Form 3160-3
(December 1990)

N. M. Oil Cons. Divisi
811 S. 1st
ARTESIA, NM 88210

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

1113

Form approved.
Budget Bureau No. 1004-0136
Expires: December 31, 1991

C/SF

UNITED STATES
DEPARMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESCRIPTION AND SERIAL NO.: NMLC-028731 (b)

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: 28818

8. FARM OR LEASE NAME, WELL NO.: Durango "10" Federal #1

9. API NUMBER: 30-015-31974

10. FIELD AND POOL, OR WILDCAT: Grayburg; Morrow

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: 10-17S-29E

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [X] OTHER — SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: Louis Dreyfus Natural Gas Corporation — 16773

3. ADDRESS AND TELEPHONE NO.: 14000 Quail Springs Parkway, Suite 600, Oklahoma City, OK 73134

4. LOCATION OF WELL (Report location clearly and in accordance with any state requirements.*)
At surface: UL P, 840' FSL & 1140' FEL
At proposed prod. zone:

RECEIVED
OCD - ARTESIA

12. COUNTY OR PARISH: Eddy — 13. STATE: NM

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 3 Miles Southwest of Carlsbad, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 840'

16. NO. OF ACRES IN LEASE: 320

17. NO. OF ACRES ASSIGNED TO THIS WELL: 320

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

19. PROPOSED DEPTH: 10,950'

20. ROTARY OR CABLE TOOLS: R

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3602'

22. APPROX. DATE WORK WILL START*: 1-Aug-01

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8" J-55	54.5#	440'	450 sx BJ Light & Class C
12 1/4"	9 5/8" LT&C	36#	2,700'	880 sx Interfill C & Class C
7 7/8"	5 1/2" N-80 & S95	17#	11,000'	1,750 sx 50/50 & TXI

1. Drill 17 1/2" hole to ± 440'. Set 13 3/8"" J-55, 54.5# surface csg at ± 440. Cement w/450 sx cement.
2. Drill 12 1/4" hole to ± 2,700'. Set 9 5/8", LT&C, 36# csg at ± 2,700. Cement w/880 sx cement.
3. Drill 7 7/8" hole to ± 11,000'. Set 5 1/2", N-80 & S-95, 17# at ± 11,000. Cement w/1,750 sx cement.

See Attached "Exhibit 6" for BOP Program

Roswell Controlled Water Basin

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

IN ABOVE SPACE 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.

24.

SIGNED Carla Christian TITLE Regulatory Technician DATE 7/12/01

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL 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.

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY /S/ JOE G. LARA TITLE ACTING FIELD MANAGER DATE AUG 28 2001

*See Instructions On Reverse Side

APPROVAL FOR 1 YEAR

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

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240

DISTRICT II
811 South First, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, New Mexico 87504-2088

Form C-102
Revised March 17, 1999

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	77840	Grayburg; Morrow

Property Code	Property Name	Well Number
	DURANGO "10" FEDERAL	1

OGRID No.	Operator Name	Elevation
025773	LOUIS DREYFUS NATURAL GAS CORP.	3602'

Surface Location

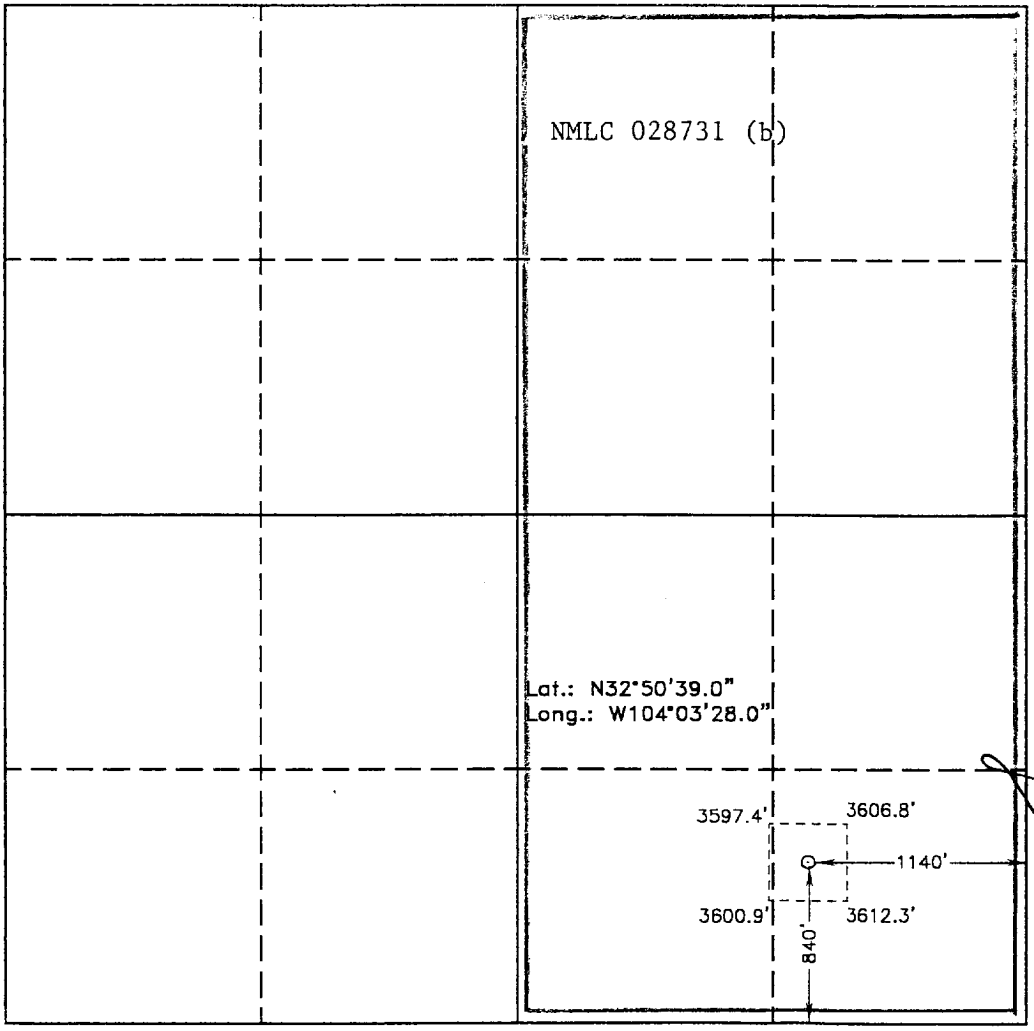
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	10	17 S	29 E		840'	SOUTH	1140'	EAST	EDDY

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 or Infill	Consolidation Code	Order No.
320	N		

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



OPERATOR CERTIFICATION

I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.

Carla Christian
Signature

Carla Christian
Printed Name

Regulatory Technician
Title

July 11, 2001
Date

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervison, and that the same is true and correct to the best of my belief.

MAY 17, 2001
Date Surveyed

Signature & Seal of Professional Surveyor

GARY L. JONES
NEW MEXICO
7977
REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. No. 1486

Certificate No. Gary L. Jones 7977

JLP BASIN SURVEYS

14000 Quail Springs Parkway
Suite 600
Oklahoma City, Oklahoma
73134-2600

Telephone 405 749-1300
www.ldng.com

Louis Dreyfus Natural Gas

July 12, 2001

United States Department of the Interior
Bureau of Land Management
Roswell District Office
2909 West Second Street
Roswell, New Mexico 88201

Re: Application for Permit to Drill
Louis Dreyfus Natural Gas Corp.
LDNGC Durango "10" Federal Well No. 1
Eddy County, New Mexico
Federal Lease NMLC – 028731 (B)

Gentlemen:

Louis Dreyfus Natural Gas Corp. respectfully requests permission to drill our LDNGC Durango 10 Federal Well No. 1 Well located 840' FSL and 1140' FEL of Section 10-T17S-R29E, Eddy County, New Mexico, Federal Lease NMLC-028731 (B). The proposed well will be drilled to a TVD of approximately 11,000'. The location and work area have been staked approximately 5 miles Northwest of Carlsbad, New Mexico.

In accordance with requirements stipulated in Federal Onshore Oil and Gas Order No. 1 under 43 CFR 3162.1, our Application for Permission to Drill and supporting evidence is hereby submitted.

1. Application for Permit to Drill:
   1. Form 3160.3, Application for Permit to Drill

   2. Form C-102 Location and Acreage Dedication Plat certified by Gary L. Jones, Registered Land Surveyor No. 7977 in the State of New Mexico, dated May 17, 2001.

   3. The elevation of the unprepared ground is 3602' feet above sea level.

   4. The geologic name of the surface formation is Rustler.

   5. Rotary drilling equipment will be utilized to drill the well to TD 11,000' (TVD), and run casing. This equipment will then be rigged down and the well will be completed with a pulling unit.

   6. Proposed total depth is 11,000' TVD.

7. Estimated tops of important geologic markers:

Wolfcamp	7,175 TVD
Strawn	9,925 TVD
Atoka Clastics	10,175 TVD
Lower Atoka	10,325 TVD
Morrow Clastics	10,625 TVD
Lower Morrow	10,700 TVD
Chester	10,750 TVD

8. Estimated depths at which anticipated water, oil, gas or other mineral bearing formations are expected to be encountered:

Primary Objective: Morrow 10,625' TVD

9. The proposed casing program is as follows:

Surface: 13 3/8" 54.5# J55 ST&C new casing set from 0-440'

Intermediate: 9 5/8" 36# J55 LT&C new casing set from 0-2,700'.

Production: 5 ½" 17# N80/S95 new casing set from 0-11,000' TVD.

10. Casing setting depth and cementing program:

1. 13 3/8" surface casing set at 440' in 17 1/2" hole. Circulate cement to surface with 250 sx. BJ Light + 2% CaCl2 mixed at 12.4 ppg, Yield – 2.0 cf/sk and 200 sk Class C + 2% CaCl2 mixed @ 14.8 ppg, Yield – 1.32 cf/sk.

2. 9 5/8" 36# casing set at 2,700' in 12 ¼" hole. A fluid caliper will be ran to determine exact cement volume required. Cement will be circulated to surface with 660 sks Interfill C + 5% salt mixed at 11.8 ppg, yield – 2.44 cf/sk and 220 sks Class C +1% CaCl2 mixed at 14.8 ppg, yield – 1.32 cf/sk.

3. 5 ½" 17# dual grade N80/S95 casing set at 11,000' TVD. Hole will be logged to determine exact cement volume to bring TOC to 2,500'. A D.V. tool will be utilized at around 5,300' to assure cement reaches 2,500'

   Cement with:
   First stage: 325 sks 50/50/10% gel + 5% salt mixed @ 11.5, yield 2.78.
   700 sks TXI + 4% D800 + .4% D167 + 2% D65 +.2% D46 mixed @ 13.0 ppg, yield – 1.47 cf/sk.

Second Stage: 725 sks 50/50/2%, .2% CD-32, +3% salt. Mixed at 14.2 ppg, yield – 1.34 cf/sk. 60 sks Class C Neat mixed @ 14,8 ppg, yield – 1.32 cf/sk.

11. Pressure Control Equipment

0'– 440'	None
440'–2700'	11" 5000# ram type preventers with one set blind rams and one set pipe rams and a 5000# annular type preventer. A choke manifold and accumulator with floor and remote operating stations and auxiliary power system. A kelly cock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.
2,700'–11,000'	After setting the 9 5/8" casing, the blowout preventers and related control equipment shall be pressure tested to 5000 psi. Any equipment failing to test satisfactorily shall be repaired or replaced. Results of the BOP test will be recorded in the Driller's Log. The BOP's will be maintained ready for use until drilling operations are completed. BOP drills will be conducted as necessary to assure that equipment is operational and each crew is properly trained to carry out emergency duties. Accumulatory shall maintain a pressure capacity reserve at all times to provide for the close-open-close sequence of the blind and pipe rams of the hydraulic preventers.

12. Mud Program:

0' - 440'	Fresh water/native mud. Lime for pH control (9-10). Paper for seepage. Wt. 8.7 - 9.2 ppg, vis 32 - 34 sec.
440' - 2700'	Brine H20. Sweep as necessary, weight 9.2 – 10.0.
2,700'-9,100'	Fresh Water/mud, weight 8.4 – 11.0. Sweep as necessary. Control fluid loss on top of Cisco.

9,700'-11,000' Brine/mud system, weight 10.0 – 11,5 ppg. Control fluid loss <10cc.

13. Testing, Logging and Coring Program:

    1. Testing program: DST's are possible

    2. Electric logging program: CNL/LDT/CAL/GR, DLL/CAL/GR.

    3. Coring program: Possible sidewall rotary cores.

14. Anticipated starting date is August 1, 2001. It should take approximately 30 days to drill the well and another 15 days to complete.

The Multi-Point Surface Use & Operation Plan is attached. If you need additional information to evaluate this application, please call me at (405) 749-5263.

Sincerely,

LOUIS DREYFUS NATURAL GAS CORP.

Carla Christian

Carla Christian
Regulatory Technician

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

LOUIS DREYFUS NATURAL GAS CORP.
LDNGC DURANGO "10" FEDERAL WELL NO. 1
EDDY COUNTY, NEW MEXICO
LEASE NO. NMLC 028731 (B)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to identify the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operation so that a complete appraisal may be made of the environmental effects associated with the operation.

The well, and work area have been staked by a registered New Mexico land surveyor. Geo-Marine Inc. has been engaged to make an Archaeological survey of the work area. A copy is attached for your reference (Exhibit "A").

1. Existing Roads

A copy of Map Reference USGS 7.5' Series; Red Lake SE, NM (1955) 32104-G1 quadrangle map is attached showing the proposed location. The well location is spotted on this map, which also shows the existing road system. Exhibit B.

Directions to location:

From the junction of US hwy 82 and Eddy Co. Rd. 215, go North on Co. Rd. 215 approximately 1.5 miles to a lease road to the left, go west approximately 1.1 miles to an existing location. The proposed road begins on the west edge of pad.

2. Planned Access Road

1. From existing location, will be building 620' of new road to the west. See second page of C-102.

2. Surfacing material: Caliche

3. Maximum Grade: N/A

4. Turnouts: N/A

5. Drainage Design: N/A

6. Culverts: N/A

7. Cuts and Fills: N/A

8. Gates and Cattle Guards: N/A

3. Existing wells within one mile radius of the proposed well are shown on Exhibit C.

4. Location of Existing and/or Proposed Facilities

1. If the well is productive, production facilities will be constructed on the well pad. The facility will consist of a separator, two 210 bbl oil tank and one 210 bbl fiberglass water tank. All permanent above ground facilities will be painted in accordance with the BLM's painting guidelines simulating the color of sandstone brown.

2. All site security guidelines identified in 43 CFR 3162.7 regulations will be adhered to and a site security plan will be submitted for the LDNGC Durango "10" Federal #1 tank battery. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed.

5. Location and Type of Water Supply

Fresh water and brine water will be used to drill this well. It will be purchased from a local source and transported to the well site.

6. Source of Construction Materials

Caliche will be hauled in from area caliche pits.

7. Method of Handling Waste Disposal

1. Drill Cuttings will be disposed of in drilling pits.

2. Drilling fluids will be allowed to evaporate in the drilling pits until pits are dry.

3. Water produced during tests will be disposed of in the drilling pits. Oil produced during tests will be stored in test tanks until sold.

4. Current laws and regulations pertaining to the disposal of human waste will be complied with.

5. Trash, waste paper, garbage and junk will be collected in steel trash bins and removed after drilling and completion operations are completed. All waste material will be contained to prevent scattering by the wind.

6. All trash and debris will be removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. Ancillary Facilities

1. None needed.

9. Wellsite Layout

1. The location and dimensions of the well pad, mud pits, reserve pit and location of major rig components are shown on the well site layout sketch.

2. Leveling of the wellsite will be required with minimal cuts or fills anticipated.

3. The reserve pit will be plastic lined.

4. The pad and pit area have been staked and flagged.

10. Plans for Restoration of the Surface

1. After completion of drilling and/or completion operations, all equipment and other materials not needed for operations will be removed.

2. Pits will be filled and location cleaned of all trash and junk to leave the well site in as aesthetically pleasing condition as possible. Any plastic material used to line the pits or sumps will be cut off below ground level as far as possible and disposed of before the pits are covered. All unattended pits containing liquid will be fenced and the liquid portion allowed to evaporate before the pits are broken and backfilled.

3. After abandonment of the well, surface restoration will be in accordance with the landowner. This will be accomplished as expeditiously as possible. Barring unforeseen problems, all pits will be filled and leveled within 90 days after abandonment.

11. Surface Ownership

1. The wellsite is on BLM surface.

12. Other information

1. Topography: The project is situated on a braided surface of occasional outcroppings of caliche with mesquite hummocks shaped by alluvial and aeolian processes related to Bear Grass Draw.

2. Soil: Sandy, deep soils and soils that are shallow to caliche; from wind-worked deposits.

3. Flora and Fauna: The vegetation between the mesquite hummocks is sparse to non-existant and consists primarily of mesquite, salt brush, broom snakeweed, littleleaf horsebrush, and assorted grasses.

4. Ponds and streams: There are no rivers, streams, lakes or ponds in the area.

5. Residences and Other Structures: None

6. Archaeological, Historical and Cultural Sites: Cultural resources have been recorded in the area. Geo-Marine Inc. has completed an archaeological report of the work area, see attached exhibit "A".

7. Land Use: Grazing

8. The well site, if a producer, will be maintained and kept clean of all trash and litter which detracts from the surrounding environment. Equipment will be maintained in accordance with good operating practice.

9. After the wellsite is cleaned and pits and sumps backfilled, any obstruction to the natural drainage will be corrected by ditching or terracing. All disturbed areas, including any access road no longer needed, will be ripped. Those areas will be reseeded with native grasses as described by BLM.

13. Operator's Representatives and Certification

The field representative responsible for assuring compliance with the approved surface use and operations plan are as follows:

Gene Simer
District Operations Manager
309 S. Halagueno Street
Carlsbad, NM 88220
Office: (505) 885-1313
Mobile: (505) 390-3722

Alan McNally
District Engineering Manager
14000 Quail Springs Parkway, Suite 600
Oklahoma City, OK 73134
Office: (405) 749-5277
Mobile: (405) 590-2449

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; that the work associated with the operations proposed herein will be performed by Louis Dreyfus Natural Gas Corp. and its contractors and sub-contractors in conformity with this plan and the terms and conditions under which it is approved.

7/13/01
Date

Alan C. McNally
District Engineering Manager
Louis Dreyfus Natural Gas Corp.

4/20/99

Patterson Drilling Company

Rig #75

7,000' - 15,000'

DRAWWORKS
Brewster N-75A, 1000 HP
Brake: Parmac Model 342 Hydromatic
1 ¼" Drilling Line – Crown-o-matic

ENGINES
Two 3412 Caterpillar engines, w/Torque Converter, 450 HP each

DERRICK
Pyramid, 137', 571,000 lb rated capacity

SUBSTRUCTURE
Pyramid, 21' high, 500,000 lb rated capacity
KB – 23', Rotary Clearance 17.2

MUD PUMPS
Pump #1: Nat 9-P-100, 1000 HP w/Cat 389
Pump #2: Nat 9-P-100, 1000 HP w/Cat 389

DRILL STRING
12,000' 4-1/2" Drill Pipe
Other sizes of drill pipe and drill collars are available

BLOWOUT PREVENTERS
3000# - 5000# working pressure as required

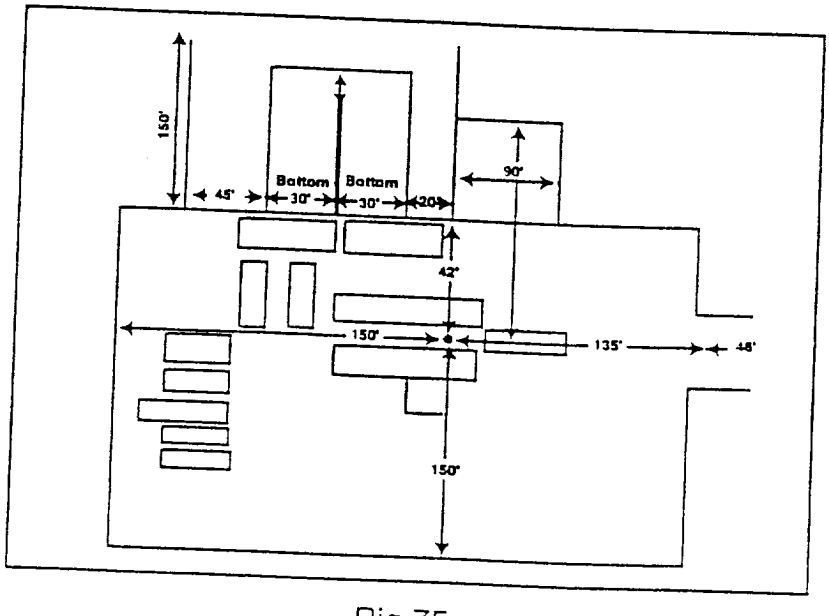
MUD SYSTEM
Two steel pits, 1000 bbl volume, 4 electric mud agitators, two 5" x 6" centrifugal pumps powered by two electric mtrs w 75/HP, Harrisburg 2-cone desander, Brandt Linear Flow-line cleaner & 700 bbl Pre-mix system if needed

MUD HOUSE
10 x 40 Storage

COMMUNICATIONS
24 hour direct cellular telephone

OTHER EQUIPMENT
Blocks. Gardner Denver 300 Ton
Hook. Unitized
Swivel. Emsco LB 300
Rotary Table. National 27 ½"
Shale Shaker. Brandt Linear Flow-line Cleaner
Electrical Power. Two 320-kw w/3406
Fresh Water Storage. Two 500 bbl tanks
Housing.
Kelly. 5 ¼ Hex, 46' Long

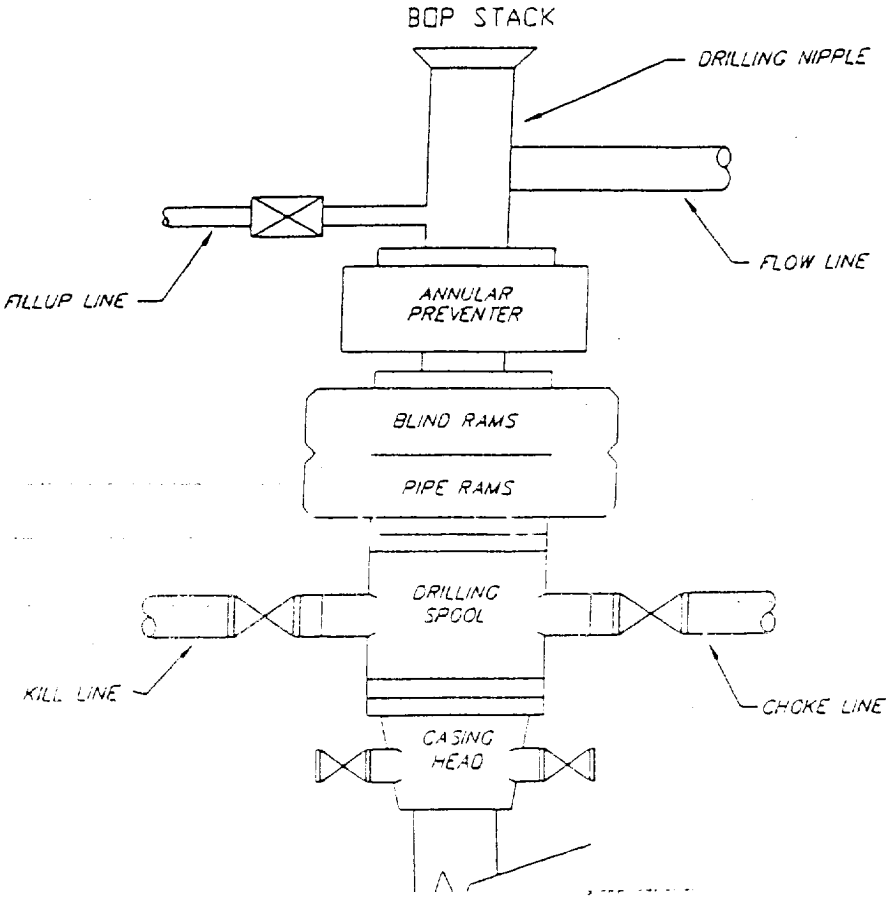
"Hole Requirements will dictate actual Reserve Pit size (TOOLPUSHER SHOULD BE CONSULTED)"

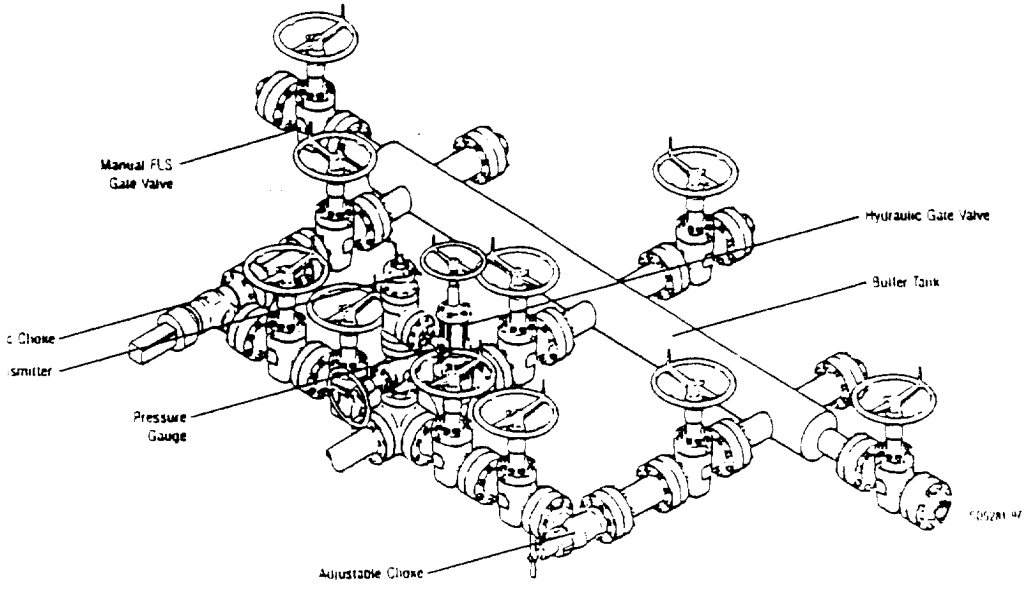


Rig 75

Exhibit 6

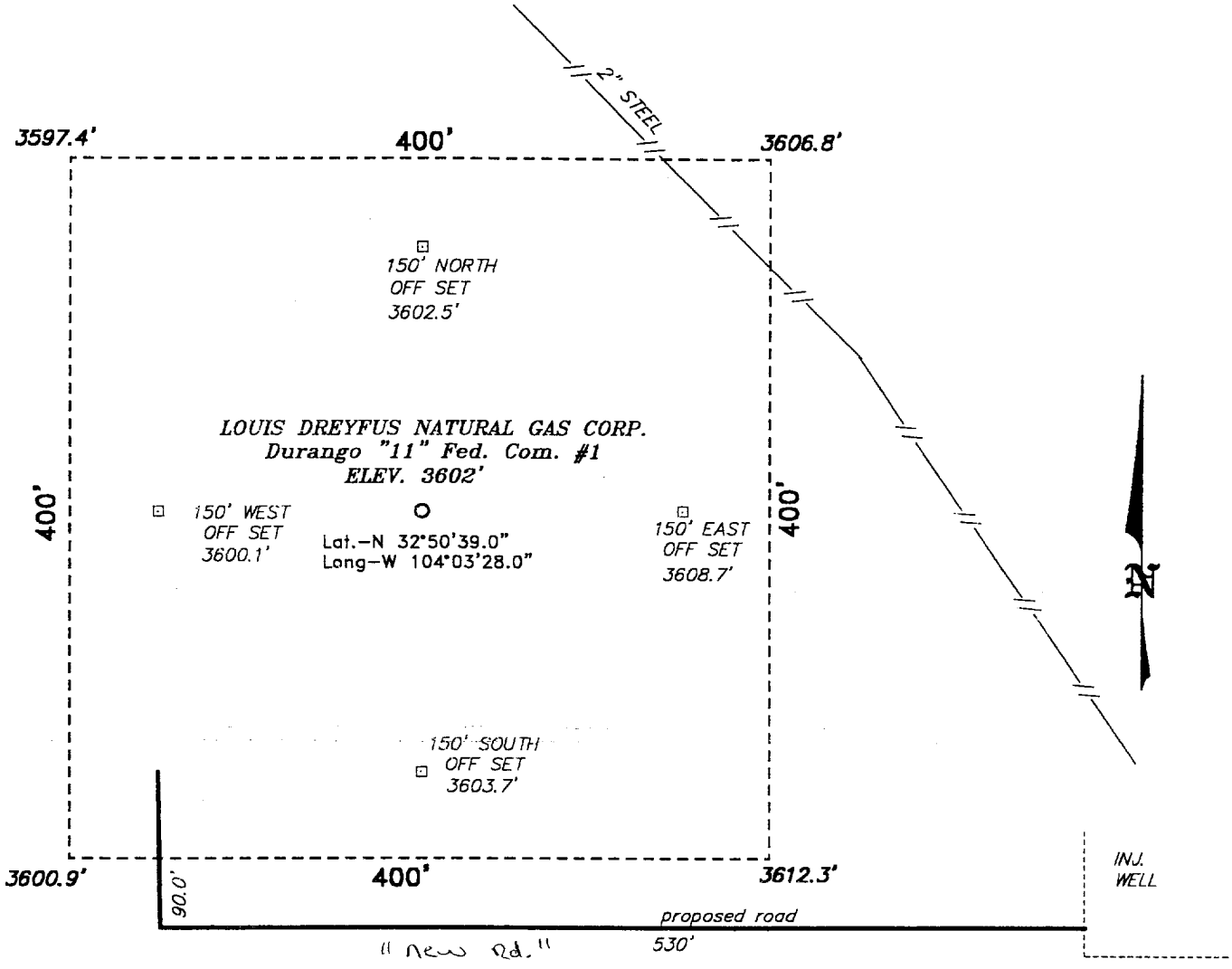
TYPICAL 5,000 p.s.i.
BLOWOUT PREVENTER & CHOKE MANIFOLD SCHEMATIC





Typical Choke Manifold Designed for Land Drilling Applications

SECTION 10, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, **NEW MEXICO.**



100 0 100 200 FEET

SCALE: 1" = 100'

Directions to Location:

FROM THE JUNCTION OF US HWY 82 AND EDDY CO. RD. 215, GO NORTH ON CO. RD. 215 APPROX. 1.5 MILES TO A LEASE ROAD TO THE LEFT, GO WEST APPROX 1.1 MILES TO AN EXISTING LOCATION THE PROPOSED ROAD BEGIN ON THE WEST EDGE OF PAD.

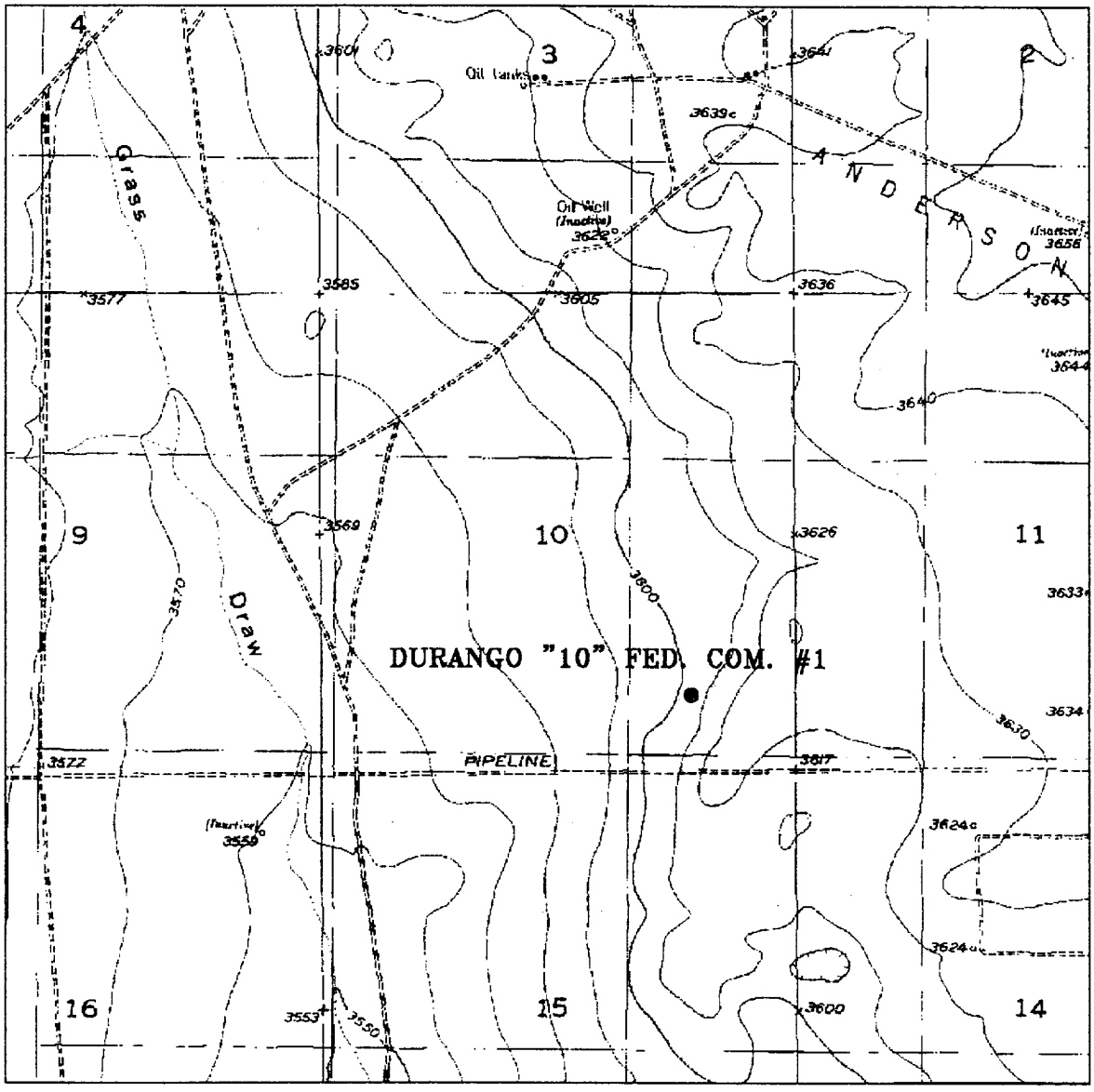
LOUIS DREYFUS NATURAL GAS CORP.

REF: DURANGO "10" FED. COM. #1 / Well Pad Topo

THE DURANGO "10" FED. COM No. 1 LOCATED 840' FROM THE SOUTH LINE AND 1140' FROM THE EAST LINE OF SECTION 10, TOWNSHIP 17 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 1486	Drawn By: **JAMES PRESLEY**		
Date: 05/18/01	Disk: JLP #1 – 1486A.DWG	Survey Date: 05/17/01	Sheet 1 of 1 Sheets

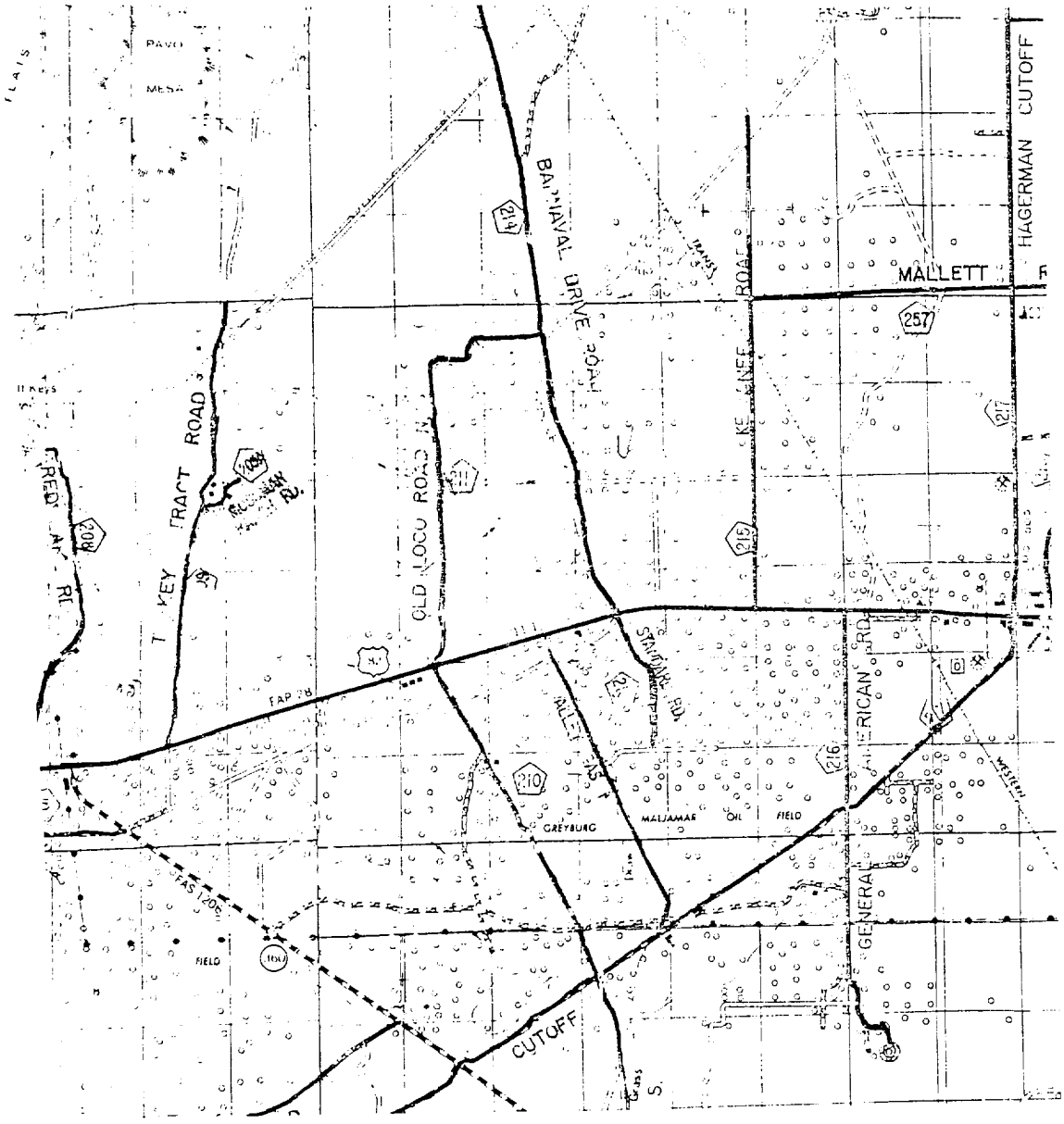


DRANGO "10" FED. COM. #1
Located at 840' FSL and 1140' FEL
Section 10, Township 17 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number:	1486AA - JLP #1
Survey Date:	05/17/01
Scale:	1" = 2000'
Date:	05/18/01

LOUIS DREYFUS NATURAL GAS CORP.



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Located at 840' FSL and 1140' FEL
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basin surveys
focused on excellence
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number:	1486AA - JLP #1
Survey Date:	05/17/01
Scale:	1" = 2000'
Date:	05/18/01

LOUIS DREYFUS
NATURAL GAS
CORP.

Exhibit "A"

TITLE PAGE/ABSTRACT/
NEGATIVE SITE REPORT
CFO/RFO

1/95

1. BLM Report No.	2. (ACCEPTED) (REJECTED)	3. NMCRIS No. 73177
4. Title of Report (Project Title) Class III archaeological survey of Louis Dreyfus Natural Gas Corporation's proposed pad and access road for the Durango "10" Fed. Well No. 1 in Section 10, T17S, R29E, NMPM, EDDY County, New Mexico.		5. Project Date(s) 1-15-01 to 6. Report Date 1-16-01
7. Consultant Name & Address: Direct Charge: Mark C. Slaughter Name: Geo-Marine Inc. Address: 150-A N. Festival Drive, El Paso, TX 79912 Authors Name: Danny Boone Field Personnel Names: Danny Boone Phone: (915)585-0168		8. Permit No. 3-2920-00-M 9. Consultant Report No. 290EP
10. Sponsor Name and Address: Indiv. Responsible: LOUIS DREYFUS NATURAL GAS CORPORATION Name: Gene Simer Address: 309 S. Halagueno St. Carlsbad, NM 88220 Phone: (505)885-1313		11. For BLM Use Only. 12. ACREAGE: Total No. of acres surveyed: 3.88 SURFACE OWNERSHIP: Federal: 3.88 State: 0, Private: 0

13. Location: (Maps Attached if Negative Survey)
   a. State: New Mexico
   b. County: Eddy
   c. BLM Office Carlsbad
   d. Nearest City or Town: Loco Hills, NM
   e. Legal Location: T 17S R 29E Sec. 10, Pad, NW SE; Access Road, SW NW SE
      Well Footages: 1510' FSL, 1810' FEL
   f. USGS 7.5 Map Name(s) and Code Number(s): RED LAKE SE, NM (1955) 32104-G1
   g. Area: Block: surveyed: 400' x 400'
      Impact: Within survey area
      Linear: Surveyed: 100' x 90'
      Impact: 50' x 142'

14. a. Records Search; ARMS: Date(s): 1-16-01 Name(s): C. Burt
BLM Office: Date(s): 1-12-01 Name(s): D. Boone
List Sites within .25 miles of Project: LA 118226
Show sites within 500' on Project Map

b. Description of Undertaking:
The project is a well pad and access road. The access road is in the southwest portion of the pad area and connects to an existing road. There is a powerline across the southern portion of the pad, and a pipeline in the extreme northeast portion.

c. Environmental Setting (NRCS soil designation; vegetative community; etc.):
This project is situated on a braided surface of occasional outcroppings of caliche with mesquite hummocks shaped by alluvial and aeolian processes related to Bear Grass Draw. Vegetation between the mesquite hummocks is sparse to non-existant and consists primarily of mesquite, salt brush, broom snakeweed, littleleaf horsebrush, and assorted grasses.

NCRS:Simona-Pajarito association: Sandy, deep soils and soils that are shallow to caliche; from wind-worked deposits.

d. Field Methods:
For the pad, a grid of parallel transects spaced fifteen meters and for the road transects spaced 15 meters either side of flagged center line.

15. Cultural Resource Findings:

a. Identification and description
Occasional and infrequent FCR fragments were observed and considered to be in transit to the west by alluvial processes.

16. Management Summary (Recommendations):
Archaeological clearance of Louis Dreyfus Natural Gas Corporation's proposed pad and access road for the Durango "10" Fed. Well No. 1 in Section 10, T17S, R29E, NMPM, EDDY County, New Mexico as presently staked is recommended. The BLM should be notified immediately if any cultural resources are encountered at any time.

I certify that the information provided above is correct and accurate and meets all appreciable BLM standards.

Responsible Archaeologist Nancy Boone 1-18-01
Signature Date

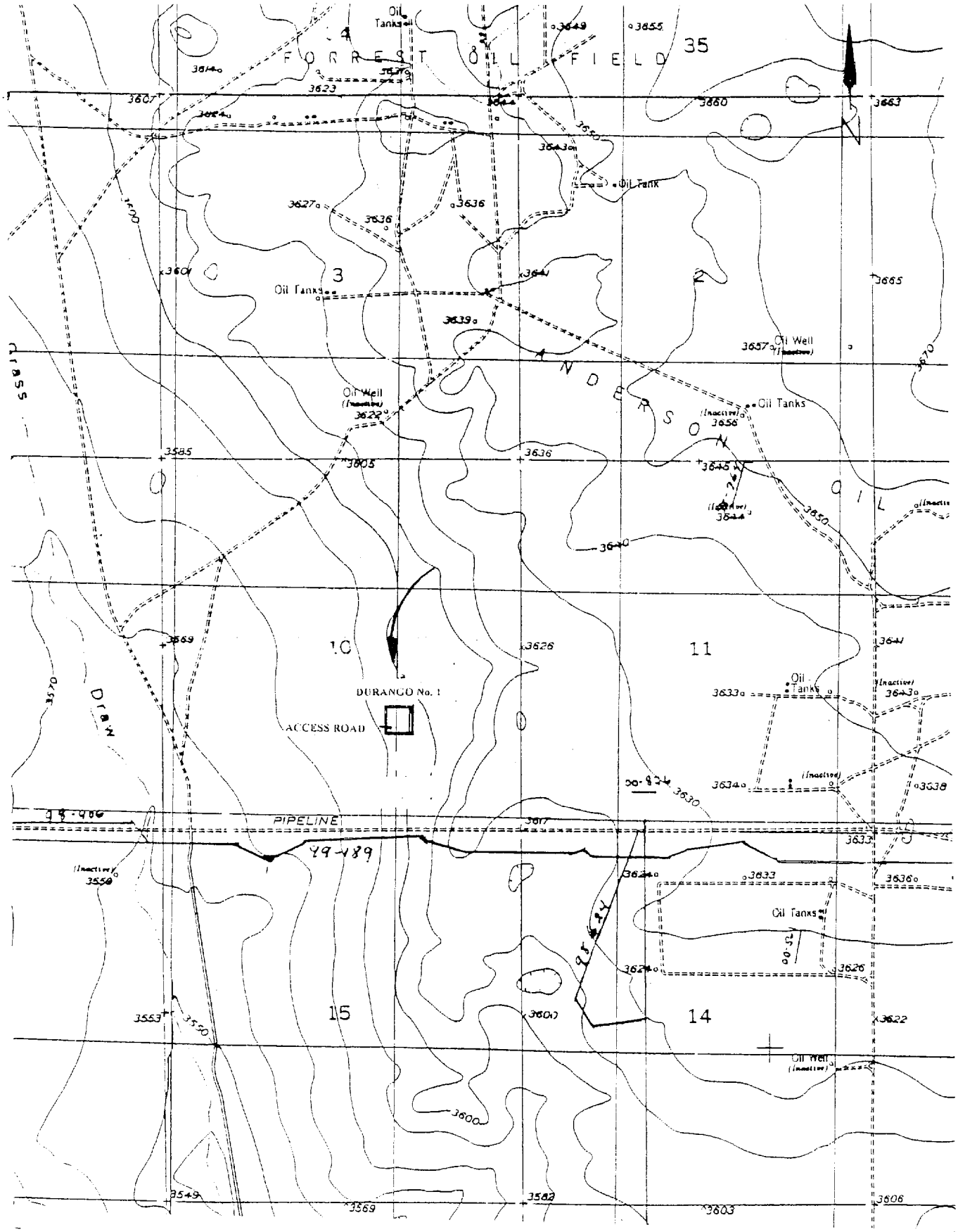
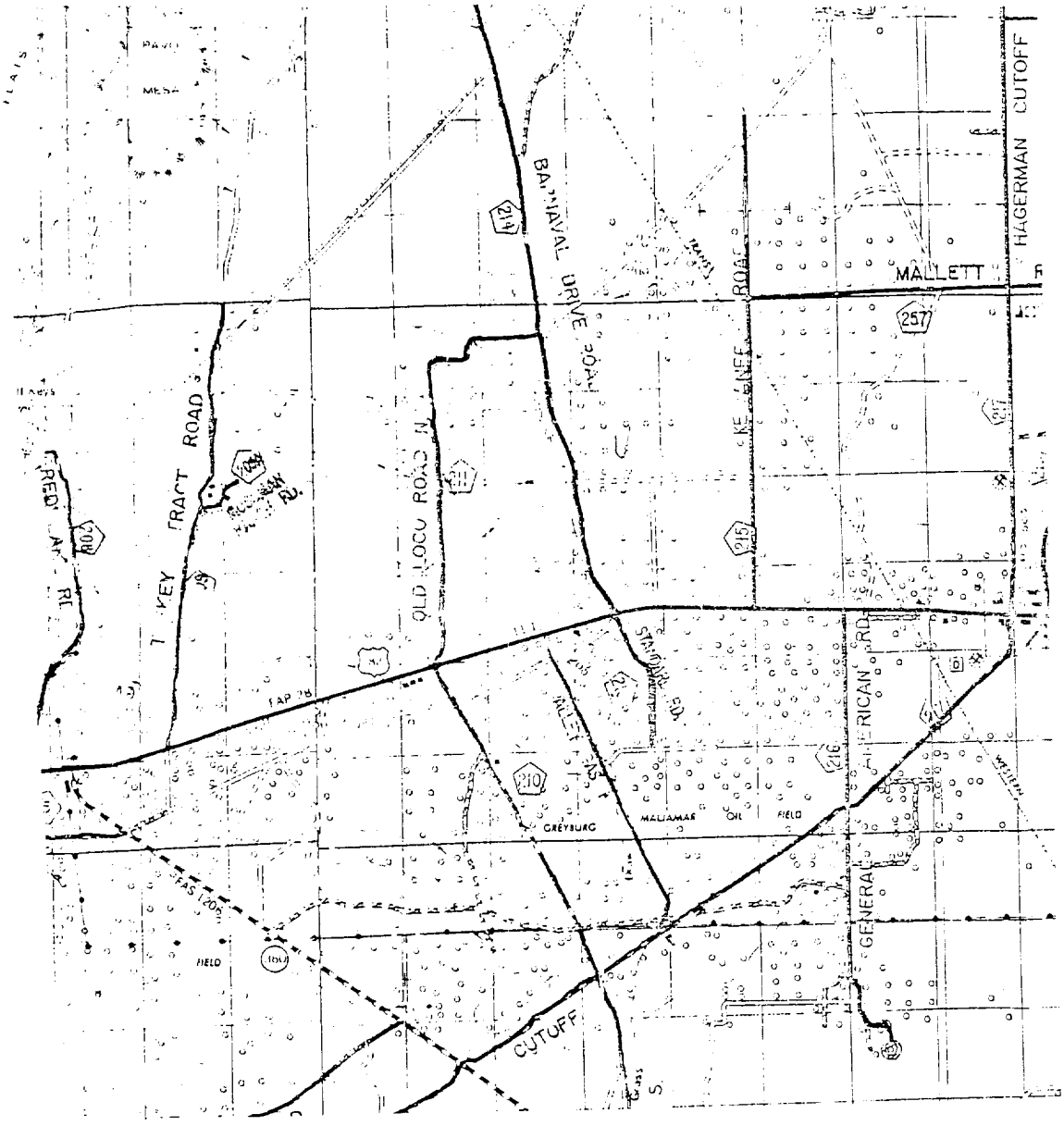


Figure 1. Showing the location of Louis Dreyfus Natural Gas Corporation's proposed pad and access road for the Durango "10" Fed. Well No. 1 in Section 10, T17S, R29E, NMPM, EDDY County, New Mexico. Map Reference: USGS 7.5' Series; RED LAKE SE, NM (1955) 32104-G1

Exhibit "B"



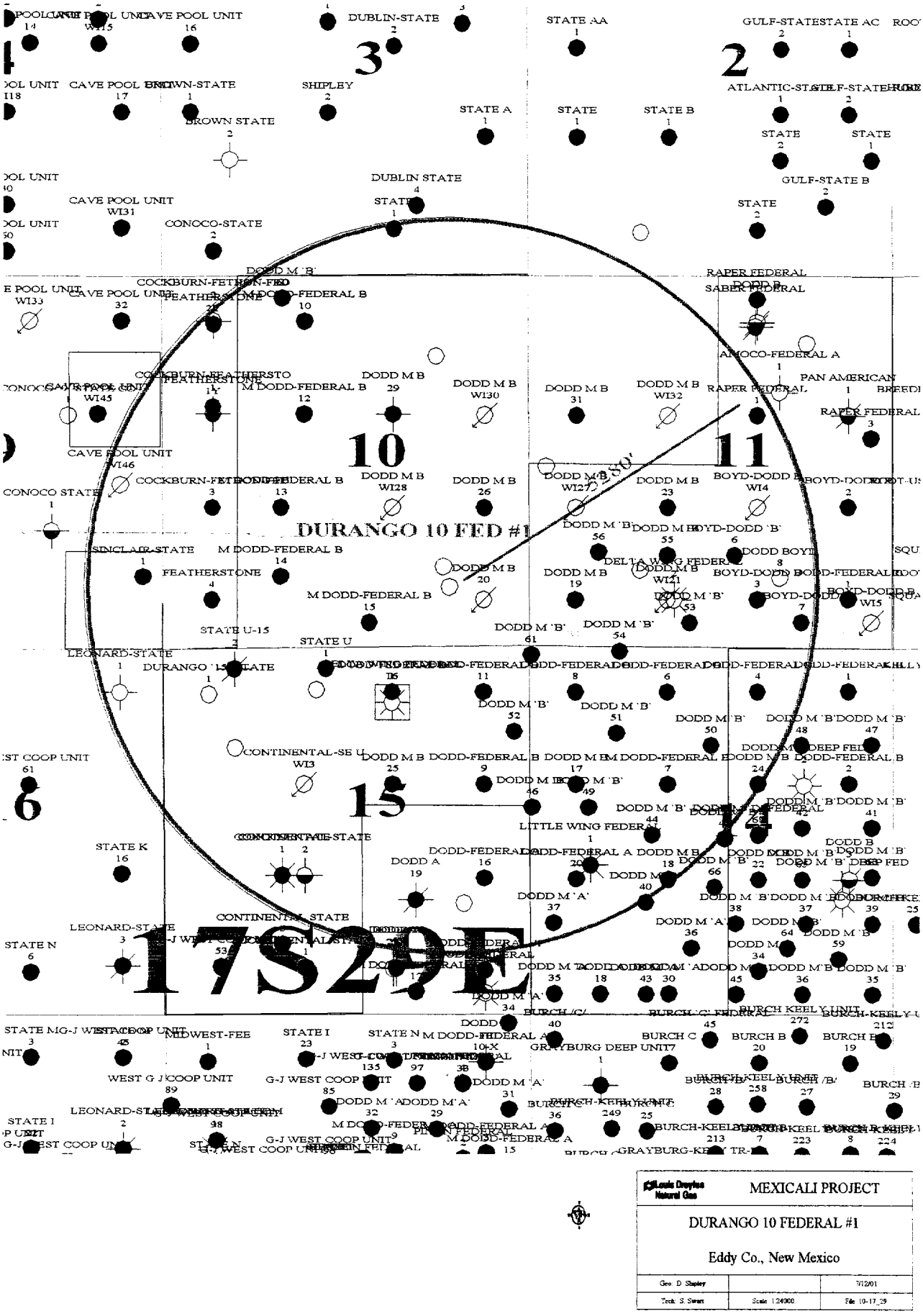
DRANGO "10" FED. COM. #1
Located at 840' FSL and 1140' FEL
Section 10, Township 17 South, Range 29 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number:	1486AA - JLP #1
Survey Date:	05/17/01
Scale:	1" = 2000'
Date:	05/18/01

LOUIS DREYFUS
NATURAL GAS
CORP.

Exhibit "C"



Louis Dreyfus Natural Gas

MEXICALI PROJECT

DURANGO 10 FEDERAL #1

Eddy Co., New Mexico

Geo: D. Shipley		7/12/01
Tech: S. Smart	Scale: 1:24000	File: 10-17_29

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

Operator name:	Louis Dreyfus Natural Gas Corp.
Street or Box:	14000 Quail Springs Parkway, Suite 600
City, State:	Oklahoma City, OK
Zip Code:	73134

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No.:	NMLC 028731 (B)
Legal Description of Land:	Sec. 10-17S-29E, Eddy County, NM
Formation(s) (if applicable):	Grayburg;Morrow
Bond Coverage:	Nationwide
BLM Bond File No.:	CO-1050

Authorized Signature: Carla Christian

Title: Regulatory Technician

Date: July 12, 2001

LOUIS DREYFUS NATURAL GAS CORP.

'H2S CONTINGENCY PLAN'

DRILLING OPERATIONS

FOR

DURANGO "10" FEDERAL WELL NO. 1

STATE OF NEW MEXICO

EDDY COUNTY, NEW MEXICO

LEGAL DESCRIPTION:

840' FSL & 1140' FEL
SEC. 10-T17S-R29E
EDDY COUNTY, NEW MEXICO
UNIT LETTER: P

EMERGENCY PHONE LIST
DURANGO "10" FEDERAL WELL NO. 1

GOVERNMENTAL AGENCIES:

FEDERAL AGENCIES

BUREAU OF LAND MANAGEMENT..... (505) 887-6544

STATE AGENCIES:

LAW ENFORCEMENT 911
STATE POLICE (CARLSBAD) .....(505) 885-3137
POLICE DEPARTMENT (ARTESIA).....(505) 746-5000
SHERIFFS DEPARTMENT (EDDY COUNTY) ..... (505) 887-7551

EMERGENCY SERVICES:

IN CASE OF AN EMERGENCY DIAL 911
AMBULANCE (ARTESIA) .....(505)746-5050
FIRE DEPARTMENT (ARTESIA)..... (505) 746-5050
FIRE DEPARTMENT (LOCO HILLS) .....(505) 677-2349
(Not always manned. Artesia Fire Dept. will notify if unable to contact by phone.)

DISTRICT OFFICE:

DISTRICT OPERATIONS MANAGER:

GENE SIMER .....OFFICE..... .....(505) 885-1313
MOBILE.....(505) 390-3722
PAGER ..... (800) 490-5801
HOME .....(505) 885-6302

PRODUCTION FOREMAN:

CALVIN DANIEL .....OFFICE.....(505) 885-1313
MOBILE.....(505) 390-3736

DRILLING FOREMAN IS THE ONSITE COMPANY SAFETY REPRESENTATIVE

DISTRICT ENVIRONMENTAL AND SAFETY DIRECTOR (SONORA, TX):

TOMMY ARNWINE ..... OFFICE .....(915) 387-3588
MOBILE .....(915) 277-2759
HOME .....(915) 387-2317

MANAGER OF OPERATIONS:

MICHAEL SLATER .....OFFICE .....(405) 749-5256

DRILLING & PRODUCTION ENGINEERING SUPERVISOR

ALAN MCNALLY.....OFFICE .....(405) 749-5277

H_2S CONTINGENCY PLAN

EMERGENCY PROCEDURES

A. IN THE EVENT OF ANY EVIDENCE OF H_2S LEVEL ABOVE 10 PPM, TAKE THE FOLLOWING STEPS:

1. SECURE BREATHING EQUIPMENT.
2. ORDER NON-ESSENTIAL PERSONNEL OUT OF DANGER ZONE.
3. TAKE STEPS TO DETERMINE IF THE H_2S LEVEL CAN BE CORRECTED OR SUPPRESSED AND, IF SO, PROCEED IN NORMAL OPERATION.

B. IF UNCONTROLLABLE CONDITIONS OCCUR:

1. TAKE STEPS TO PROTECT AND/OR REMOVE ANY PUBLIC IN THE DOWN-WIND AREA FROM THE RIG - PARTIAL EVACUATION AND ISOLATION. NOTIFY NECESSARY PUBLIC SAFETY PERSONNEL AND THE NEW MEXICO OIL CONSERVATION DIVISION OF THE SITUATION.
2. REMOVE ALL PERSONNEL TO SAFE BREATHING AREA.
3. NOTIFY PUBLIC SAFETY PERSONNEL TO HELP MAINTAIN ROAD BLOCKS.
4. PROCEED WITH BEST PLAN (AT THE TIME) TO REGAIN CONTROL OF THE WELL. MAINTAIN TIGHT SECURITY AND SAFETY PROCEDURES.

C. RESPONSIBILITY:

1. APPROVED SUPERVISOR, TO BE NAMED PRIOR TO SPUD OF WELL.
   - A. SHALL BE RESPONSIBLE FOR THE TOTAL IMPLEMENTATION OF THIS PLAN.
   - B. SHALL BE IN COMPLETE COMMAND DURING ANY EMERGENCY.
   - C. SHALL DESIGNATE A BACK-UP.

EMERGENCY PROCEDURES

EMERGENCY REACTION STEPS

MUD ENGINEER:	1. REPORT TO BRIEFING AREA. 2. WHEN INSTRUCTED, BEGIN CHECK OF MUD FOR PH AND H_2S LEVEL (CARRET GAS TRAIN).	
SAFETY PERSONNEL:	1. MASK UP AND CHECK STATUS OF ALL PERSONNEL AND SECURE OPERATIONS AS INSTRUCTED BY DRILLING FOREMAN AND REPORT TO BRIEFING AREA.	SAME

TAKING A KICK

WHEN TAKING A KICK DURING AN H_2S EMERGENCY, ALL PERSONNEL WILL FOLLOW STANDARD BOP PROCEDURES AFTER REPORTING TO BRIEFING AREA AND MASKING UP.

OPEN HOLE LOGGING

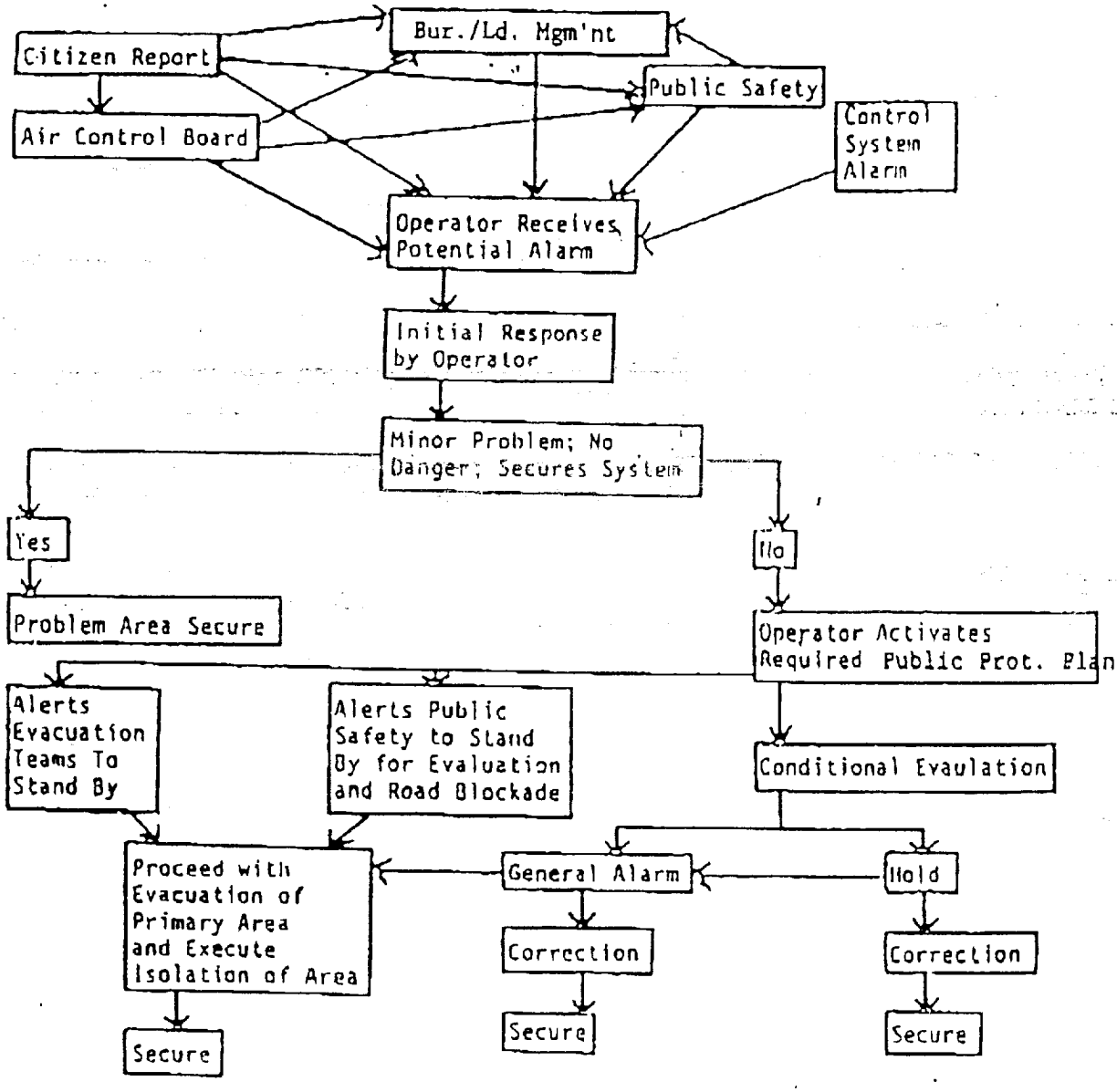
ALL UNNECESSARY PERSONNEL OFF FLOOR. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD MONITOR CONDITION, ADVISE STATUS AND DETERMINE NEED FOR USE OF AID EQUIPMENT.

RUNNING CASING OR PLUGGING

FOLLOW THE SAME "TRIPPING" PROCEDURE AS ABOVE. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD DETERMINE IF ALL PERSONNEL HAVE ACCESS TO PROTECTIVE EQUIPMENT.

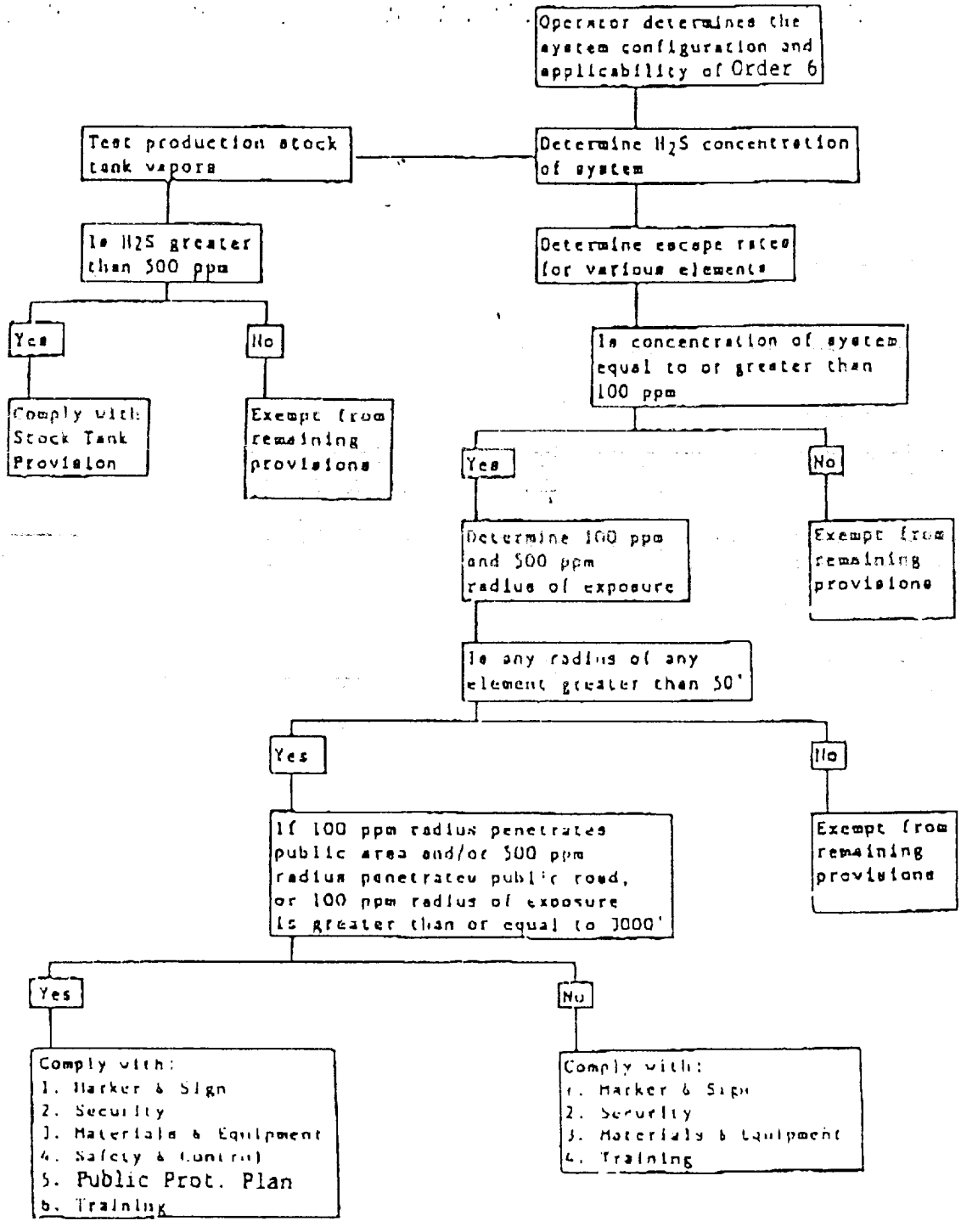
I

GENERAL OUTLINE OF AN EMERGENCY PLAN



I.

CHART #1
FOR EXISTING OPERATION



H_2S CONTINGENCY PLAN

IGNITION PROCEDURES

THE DECISION TO IGNITE THE WELL IS THE RESPONSIBILITY OF THE COMPANY FOREMAN. IN THE EVENT HE IS INCAPACITATED, IT BECOMES THE RESPONSIBILITY OF THE CONTRACT RIG TOOL PUSHER. THIS DECISION SHOULD BE MADE ONLY AS A LAST RESORT AND IN A SITUATION WHERE IT IS CLEAR THAT:

1. HUMAN LIFE AND PROPERTY ARE ENDANGERED.
2. THERE IS NO HOPE OF CONTROLLING THE BLOWOUT UNDER THE PREVAILING CONDITIONS AT THE WELL.

NOTIFY THE DISTRICT OFFICE IF TIME PERMITS, BUT DO NOT DELAY IF HUMAN LIFE IS IN DANGER.

INITIATE FIRST PHASE OF EVACUATION PLAN.

INSTRUCTIONS FOR IGNITING THE WELL

1. TWO PEOPLE ARE REQUIRED FOR THE ACTUAL IGNITION OPERATION. THEY MUST WEAR SELF-CONTAINED BREATHING UNITS AND HAVE SAFETY ROPE ATTACHED. ONE MAN (TOOL PUSHER OR SAFETY ENGINEER) WILL CHECK THE ATMOSPHERE FOR EXPLOSIVE GASES WITH THE EXPLOSIMETER. THE OTHER MAN (DRILLING FOREMAN) IS RESPONSIBLE FOR IGNITING THE WELL.
2. PRIMARY METHOD TO IGNITE: 25MM FLARE GUN WITH RANGE OF APPROXIMATELY 500 FEET.
3. IGNITE UP-WIND AND DO NOT APPROACH ANY CLOSER THAN IS WARRANTED.
4. SELECT THE IGNITION SITE BEST FOR PROTECTION, AND WHICH OFFERS AN EASY ESCAPE ROUTE.
5. BEFORE FIRING, CHECK FOR PRESENCE OF COMBUSTIBLE GAS.
6. AFTER LIGHTING, CONTINUE EMERGENCY ACTION AND PROCEDURE AS BEFORE
7. ALL UNASSIGNED PERSONNEL WILL LIMIT THEIR ACTIONS TO THOSE DIRECTED BY THE DRILLING FOREMAN.

REMEMBER: AFTER WELL IS IGNITED, BURNING HYDROGEN SULFIDE WILL COVERT TO SULFUR DIOXIDE, WHICH IS ALSO HIGHLY TOXIC.
DO NO ASSUME THE AREA IS SAFE AFTER THE WELL IS IGNITED.

H_2S CONTINGENCY PLAN

TRAINING REQUIREMENTS

WHEN WORKING IN AN AREA WHERE HYDROGEN SULFIDE GAS (H_2S) MIGHT BE ENCOUNTERED, DEFINITE TRAINING REQUIREMENTS MUST BE CARRIED OUT. ALL HAD ADEQUATE TRAINING IN THE FOLLOWING:

1. HAZARDS AND CHARACTERISTICS OF H_2S.
2. PHYSICAL EFFECTS OF H2 S ON THE HUMAN BODY.
3. TOXICITY OF H_2S AND SLUGGER DIOXIDE.
4. H_2S DETECTION.
5. EMERGENCY RESCUE.
6. RESUSCITATORS.
7. FIRST AID AND ARTIFICIAL RESPIRATION.
8. EFFECTS OF H_2S ON METALS.
9. LOCATION SAFETY.

SERVICE COMPANY AND VISITING PERSONNEL

A. EACH SERVICE COMPANY THAT WILL BE ON THIS WELL WILL BE NOTIFIED IF THE ZONE CONTAINS H_2S.

B. EACH SERVICE COMPANY MUST PROVIDE FOR THE TRAINING AND EQUIPMENT OF THEIR EMPLOYEES BEFORE THEY ARRIVE AT THE WELL SITE.

C. EACH SERVICE COMPANY WILL BE EXPECTED TO ATTEND A WELLSITE BRIEFING.

H_2S CONTINGENCY PLAN

EMERGENCY EQUIPMENT REQUIREMENTS

SIGNS

A. ONE SIGN LOCATED AT LOCATION ENTRANCE WITH THE FOLLOWING LANGUAGE:

WELL NAME:

Durango "10" Federal Well No. 1

CAUTION - POTENTIAL POISON GAS
HYDROGEN SULFIDE
NO ADMITTANCE WITHOUT AUTHORIZATION

WIND SOCK - WIND STREAMERS

A. ONE 36" WIND SOCK LOCATED AT PROTECTION CENTER, AT HEIGHT VISIBLE FROM RIG FLOOR.

B. ONE 36" SOCK LOCATED AT MUD PITS, AT HEIGHT VISIBLE FROM PIT AREAS.

HYDROGEN SULFIDE DETECTOR AND ALARMS

A. H_2S MONITOR WITH ALARM WILL BE LOCATED ON THE RIG FLOOR, AT THE BELL NIPPLE, AND AT THE SHALE SHAKER. THESE MONITORS WILL BE SET TO ALARM AT 10 PPM WITH AMBER LIGHT, AND TO ALARM AT 20 PPM WITH AMBER LIGHT AND AUDIO ALARM.

B. HAND OPERATED DETECTORS WITH TUBES.

C. H_2S MONITOR TESTER.

CONDITION FLAGS

A. ONE EACH OF GREEN, YELLOW, AND RED CONDITION FLAGS TO BE DISPLAYED TO DENOTE CONDITIONS.

GREEN	-	NORMAL CONDITIONS
YELLOW	-	POTENTIAL DANGER
RED	-	DANGER, H_2S PRESENT

B. CONDITION FLAG SHALL BE POSTED AT LOCATION SIGHT ENTRANCE.

H2 S CONTINGENCY PLAN

EMERGENCY EQUIPMENT REQUIREMENTS

AUXILIARY RESCUE EQUIPMENT

A. STRETCHER

B. 100' LENGTH OF 5/8" NYLON ROPE.

MUD INSPECTION DEVICES

GARRET GAS TRAIN OR HATCH TESTER FOR INSPECTION OF SULFIDE CONCENTRATION IN MUD SYSTEM.

FIRE EXTINGUISHER

ADEQUATE FIRE EXTINGUISHERS SHALL BE LOCATED AT STRATEGIC LOCATIONS.

BLOWOUT PREVENTION EQUIPMENT

THE WELL SHALL HAVE HYDRAULIC BOP EQUIPMENT FOR THE ANTICIPATED BHP OF 1500 PSI. EQUIPMENT IS TO BE TESTED ON INSTALLATION.

COMBUSTIBLE GAS DETECTOR

THERE SHALL BE ONE COMBUSTIBLE GAS DETECTOR ON LOCATION AT ALL TIMES.

BOP TESTING

BOP AND CHOKE LINE AND KILL LINE WILL BE TESTED.

AUDIO SYSTEM

RADIO COMMUNICATIONS WILL BE AVAILABLE AT THE RIG.

A. RIG FLOOR OR TRAILER

B. VEHICLE

H_2S CONTINGENCY PLAN

EMERGENCY EQUIPMENT REQUIREMENTS

SPECIAL CONTROL EQUIPMENT

A. HYDRAULIC BOP EQUIPMENT WITH REMOTE CONTROL ON GROUND.

B. ROTATING HEAD.

EVACUATION PLAN

EVACUATION ROUTES SHOULD BE ESTABLISHED PRIOR TO SPUDDING EACH WELL AND DISCUSSED WITH ALL RIG PERSONNEL.

DESIGNATED AREA

A. PARKING AND VISITOR AREA - ALL VEHICLES ARE TO BE PARKED AT A PRE-DETERMINED SAFE DISTANCE FROM THE WELLHEAD. THIS WILL BE THE DESIGNATED SMOKING AREA.

B. TWO BRIEFING AREAS ON EITHER SIDE OF THE LOCATION AT THE MAXIMUM ALLOWABLE DISTANCE FROM THE WELLBORE SO THEY OFFSET PREVAILING WINDS PERPENDICULARLY, OR AT A 45-DEGREE ANGLE IF WIND DIRECTION TENDS TO SHIFT IN THE AREA. PERSONNEL PROTECTIVE EQUIPMENT SHOULD BE STORED IN BOTH PROTECTION CENTERS OR IF A MOVABLE TRAILER IS USED, IT SHOULD BE KEPT UPWIND OF EXISTING WINDS WHEN WIND IS FROM THE PREVAILING DIRECTION, BOTH PROTECTION CENTERS SHOULD BE ACCESSIBLE.

H2S CONTINGENCY PLAN

STATUS CHECK LIST

NOTE: ALL ITEMS ON THIS LIST MUST BE COMPLETED BEFORE DRILLING AFTER 500'

ITEM	DESCRIPTION	CHECK BY: DATE
1.	H2S SIGN AT LOCATION ENTRANCE	_____
2.	WIND SOCKS LOCATED AS REQUIRED	_____
3.	30 MINUTE PRESSURE DEMAND AIR PACKS AT SAFE AREAS	_____
4.	FIVE (5) MINUTE ESCAPE PACKS FOR EACH INDIVIDUAL ON RIG	_____
5.	SAFE BREATHING AREAS SET UP	_____
6.	CONDITION FLAGS ON LOCATION AND READY FOR USE	_____
7.	H2S DETECTION SYSTEM SET UP	_____
8.	H2S ALRAM SYSTEM HOOKED UP AND READY	_____
9.	ALL RIG CREW AND SUPERVISORS TRAINED IN H2S SAFETY AND CERTIFIED.	_____
10.	ALL OUTSIDE SERVICE CONTRACTORS ADVISED OF POTENTIAL H2S HAZARD ON WELL.	_____
11.	"NO SMOKING" SIGNS IN PLACE	_____

H_2S CONTINGENCY PLAN

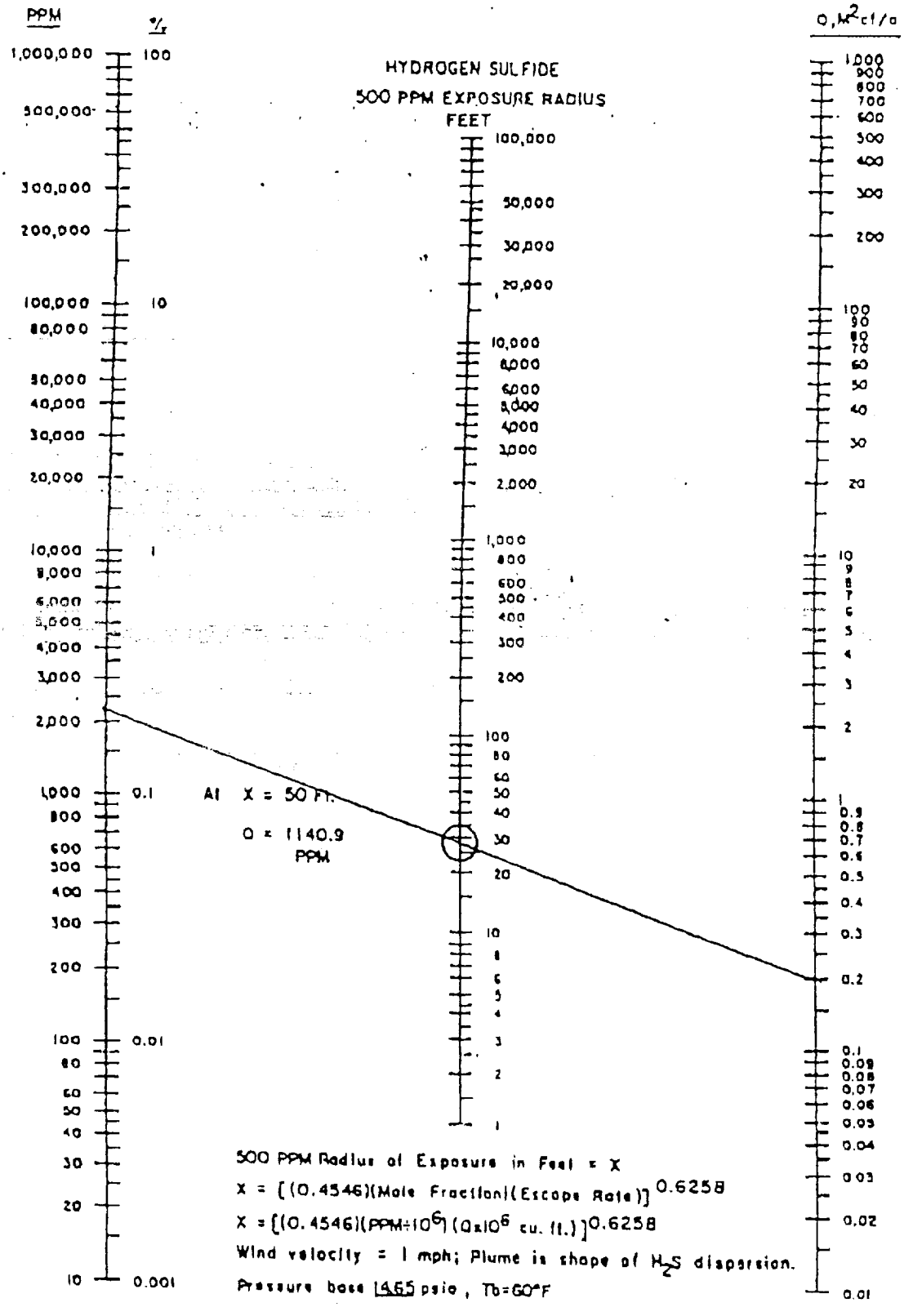
PROCEDURAL CHECK LIST

PERFORM EACH TOUR:

1. CHECK FIRE EXTINGUISHERS TO SEE THAT THEY HAVE THE PROPER CHARGE.
2. CHECK BREATHING EQUIPMENT TO ENSURE THAT IT HASN'T BEEN TAMPERED WITH.
3. MAKE SURE ALL THE H_2S DETECTION SYSTEM IS OPERATIVE.

PERFORM EACH WEEK:

1. CHECK EACH PIECE OF BREATHING EQUIPMENT TO MAKE SURE THAT DEMAND REGULATOR IS WORKING. THIS REQUIRES THAT THE BOTTLE BE OPENED AND THE MASK ASSEMBLY BE PUT ON TIGHT ENOUGH SO THAT WHEN YOU INHALE, YOU GET AIR.
2. BLOWOUT PREVENTOR SKILLS.
3. CHECK SUPPLY PRESSURE ON BOP ACCUMULATOR STAND-BY SOURCE.
4. CHECK ALL SKA-PAC UNITS FOR OPERATION: DEMAND REGULATOR, ESCAPE BOTTLE AIR VOLUMES, SUPPLY BOTTLE OF AIR VOLUME.
5. CHECK BREATHING EQUIPMENT MASK ASSEMBLY TO SEE THAT STRAPS ARE LOOSENED AND TURNED BACK, READY TO PUT ON.
6. CHECK PRESSURE ON BREATHING EQUIPMENT AIR BOTTLES TO MAKE SURE THEY ARE CHARGED TO FULL VOLUME.
7. CONFIRM PRESSURE ON ALL SUPPLY AIR BOTTLES.
8. PERFORM BREATHING EQUIPMENT DRILLS WITH ON-SITE PERSONNEL.
9. CHECK THE FOLLOWING SUPPLIES FOR AVAILABILITY:
   - A. EMERGENCY TELEPHONE LISTS
   - B. HAND OPERATED H_2S DETECTORS AND TUBES


PPM
%
Q, M²cf/a
HYDROGEN SULFIDE
500 PPM EXPOSURE RADIUS
FEET
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500,000
300,000
200,000
100,000
80,000
50,000
40,000
30,000
20,000
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0.3
0.2
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
At X = 50 Ft.
Q = 1140.9 PPM
500 PPM Radius of Exposure in Feet = X
X = [(0.4546)(Mole Fraction)(Escape Rate)]^0.6258
X = [(0.4546)(PPM÷10^6)(Q×10^6 cu. ft.)]^0.6258
Wind velocity = 1 mph; Plume is shape of H2S dispersion.
Pressure base 14.65 psia, Tb=60°F
T.R. King 2-29-76

GENERAL INFORMATION

THE USE OF SELF-CONTAINED BREATHING EQUIPMENT

1. WRITTEN PROCEDURES SHALL BE PREPARED COVERING SAFE USE OF SCBA'S IN DANGEROUS ATMOSPHERE WHICH MIGHT BE ENCOUNTERED IN NORMAL OPERATIONS OR IN EMERGENCIES. PERSONNEL SHALL BE FAMILIAR WITH THESE PROCEDURES AND THE AVAILABLE SCBA'S.

2. SCBA'S SHALL BE INSPECTED FREQUENTLY AT RANDOM TO INSURE THAT THEY ARE PROPERLY USED, CLEANED, AND MAINTAINED.

3. ANYONE WHO MAY USE THE SCBA'S SHALL BE TRAINED IN HOW TO INSURE PROPER FACE PIECE TO FACE SEAL. THEY SHALL WEAR SCBA'S IN NORMAL AIR AND THEN WEAR IT IN A TEST ATMOSPHERE. (NOTE: SUCH ITEMS AS FACIAL HAIR (BEARD OR SIDEBURNS) AND EYEGLASSES WILL NOT ALLOW PROPER SEAL.) ANYONE THAT MAY BE REASONABLY EXPECTED TO WEAR SCBA'S SHOULD HAVE THESE ITEMS REMOVED BEFORE ENTERING A TOXIC ATMOSPHERE. A SPECIAL MASK MUST BE OBTAINED FOR ANYONE WHO MUSE WEAR EYEGLASSES. CONTACT LENSES SHOULD NOT BE ALLOWED.

4. MAINTENANCE AND CARE OF SCBA'S:

   A. A PROGRAM FOR MAINTENANCE AND CARE OF SCBA'S SHALL INCLUDE THE FOLLOWING:

      1. INSPECTION FOR DEFECTS, INCLUDING LEAK CHECKS.
      2. CLEANING AND DISINFECTING.
      3. REPAIR.
      4. STORAGE.

   B. INSPECTION: SELF-CONTAINED BREATHING APPARATUS FOR EMERGENCY USE SHALL BE INSPECTED MONTHLY FOR THE FOLLOWING PERMANENT RECORD KEPT OF THESE INSPECTIONS.

      1. FULLY CHARGED CYLINDERS.
      2. REGULATOR AND WARNING DEVICE OPERATION.
      3. CONDITION OF FACE PIECE AND CONNECTIONS.
      4. ELASTOMER OR RUBBER PARTS SHALL BE STRETCHED OR

      MASSAGED TO KEEP THEM PLIABLE AND PREVENT DETERIORATION.

   C. ROUTINELY USED SCBA'S SHALL BE COLLECTED, CLEANED AND DISINFECTED AS FREQUENTLY AS NECESSARY TO INSURE PROPER PROTECTION IS PROVIDED.

GENERAL INFORMATION

THE USE OF SELF-CONTAINED BREATHING EQUIPMENT

5. PERSONS ASSIGNED TASK THAT REQUIRE USE OF SELF-CONTAINED BREATHING EQUIPMENT SHALL BE CERTIFIED PHYSICALLY FIT FOR BREATHING EQUIPMENT USAGE BY THE LOCAL COMPANY PHYSICIAN AT LEAST ANNUALLY.

6. SCBA'S SHOULD BE WORN WHEN:

   A. ANY EMPLOYEE WORKS NEAR THE TOP OR ON TOP OF ANY TANK UNLESS TEST REVEALS LESS THAN 10 PPM OF H_2S.

   B. WHEN BREAKING OUT ANY LINE WHERE H_2S CAN REASONABLY BE EXPECTED.

   C. WHEN SAMPLING AIR IN AREAS TO DETERMINE IF TOXIC CONCENTRATIONS OF H_2S EXISTS.

   D. WHEN WORKING IN AREAS WHERE OVER 10 PPM H_2S HAS BEEN DETECTED.

   E. AT ANY TIME THERE IS A DOUBT AS TO THE H_2S LEVEL IN THE AREA TO BE ENTERED.

GENERAL INFORMATION

RESCUE - FIRST AID FOR HYDROGEN SULFIDE POISONING

DO NOT PANIC!!

REMAIN CALM - THINK

1. HOLD YOUR BREATH. (DO NOT INHALE; STOP BREATHING.)

2. PUT ON BREATHING APPARATUS.

3. REMOVE VICTIM(S) TO FRESH AIR AS QUICKLY AS POSSIBLE. (GO UPWIND FROM SOURCE OR AT RIGHT ANGLES TO THE WIND; NOT DOWNWIND)

4. BRIEFLY APPLY CHEST PRESSURE - ARM LIFT METHOD OF ARTIFICIAL RESPIRATION TO CLEAN THE VICTIM'S LUNGS AND TO AVOID INHALING ANY TOXIC GAS DIRECTLY FROM THE VICTIM'S LUNGS.

5. PROVIDE FOR PROMPT TRANSPORTATION TO THE HOSPITAL, AND CONTINUE GIVING ARTIFICIAL RESPIRATION IF NEEDED.

6. HOSPITAL(S) OR MEDICAL FACILITIES NEED TO BE INFORMED, BEFOREHAND, OF THE POSSIBILITY OF H_2S GAS POISONING (NO MATTER HOW REMOTE THE POSSIBILITY IS).

7. NOTIFY EMERGENCY ROOM PERSONNEL THAT THE VICTIM(S) HAS BEEN EXPOSED TO $H2_s$ GAS.

BESIDES BASIC FIRST AID, EVERYONE ON LOCATION SHOULD HAVE A GOOD WORKING KNOWLEDGE OF ARTIFICIAL RESPIRATION, AS WELL AS FIRST AID FOR EYES AND SKIN CONTACT WITH LIQUID H_2S. EVERYONE NEEDS TO MASTER THESE NECESSARY SKILLS.

H_2S CONTINGENCY PLAN

GENERAL EVACUATION PLAN

THE DIRECT LINE OF ACTION TO PROTECT PUBLIC FROM HAZARDOUS GAS SITUATIONS ARE AS FOLLOWS:

1. WHEN THE COMPANY APPROVED SUPERVISOR (DRILLING FOREMAN, CONSULTANT, RIG PUSHER, OR DRILLER) DETERMINES THAT H_2S GAS CANNOT BE LIMITED TO THE WELL LOCATION AND THE PUBLIC WILL BE INVOLVED, HE WILL ACTIVATE THE EVACUATION PLAN. ESCAPE ROUTES ARE NOTED ON AREA MAP.

2. "COMPANY MAN" OR DESIGNEE WILL NOTIFY LOCAL GOVERNMENT AGENCY THAT A HAZARDOUS CONDITION EXISTS AND EVACUATION NEEDS TO BE IMPLEMENTED.

3. "COMPANY" SAFETY PERSONNEL THAT HAVE BEEN TRAINED IN THE USE OF H_2S DETECTION EQUIPMENT AND SELF-CONTAINED BREATHING EQUIPMENT, WILL MONITOR H_2S CONCENTRATIONS, WIND DIRECTIONS, AND AREA OF EXPOSURE. THEY WILL DELINEATE THE OUTER PERIMETER OF THE HAZARDOUS GAS AREA. EXTENSION TO THE EVACUATION AREA WILL BE DETERMINED FROM INFORMATION GATHERED.

4. LAW ENFORCEMENT PERSONNEL (STATE POLICE, POLICE DEPARTMENT, FIRE DEPARTMENT, AND SHERIFF'S DEPARTMENT) WILL BE CALLED TO AID IN SETTING UP AND MAINTAINING ROAD BLOCKS. ALSO, THEY WILL AID IN EVACUATION OF THE PUBLIC IF NECESSARY.

   IMPORTANT: "LAW ENFORCEMENT PERSONNEL WILL NOT BE ASKED TO COME INTO A CONTAMINATED AREA. THEIR ASSISTANCE WILL BE LIMITED TO UNCONTAMINATED AREAS. CONSTANT RADIO CONTACT WILL BE MAINTAINED WITH THEM."

5. AFTER THE DISCHARGE OF GAS HAS BEEN CONTROLLED, "COMPANY" SAFETY PERSONNEL WILL DETERMINE WHEN THE AREA IS SAFE FOR RE-ENTRY.

"SEE EMERGENCY REACTION PLAN"

WHAT TO DO

ANYONE
EMERGENCY ACTION CHECKLIST

WELL BLOWOUT

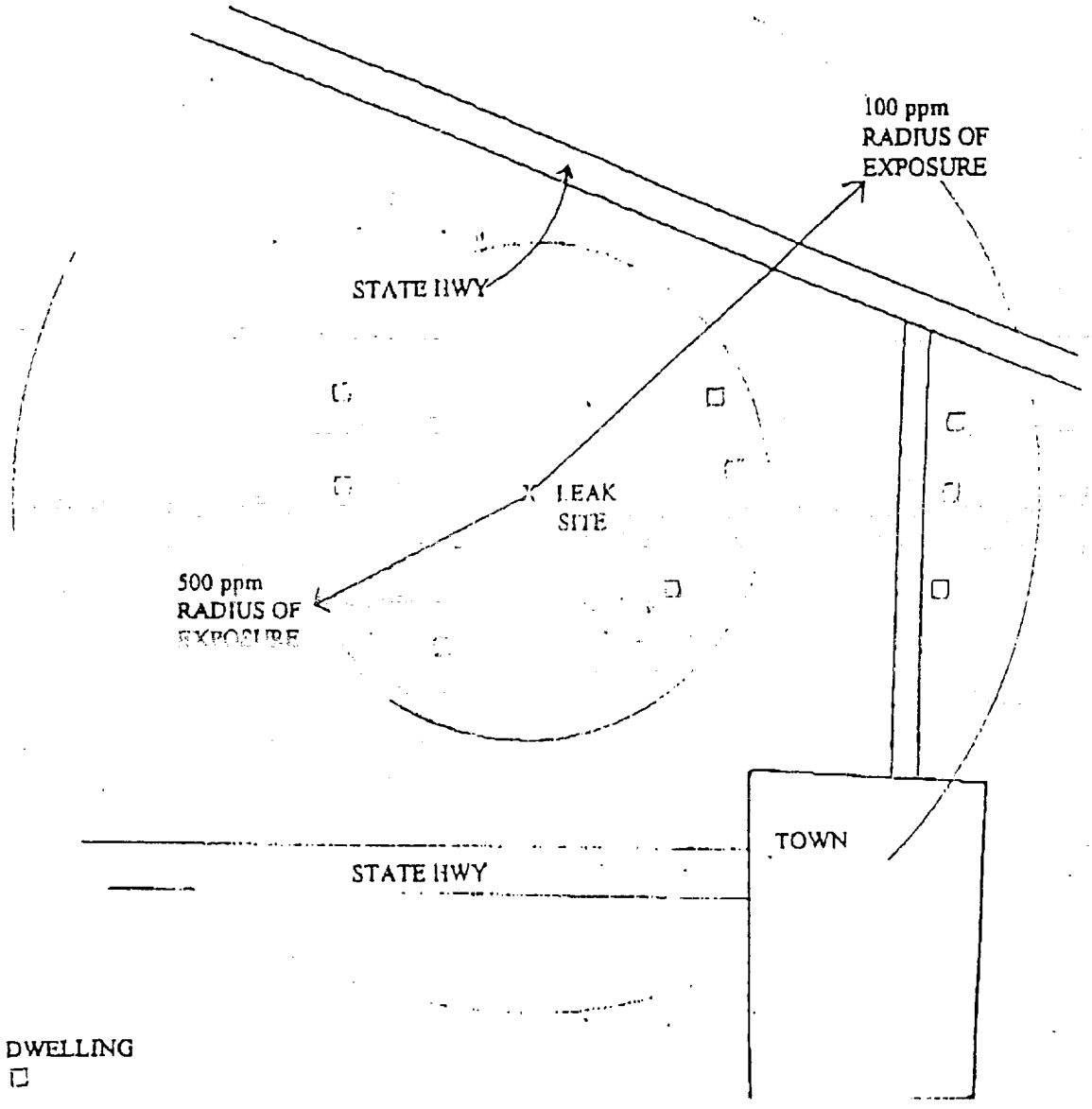
1.	IF EMERGENCY:	EVACUATE ALL PERSONNEL IF POSSIBLE.
2.	IF EMERGENCY:	IF SOUR GAS - EVACUATE RIG PERSONNEL.
3.	IF EMERGENCY:	IF SOUR GAS - EVACUATE PUBLIC WITHIN 1 HOUR RADIUS OF EXPOSURE.
4.	IF EMERGENCY:	DON SCBA AND RESCUE.
5.	IF EMERGENCY:	CALL 911 FOR EMERGENCY HELP (FIRE DEPARTMENT, AMBULANCE) AND NOTIFY SR. DRILLING FOREMAN AND DISTRICT FOREMAN.
6.	IF EMERGENCY.	GIVE FIRST AID

PERSON DOWN LOCATION/FATALITY

1. IF IMMEDIATELY POSSIBLE, CONTACT 911 FOR AMBULANCE. GIVE LOCATION AND WAIT FOR CONFIRMATION.

2. DON SCBA AND RESCUE.

EXAMPLES OF DISPERSION PROBLEM



GENERAL INFORMATION

TOXIC EFFECTS OF HYDROGEN SULFIDE

HYDROGEN SULFIDE IS EXTREMELY TOXIC. THE ACCEPTABLE CEILING CONCENTRATION FOR EIGHT-HOUR EXPOSURE IS 10 PPM, WHICH IS .001% BY VOLUME. HYDROGEN SULFIDE IS HEAVIER THAN AIR (SPECIFIC GRAVITY - 1.192) AND COLORLESS. IT FORMS AN EXPLOSIVE MIXTURE WITH AIR BETWEEN 4.3 AND 46.0 PERCENT BY VOLUME. HYDROGEN SULFIDE IS ALMOST AS TOXIC AS HYDROGEN CYANIDE AND IS BETWEEN FIVE AND SIX TIMES MORE TOXIC THAN CARBON MONOXIDE. TOXICITY DATA FOR HYDROGEN SULFIDE AND VARIOUS OTHER GASES ARE COMPARED IN TABLE I. PHYSICAL EFFECTS AT VARIOUS HYDROGEN SULFIDE EXPOSURE LEVELS ARE DENOTED IN TABLE II.

TABLE I
TOXICITY OF VARIOUS GASES

COMMON NAME	CHEMICAL FORMULA	SPECIFIC GRAVITY (SC=1)	THRESHOLD LIMIT 1	HAZARDOUS LIMIT 2	LETHAL CONCENTRATION 3
HYDROGEN CYANIDE	HCN	0.94	10 PPM	150 PPM/HR	300 PPM
HYDROGEN SULFIDE	H_2S	1.18	10 PPM4 20 PPM5	250 PPM/HR	600 PPM
SULFUR DIOXIDE	SO_2	2.21	5 PPM	----------	1000 PPM
CHLORINE	CL_2	2.45	1 PPM	4 PPM/HR	1000 PPM
CARBON MONOXIDE	CO	0.97	50 PPM	400 PPM/HR	1000 PPM
CARBON DIOXIDE	CO_2	1.52	5000 PPM	5%	10%
METHANE	CH_4	0.55	90,000 PPM (9%) COMBUSTIBLE ABOVE 5% IN AIR		------

GENERAL INFORMATION

TOXIC EFFECTS OF HYDROGEN SULFIDE

1. **THRESHOLD LIMIT:** CONCENTRATION AT WHICH IT IS BELIEVED THAT ALL WORKERS MAY BE REPEATEDLY EXPOSED DAY AFTER DAY WITHOUT ADVERSE EFFECTS.

2. **HAZARDOUS LIMIT:** CONCENTRATION THAT MAY CAUSE DEATH.

3. **LETHAL CONCENTRATION:** CONCENTRATION THAT WILL CAUSE DEATH WITH SHORT TERM EXPOSURE.

4. **THRESHOLD LIMIT:** 10 PPM - 1972 ACGIA (AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS).

5. **THRESHOLD LIMIT:** 10 PPM - 1989 ANSI ACCEPTABLE CEILING CONCENTRATION FOR EIGHT-HOUR EXPOSURE (BASED ON 40-HR WEEK) IS 10 PPM. OSHA RULES AND REGULATIONS (FEDERAL REGISTER, VOLUME 37, NO. 202, PART II, DATED 02/01/89).

GENERAL INFORMATION

TOXIC EFFECTS OF HYDROGEN SULFIDE

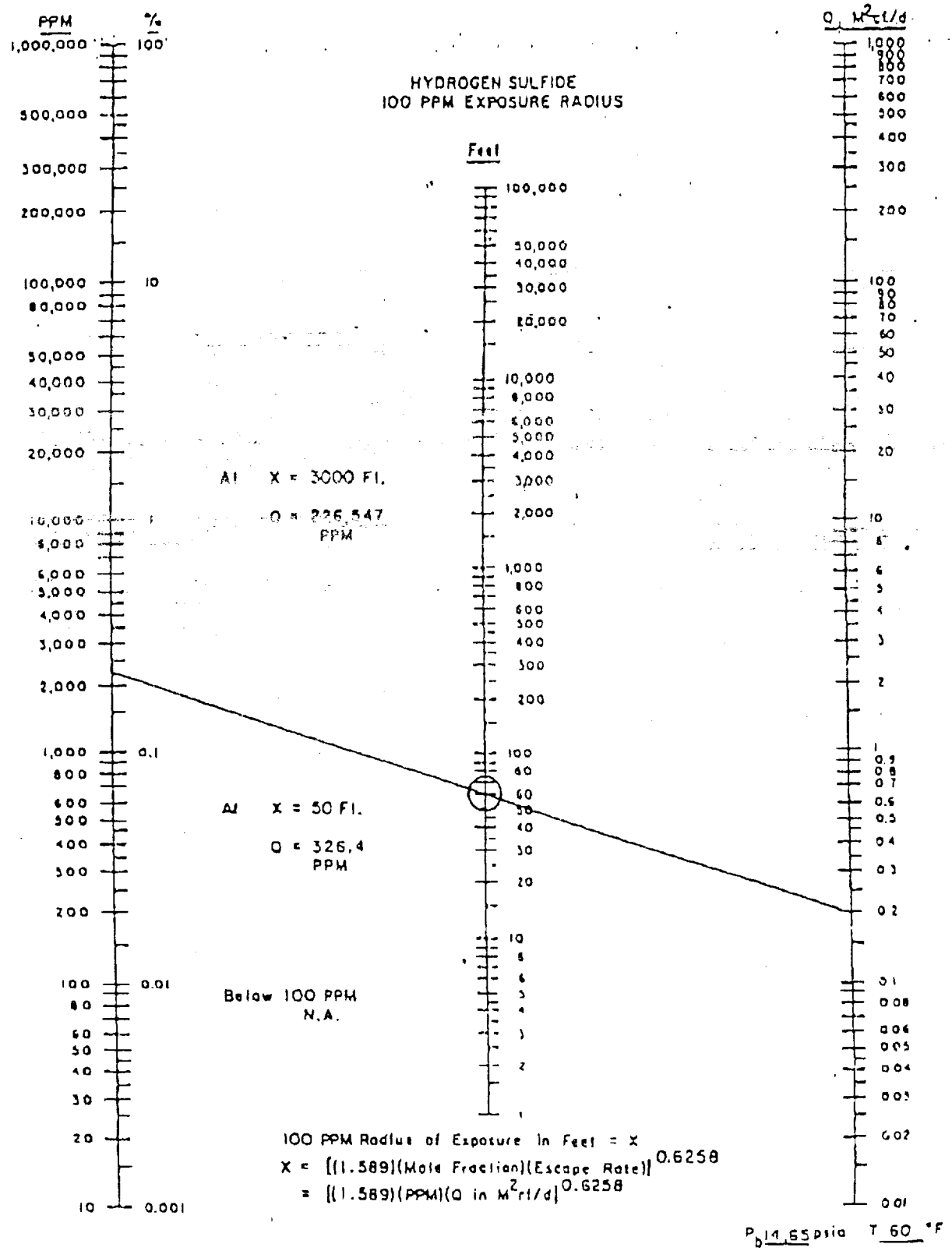
TABLE II

PHYSICAL EFFECTS OF HYDROGEN SULFIDE*

CONCENTRATION			PHYSICAL EFFECTS
PERCENT (%)	PPM	GRAINS 100 STD. FT3**	
0.001	10	.65	OBVIOUS AND UNPLEASANT ODOR
0.002	20	1.30	SAFE FOR 8 HRS EXPOSURE
0.01	100	6.48	KILLS SMELL IN 3 - 15 MIN MAY STING EYES AND THROAT
0.02	200	12.96	KILLS SMELL SHORTLY; STINGS EYES AND THROAT
0.05	500	32.96	DIZZINESS; BREATHING CEASES IN A FEW MIN; NEEDS PROMPT ARTIFICIAL RESPIRATION
0.07	700	45.36	UNCONSCIOUS QUICKLY; DEATH WILL RESULT IF NOT RESCUED PROMPTLY
0.10	1000	65.80	UNCONSCIOUS AT ONCE; FOLLOWED BY DEATH WITHIN MINUTES

* **CAUTION:** HYDROGEN SULFIDE IS A COLORLESS AND TRANSPARENT GAS AND IS FLAMMABLE. IT IS HEAVIER THAN AIR AND MAY ACCUMULATE IN LOW PLACES.

** **AT 15.00 PSIA AND 60° F.**


HYDROGEN SULFIDE
100 PPM EXPOSURE RADIUS
PPM
%
Feet
Q, M²cf/d
At X = 3000 Ft.
Q = 226,547 PPM
At X = 50 Ft.
Q = 326.4 PPM
Below 100 PPM N.A.
100 PPM Radius of Exposure in Feet = X
X = [(1.589)(Mole Fraction)(Escape Rate)]^0.6258
= [(1.589)(PPM)(Q in M²cf/d]^0.6258
Pb 14.65 psia T 60 °F