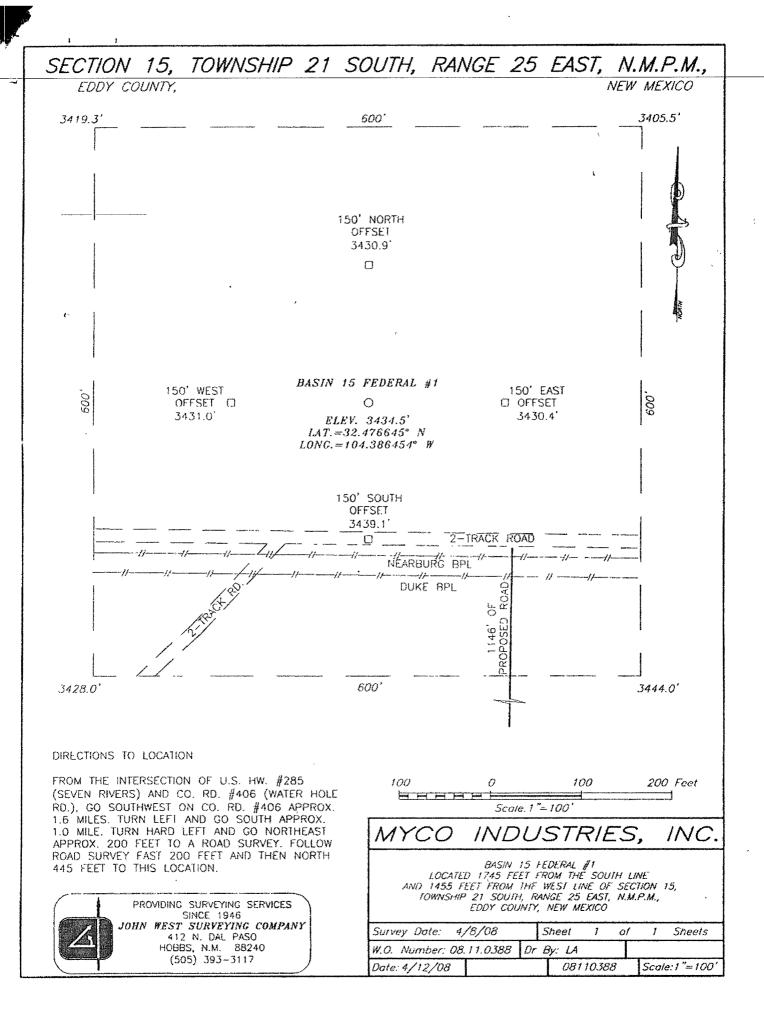
AZOTEA, N.M.

CONTOUR INTERVAL: AZOTEA PEAK, N.M. - 20'

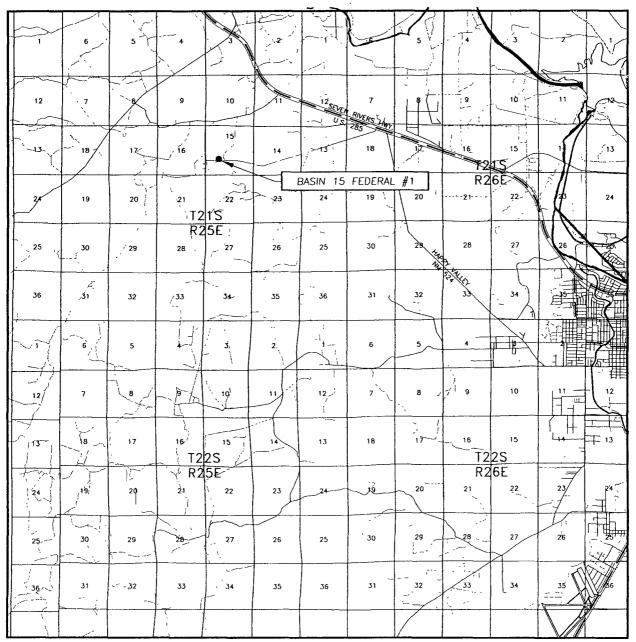
07/26/08 6.1.



PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117



# VICINITY MAP



SCALE: 1" = 2 MILES

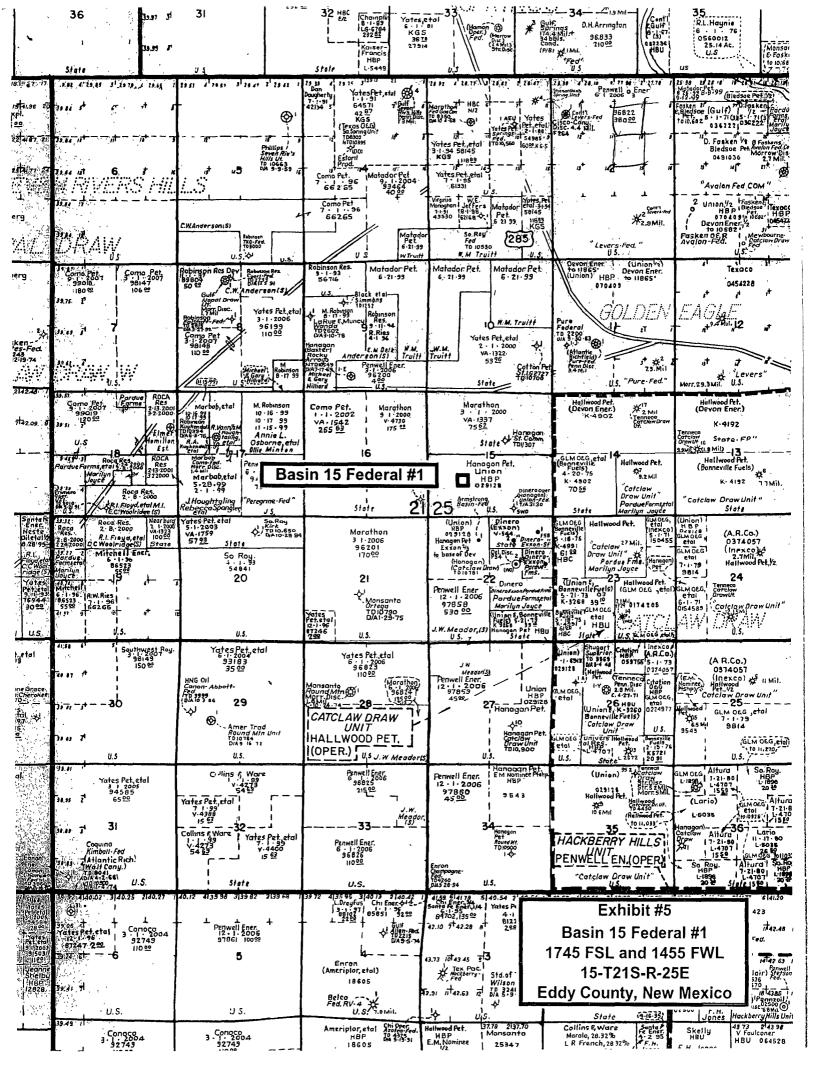
SEC. 15	TWP. 21	1-5 RG	E. <u>25</u>	)- <u>t</u>
SURVEY	!	V.М.Р.М.		
COUNTYE	EDDY	STATE_	<b>VEW</b>	MEXICO
DESCRIPTIO	N_1745	'FSL &	145	5' FWL
ELEVATION_		3434	,	
OPERATOR_	MYCO	INDUST	RIES,	INC.
LEASE	BASIN	15 FEE	DERA	L



PROVIDING SURVEYING SERVICES
SINCE 1946

JOHN WEST SURVEYING COMPANY
412 N DAL PASO
HOBBS, N M. 88240
(505) 393-3117







#### **DRILLING PROGRAM**

# 1. Geologic Name of Surface Formation

Tansill

# 2. Estimated Tops of Important Geologic Markers:

Tansill	Surface
Yates	250'
Capitan	450'
Delaware Ss	1910'
Bone Spring Ls	3655'

# 3. Estimated Depths of Anticipated Fresh Water, Oil and Gas

Water Sand	260'	Fresh Water
Delaware Ss	1910'	Oil/Gas

No other formations are expected to yield oil, gas or fresh water in measurable quantities. Setting 13-3/8" casing to 300' and circulating cement to surface will protect the fresh water sand. There is no salt section in the area. Intermediate 8-5/8" casing will be set to 1800' through the Capitan. The 5-1/2" casing production string will be circulated back to surface.

# 4. Casing Program

Hole Size	Interval	OD Casing	Weight	Grade	Jt., Condition	Jt.	burst/collapse/tension
17 1/2"	0-300'	13 3/8"	48#	H-40	New	ST&C	10.97/4.37/4.50
12 1/4"	300-1800'	8 5/8"	24#	J-55	New	ST&C	18.71/1.32/6.41
7 7/8"	1800'-TD	5 1/2"	17#	J-55	New	LT&C	2.34/8.44/9.33

# 5. Cement Program

13 3/8" Surface Casing: 400 sxs "C", yield 1.32, circulate

8 5/8" Intermediate Casing: 600 sxs "C", yield 1.32, circulate

5 1/2" Production Casing: 900 sxs "C", yield 1.32, circulate

# 6. Minimum Specifications for Pressure Control

The blowout preventer equipment (BOP) shown in Exhibit #7 will consist of a double ram-type (2000 psi WP) preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on the bottom. The BOP will be nippled up on the 13 3/8" surface casing and tested to 1500 psi by a third party. The BOP will then be nippled up on the 8 5/8" intermediate casing and tested by a third party to 2000 psi and used continuously until total depth is reached. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of the intermediate casing. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve, choke lines and a choke manifold (Exhibit #11) will a 2000 psi WP rating.

# 7. Types and Characteristics of the Proposed Mud System

The well will be drilled to TD with a combination of cut brine and polymer muds using a closed-loop system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-300'	Fresh Water	8.5	28	N.C.
300-1800'	Fresh Water	8.5	34-36	N.C.
1800'-TD	Cut Brine	9.2	30-34	10-20

Sufficient mud materials will be kept at the well site to maintain mud properties and meet minimum lost circulation and weight increase requirements at all times.

# 8. Auxiliary Well Control and Monitoring Equipment

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

# 9. Logging, Testing and Coring Program

A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density – Litho Density – Spectral GR and will be run from TD to 8 5/8" casing shoe. Optional logs include a Combinable Magnetic Resonance Lot over select intervals.

Drilling Program

Page 2

- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated. Rotary sidewall cores may be taken if logging is inconclusive.
- D. Further testing procedures will be determined after the 5 ½" production casing has been cemented at TD, based on drill shows and log evaluation.

# 10. Abnormal Conditions, Pressure, Temperatures and Potential Hazards

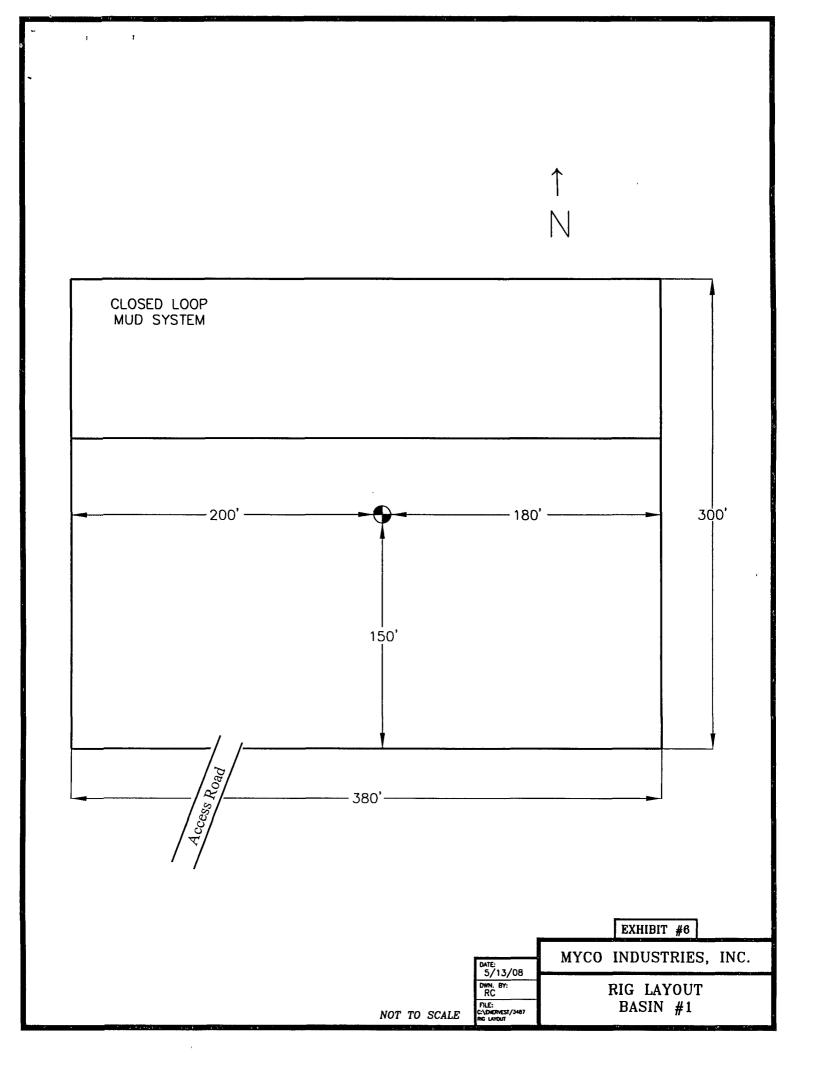
No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 112 degrees and the estimated maximum bottom hold pressure is 2000 psig. Low levels of hydrogen sulfide have been monitored in producing wells in the region so  $H_2S$  may be present during drilling operations. A Hydrogen Sulfide Drilling Operation Plan is attached to this program. No major loss of circulation zones are anticipated in this well.

# 11. Anticipated Starting Date and Duration of Operations

Road and location work will not begin until approval has been received from the BLM. Please refer to the Form 3160-3 for the anticipated start date. Once commenced, drilling operations should be finished in approximately 7-10 days. If the well is productive, an additional 7-14 days will be required for completion and testing before a decision is made to install permanent facilities.

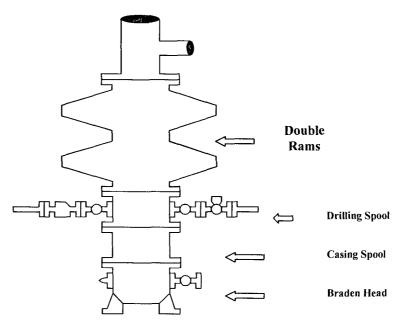
**Drilling Program** 

Page 3



# Myco Industries, Inc.

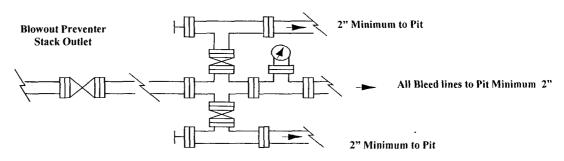
# Exhibit #7 BOP and Choke Schematic All equipment 2000 psi WP



Minimum 4" Nominal choke and kill lines

# Choke Manifold Requirement (2000 psi WP) No Annular Required

#### Adiustable Choke



Adjustable Choke (or Positive)

# Myco Industries, Inc.

423 W. Main Street Artesia, NM 88210

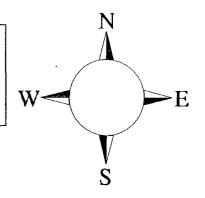
# Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan

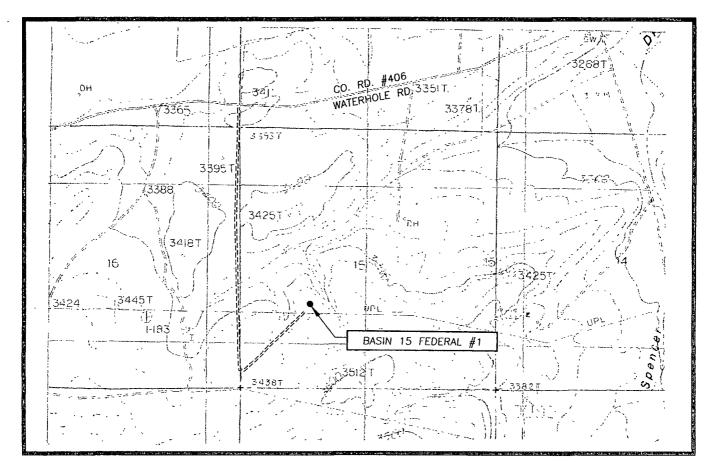
For

Basin 15 Federal #1
1745' FSL & 1455' FWL
Sec-15, T-21S, R-25E
Eddy County NM

# Basin 15 Federal #1 Location

This is an open drilling site.  $H_2S$  monitoring equipment and emergency response equipment will be used within 500' of zones known to contain  $H_2S$ , including warning signs, wind indicators and  $H_2S$  monitor.





Assumed 100 ppm: 100 = 3000? 100 ppm H2S concentration shall trigger activation of this plan.

# **Emergency Procedures**

In the case of a release of gas containing H<sub>2</sub>S, the first responder(s) must isolate the area and prevent entry by other persons into the 100 ppm ROE. Additionally the first responder(s) must evacuate any public places encompassed by the 100 ppm ROE. First responder(s) must take care not to injure themselves during this operation. Company and/or local officials must be contacted to aid in this operation. Evacuation of the public should be beyond the 100 ppm ROE.

All responders must have training in the detection of H<sub>2</sub>S, measures for protection against the gas, equipment used for protection and emergency response. Additionally, responders must be equipped with H<sub>2</sub>S monitors and air packs in order to control the release. Use the "buddy system" to ensure no injuries during the response.

# **Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

# Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentr- ation
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = 1	2 ppm	N/A	1000 ppm

# **Contacting Authorities**

Myco personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Myco Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

# Myco Industries, Inc. Phone Numbers

Myco Office Nelson Muncy/Operations Engineering Manager  Carlos Guerrero/Field Supervisor	(575) 748-4289 (505) 308-3502
Artesia Answering Service	
Agency Call List	•
Eddy County (505)	
Artesia	
State Police	746-2703
City Police	746-2703
Sheriff's Office	
Ambulance	
Fire Department	
LEPC (Local Emergency Planning Committee)	
NMOCD	
TWOCD	740-1203
Carlsbad	
State Police	885-3137
City Police	
Sheriff's Office	
Ambulance	
Fire Department	
1	
LEPC (Local Emergency Planning Committee)	
US Bureau of Land Management	887-6544
New Mexico Emergency Response Commission (Santa Fe) 24 HR	,
New Mexico State Emergency Operations Center	(505) 476-9635
National Emergency Response Center (Washington, DC)	
Other	
Boots & Coots IWC1-800-256-9688 or (281) 931-8884 Cudd Pressure Control(915) 699-0139 or (915) 563-3356 Halliburton(575) 746-2757 B. J. Services(575) 746-3569	
Flight For Life -4000 24th St, Lubbock, TX	806) 747-8923 (505) 842-4433

# MYCO INDUSTRIES, INC. Contact Information

Jim Schlueter – Geologist Office: 575.748.4296 Cell: 575.365.8511

Home: 575.628.3012

Email: <u>jschlueter@mycoinc.com</u> <u>jimschlueter@zianet.com</u>

Nelson Muncy – Exploration/Operations Manager

Office: 575.748.4289 Cell: 505.308.3502

Email: anmuncy@mycoinc.com

Hannah Palomin - Engr/Land Technician

Office: 575.748.4288

Email: hannah@mycoinc.com



# SURFACE USE AND OPERATING PLAN

# 1. Existing & Proposed Access Roads

- A. The well site survey and elevation plat for the proposed well is shown in Exhibit #1. It was staked by John West Engineering, Hobbs, NM.
- B. All roads to the location are shown in the topographic map (Exhibit #2). The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling the well will be done where necessary.
- C. Directions to Location: From the intersection of U.S. Highway 285 (Seven Rivers) and Co. Road #406 (Water Hole Road), go southwest on Co. Rd. #406 approximately 1.6 miles. Turn left and go south approximately 1.0 mile. Turn left and go northwest approximately 1950 feet to location. See Vicinity Map, Exhibit #3
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

# 2. Proposed Access Road:

Exhibit #4 shows that 941' of new road and 6,700' of existing two track road will be upgraded for this location. This road will also be used for the #2 well site as well as a State well to be located in Section 16. Any road that is required it will be constructed as follows:

- A. The maximum width of the running surface will be 14'. The road will be crowned, ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts will be used but a fence will be cut and a cattleguard will be installed in the fence line between Sections 15 and 16 and a low water crossings will be placed in the north/south section of the road.

E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit or reserve pit area.

# 3. Location of Existing Wells:

Exhibit #5 shows all existing wells within a one-mile radius of this well. As shown on this plat there are several wells in this area.

# 4. Location of Existing and/or Proposed Facilities:

- A. Myco Industries, Inc. does not currently operate a production facility on this lease.
- B. If the well is productive, contemplated facilities will be as follows:
  - 1) Production will be sent to an onsite tank battery.
  - 2) The tank battery and facilities including any piping will be installed according to API specifications.
  - 3) Any additional caliche will be obtained from a BLM approved caliche pit or from a private source. Any additional construction materials will be purchased from contractors.
  - 4) No flow lines will be needed as this is a gas well. The gas pipeline will be permitted and constructed by the gas purchaser.
  - 5) It will be necessary to run electric power if this well is productive. Power will be provided by the location electric supply company and they will submit a separate plan and ROW for service to the well location.

# 5. Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud system as outlined in the drilling program. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads shown in Exhibit #2. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

### 6. Source of Construction Materials:

All caliche required for construction of the drill pad and proposed new access road (approximately 5,000 cubic yards) will be obtained from a BLM approved caliche pit or from a private source.

# 7. Methods of Handling Water Disposal:

- A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in rolloff style mud boxes and taken to an NMOCD approved disposal site and no drying pad will be utilized.
- B. Drilling fluids will be contained in steel mud pits.
- C. Water produced from the well during completion will be held temporally in steel tanks and then taken to an NMOCD approved commercial disposal facility.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. No toxic waste or hazardous chemicals will be produced by this operation.
- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole, only a dry hole marker will remain.

# 8. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

# 9. Well Site Layout:

A. The drill pad layout, with elevations staked by John West Engineering, is shown in Exhibit #4. Dimensions of the pad and pits are shown on Exhibit #6. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level, no major cuts will be required.

B. Exhibit #6 also shows the proposed orientation of closed loop mud system, and access road. No permanent living facilities are planned; however, a temporary foreman/toolpusher and crew quarters trailers will be on location during the drilling operations.

#### 10. Plans for Restoration of the Surface:

A. If the well is found to be non-commercial upon completion of the drilling and/or completion operations, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations in the area. The road will be reclaimed as directed by the BLM. The original top soil will be returned to the pad and contoured, as close as possible to the original topography, and reseeded as per BLM specifications.

# 11. Surface Ownership:

- A. The surface and minerals at this location are owned by the U.S. Government and are administered by the Bureau of Land Management. The surface has multiple uses which are primarily grazing of livestock and the production of oil and gas.
- B. The proposed road routes and surface location will be restored as directed by the BLM.

#### 12. Other Information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is moderately sparse with native prairie grasses, some mesquite and shinnery oak. No wildlife was observed but it is likely that mule deer, rabbits, coyotes and rodents traverse the area.
- B. There is no permanent or live water in the immediate area.
- C. There are no dwellings within 2 miles of this location.
- D. A Cultural Resources Examination is being prepared by Boone Archeological Services, LLC Carlsbad, New Mexico, phone # 575-885-1352 and the results will be forwarded to your office in the near future.

Surface Use Plan

# 13. Bond Coverage:

Bond Coverage is Nationwide Bond # NMB 000376

# 14. Lessee's and Operator's Representative:

The Myco Industries, Inc. representative responsible for assuring compliance with the surface use plan is as follows:

Nelson Muncy, Exploration/Operations Manger Myco Industries, Inc. 432 West Main St. Artesia, New Mexico 88310 Phone (575) 748-4289 (office) (575) 308-3502 (cell)

Noge

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or Myco Industries, Inc., am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 15th day of May, 2008.

Signed: AMI Munuy - PELS

Printed Name: Nelson Muncy

Position: Exploration/Operations Manger

Address: 432 West Main St., Artesia, New Mexico 88310

Telephone: (575) 748-4289

Field Representative (if not above signatory): Not yet determined

E-mail: anmuncy@mycoinc.com

# **Exhibits:**

Exhibit #1 Wellsite and Elevation Plat
Form C-102 Well location and acreage dedication plat

Exhibit #2 Topographic Map (West)

Exhibit #3 Vicinity Map and area roads

**Exhibit #4** Elevation Plat (West)

Exhibit #5 Ownership map showing well location and other wells in the

Exhibit #6 Pad Layout and orientation

Exhibit #7 BOP and Choke diagrams

Exhibit #9 Form C-144 NMOCD pit permit application

# PECOS DISTRICT CONDITIONS OF APPROVAL

OPERATOR'S NAME:
LEASE NO.:
NMNM 029128
WELL NAME & NO.:
SURFACE HOLE FOOTAGE:
BOTTOM HOLE FOOTAGE
LOCATION:
COUNTY:
MYCO INDUSTRIES, INC.
NMNM 029128
Basin 15 Federal No 1
1745' FSL & 1455' FWL
Same
LOCATION:
COUNTY: Eddy County, New Mexico

# TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

☐ General Provisions ☐ Permit Expiration ☐ Archaeology, Paleontology, and Historical Sites ☐ Noxious Weeds ☐ Special Requirements
Cave/Karst
<b>⊠</b> Construction
Notification
Topsoil
Closed Loop System
Federal Mineral Material Pits
Well Pads
Roads
<b>⊠</b> Road Section Diagram
□ Drilling
☐ Production (Post Drilling)
Well Structures & Facilities
Pipelines
Electric Lines
☐ Final Abandonment/Reclamation

# I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

# II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

# III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

# IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

# V. SPECIAL REQUIREMENT(S)

Mitigation Measures: The mitigation measures include the Pecos District Conditions of Approval, the standard stipulations for permanent resource roads, and standard stipulations for drilling in High Cave/Karst areas.

The Basin 15 Federal # 2 well pad location will need to have a berm placed on the western side of the proposed well pad location. This will prevent any spills from running down the side slope into the nearby drainages.

Basin Federal # 1: Closed Loop System- V-Door East

# Conditions of Approval Cave and Karst

\*\* Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

# **Cave/Karst Surface Mitigation**

The following stipulations will be applied to minimize impacts during construction, drilling and production.

# **Delayed Blasting:**

Any blasting will be phased and time delayed.

# **Pad Berming:**

The pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. The Basin 15 Federal # 1 well pad location needs to have a berm placed around the north, east, and west side of the well pad location.

Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off. A closed mud system using steel tanks for all cuttings and fluids is required. All fluids and cuttings will be hauled off site for disposal. No pits are allowed.

### Tank Battery Liners and Berms:

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt underliner to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank, plus 1 foot of freeboard.

# **Compressor Liners and Containment:**

Gas compressors will be contained and lined in a manner that will contain all leaked condensates over an extended period of time. Containment systems should be leak proof both vertically and horizontally, and include: the ability to visually monitor any leakage; the ability to siphon out any leakage or accumulated fluids; and appropriate bird and bad

protection on all leak containment areas. When compressors are replaced: contaminants should be excavated and hauled off; soils sampled to ensure the original containment was fully successful; any breach of original containment cleaned up down to clean soils; and new liners and/or containment systems installed prior to placement of the new compressor.

# **Leak Detection System:**

A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

# **Automatic Shut-off Systems:**

Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

# Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

# **Rotary Drilling with Fresh Water:**

Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COA's for this well.

# **Directional Drilling:**

Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COA's for this well.

# **Lost Circulation:**

ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cavebearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

### **Abandonment Cementing:**

Upon well abandonment the well bore will be cemented completely from 100 feet below the bottom of the cave bearing zone to the surface.

# **Pressure Testing:**

Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

# VI. CONSTRUCTION

### A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### B. TOPSOIL

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 4 inches in depth. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

# C. Closed Loop System

Basin Federal #1: Closed Loop System- V-Door East

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

### E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

### F. ON LEASE ACCESS ROADS

#### Road Width

The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

# Surfacing

Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

#### Crowning

Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

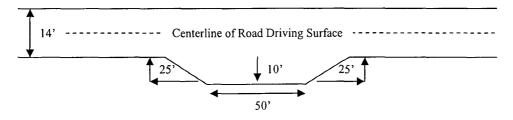
# Ditching

Ditching shall be required on both sides of the road.

#### **Turnouts**

Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

#### Standard Turnout - Plan View

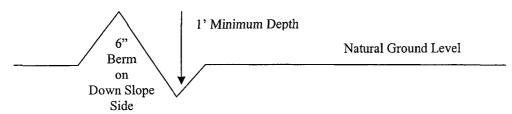


### Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

# Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

#### Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: 
$$\frac{400'}{4\%}$$
 + 100' = 200' lead-off ditch interval

# **Culvert Installations**

Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

# Cattleguards

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for

the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

# Fence Requirement

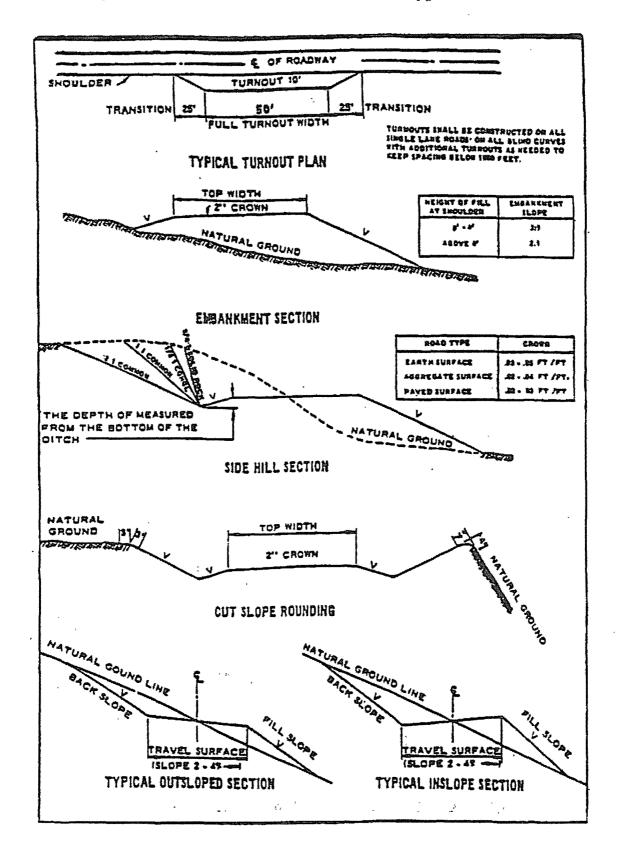
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

# **Public Access**

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 - Cross Sections and Plans For Typical Road Sections



### VII. DRILLING

# A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests
  - ✓ Eddy County
     Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822
- 1. Although Hydrogen Sulfide has not been reported in this section, it is always a possible hazard. It has been reported in Section 2 measuring 200+ ppm in STVs. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.
- 2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

# B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).

WOC for water basin or potash applies to entire wellbore.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

# VIII. PRODUCTION (POST DRILLING)

# A. WELL STRUCTURES & FACILITIES

### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

# **Containment Structures**

The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

# **Painting Requirement**

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color Shale Green, Munsell Soil Color Chart # 5Y 4/2

- B. PIPELINES
- C. ELECTRIC LINES

# IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

#### A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

The operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Seed Mixture 3, for Shallow Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass (Setaria magrostachya)	1.0
Green Spangletop (Leptochloa dubia)	2.0
Side oats Grama (Bouteloua curtipendula)	5.0

<sup>\*</sup>Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

# X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.



# New Mexico Energy, Minerals and Natural Resources Department

# Bill Richardson

Governor

Joanna Prukop
Cabinet Secretary
Reese Fullerton
Deputy Cabinet Secretary

Mark Fesmire
Division Director
Oil Conservation Division

RECEIVED

September 11, 2008

SEP 1 6 2008

Ms. Ocean Munds-Dry Holland & Hart, LLP P.O. Box 2208 Santa Fe, NM 87504

**HOLLAND & HART LLP** 

**Administrative Order NSL-5927** 

Re: Myco Industries, Inc.

Basin 15 Federal Well No. 1

API No. 30-015

1745 feet FSL and 1455 feet FWL

Unit K, Section 15-21S-25E Eddy County, New Mexico

Dear Ms Munds-Dry:

Reference is made to the following:

- (a) your application (administrative application reference No. pKVR08-21828683) submitted to the New Mexico Oil Conservation Division (the Division) in Santa Fe, New Mexico, on behalf of Myco Industries, Inc. (Myco) on August 4, 2008,
  - (b) additional information supplied in your email dated September 11, 2008, and
  - (c) the Division's records pertinent to this request

Myco has requested to drill the above-referenced well at an unorthodox oil well location, described above in the caption of this letter. The NE/4 SW/4 of Section 15 will be dedicated to this well in order to form a standard 40-acre spacing unit in the undesignated Catclaw Draw-Delaware Pool (10480). This pool is governed by statewide Rule 104.B(1), which provides for 40-acre units, with wells located at least 330 feet from a unit outer boundary. This location is less than 330 feet from the western unit boundary.

Your application on behalf of Myco has been duly filed under the provisions of Division Rules 104.F and 1210.A(2).

It is our understanding that you are seeking this location in order to comply with United States Bureau of Land Management surface siting requirements.



September 11, 2008 Page 2

It is also understood that notice of this application to offsetting operators or owners is unnecessary due to common ownership.

Pursuant to the authority conferred by Division Rule 104.F(2), the above-described unorthodox location is hereby approved.

This approval is subject to Myco being in compliance with all other applicable Division rules, including, but not limited to Division Rule 40.

Jurisdiction of this case is retained for the entry of such further orders as the Division may deem necessary.

Sincerely,

Mark E. Fesmire, P.E.

Director

MEF/db

cc: New Mexico Oil Conservation Division - Artesia
United States Bureau of Land Management - Carlsbad