

APPLICATION FOR PERMIT TO: DRILL DEEPEN REWORK OR OPERATE A WELL

OTSEGO Co. - ANTRIM

123523
 GEOLOGICAL SURVEY
 AUG 1 1995
 Permits & Bonding

MAIL TO:
 MICHIGAN DEPARTMENT OF NATURAL RESOURCES
 GEOLOGICAL SURVEY DIVISION
 BOX 30028, LANSING, MICHIGAN 48909
 NON-SUBMISSION AND/OR FALSIFICATION OF THIS INFORMATION
 MAY RESULT IN FINES AND/OR IMPRISONMENT.

BY AUTHORITY OF:

1a. <input checked="" type="checkbox"/> Act 61, P.A. 1939, as amended <input checked="" type="checkbox"/> Oil & Gas <input type="checkbox"/> Brine Disposal <input type="checkbox"/> Hydrocarbon Storage <input type="checkbox"/> Secondary Recovery	1b. <input type="checkbox"/> Act 315, P.A. 1969, as amended <input type="checkbox"/> Disposal <input type="checkbox"/> Storage <input type="checkbox"/> Brine <input type="checkbox"/> <input type="checkbox"/> Test Well Type <input type="checkbox"/> Single <input type="checkbox"/> Blanket
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2. Application to: (no fee required if permit is valid)
 Deepen Revise Application Cancel and Transfer Convert to

3. Fee enclosed: No Yes

4. Do prior permits exist? No Yes Drilled Abandoned/Terminated

5. List each permit number

6. Fed. Employer Ident. No. or Soc. Security No.
 75-1608586

7. Surety Bond: Blanket Single Well

8. Attached On File

9. Bond No. C.D.#748412111

10. Bond Amount: \$50,000.00

11. Applicant: (name each "owner" as they are bonded)
 Mercury Exploration Company

12. Address: (operator only if more than one "owner")
 P.O. Box 1256, Gaylord, MI 49735

Phone: (517) 732-0020

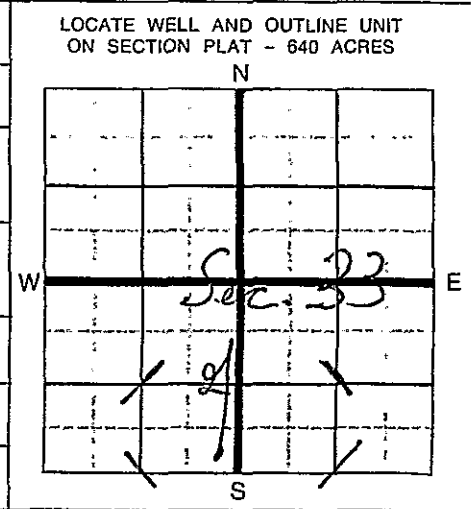
13. Lease or well name: (be as brief as possible)
 Thomas Lake

Well number: D2-33

14. Surface owner:
 Lake Arrowhead Property Owners Assoc. C/O Lee Edmiston

15. Address:
 7065 Arrowroot Trail, Gaylord, MI 49735

Phone: 616-585-7625



16. Surface location (See instructions)
 SE 1/4 SE 1/4 of SW 1/4 of Sec. 33 T. 30N R. 4W

Township: Hayes County: Otsego

17. Bottom hole location if directional drill (See instructions)
 1/4 1/4 of 1/4 of Sec. T. R.

Township: County:

18. LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT. (See instructions)

a. Surface Location: 330 ft. from (N/S) South Line of quarter section. AND 330 ft. from (E/W) East Line of quarter section.

b. Bot. Hole Location: _____ ft. from (N/S) _____ Line of quarter section. AND _____ ft. from (E/W) _____ Line of quarter section.

c. Drilling Unit: 330 ft. from (N/S) South Line of drilling unit. AND 995 ft. from (E/W) West Line of drilling unit.

19. Drilling contractor: Undetermined

20. Kind of tools (Rotary, cable, combination): Rotary

21. Is sour oil or gas expected? No Yes

22. Blowout control diagram enclosed? No Yes

23. Blowout control (Detail equipment type, size, trim, rating, testing, choke manifold, etc. See instructions)

See Attached

24. Intended Total Depth: 2000'

25. Formation at Total Depth: Traverse Lime

26. Producing Formation: Antrim

27. Objective Pool or Field: Antrim

28. PROPOSED DRILLING, CASING, CEMENTING AND SEALING PROGRAM

HOLE			CASING			CEMENT		MUD		
Depth	Geol. Form	Bit Dia.	O.D. Size	Wt./Ft. — Grade — Condition	Depth	Sacks	W.O.C.(hrs.)	Wt.	Vis.	W.L.
48'	Drift	Driven	13 3/8"	48# Conductor New	48'	Driven				
1000	Cldwtr.	12 1/4"	8 5/8	24# J-55 New	1000	C. to S.	12	8.8	50	NC
2000	Trav.Lm	7 7/8"	5 1/2	15.5# J-55 Used	2000	C. to S.	NA	8.6	28	NC

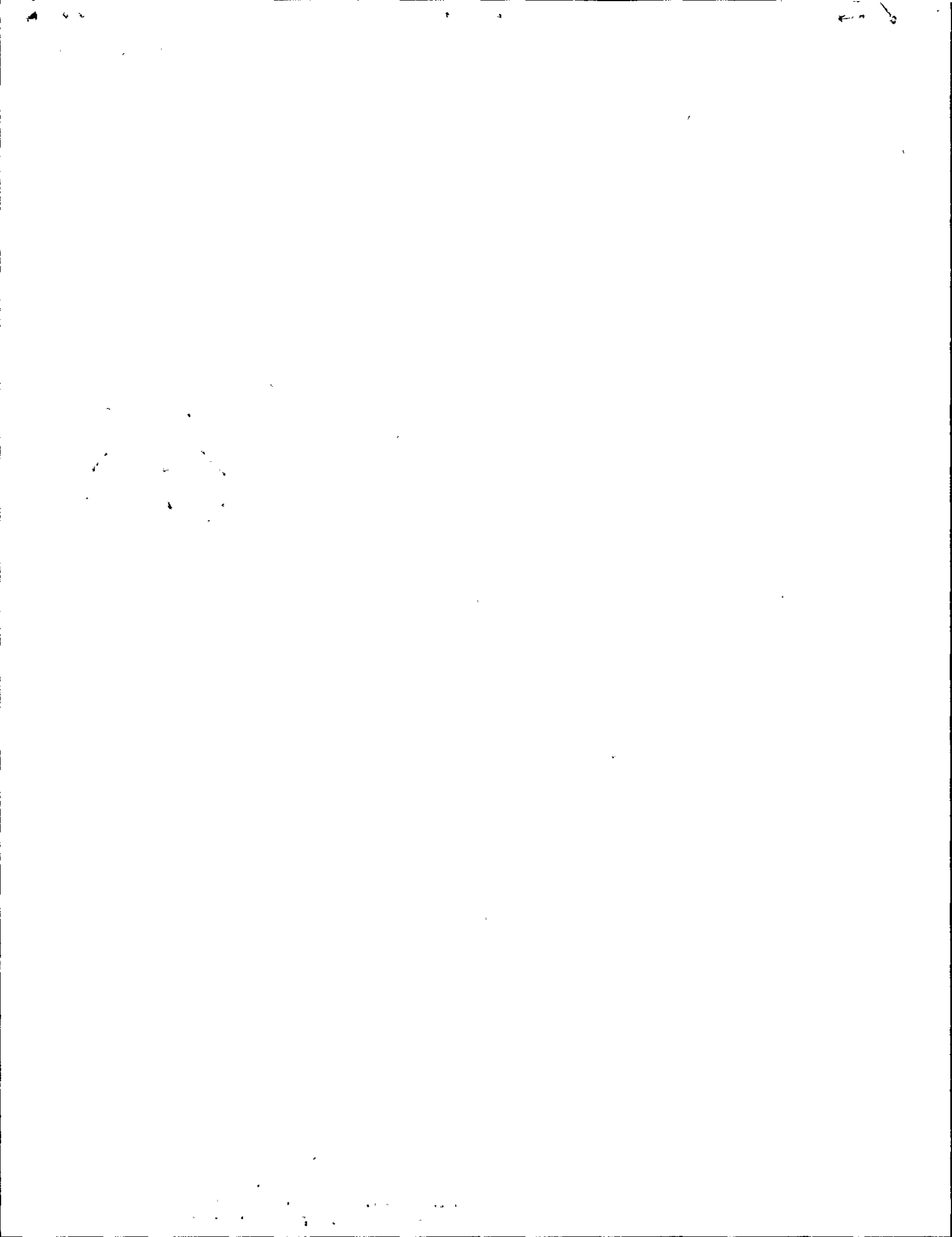
29. Send correspondence and permit to: Address
 Mercury Exploration Company, P.O. Box 1256, Gaylord, MI 49735

FOR DNR USE ONLY

Permit	Date Issued	Number
Act 61	8-22-95	50352
Act 315		

30. Application Prepared By: (Print)
 Tom Roach, Jr. Phone: (616) 933-0311

31. Signature: *Tom Roach, Jr.* Date: 8 August 95



APPLICATION FOR PERMIT TO: DRILL DEEPEN REWORK OR OPERATE A WELL

583

MAIL TO:
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION
BOX 30028, LANSING, MICHIGAN 48909

NON-SUBMISSION AND/OR FALSIFICATION OF THIS INFORMATION
MAY RESULT IN FINES AND/OR IMPRISONMENT.

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2. Application to: (no fee required if permit is valid)
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3. Fee enclosed: No Yes

4. Do prior permits exist? No Yes Drilled Abandoned/Terminated

5. List each permit number

6. Fed. Employer Ident. No. or Soc. Security No.
75-1608586

7. Surety Bond:
 Blanket Single Well

8. Attached On File

9. Bond No. CD #748412111

10. Bond Amount \$50,000

11. Applicant: (name each "owner" as they are bonded)
Mercury Exploration Company

12. Address: (operator only if more than one "owner")
P.O. Box 1256, Gaylord, MI 49735

Phone: 517-732-0020

13. Lease or well name: (be as brief as possible)
Thomas Lake

Well number: D2-33

14. Surface owner:
Lake Arrowhead Property Owners Assoc. C/O Lee Edmiston

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16. Surface location (See instructions)
SE 1/4 SE 1/4 of SW 1/4 of Sec. 33 T. 30N R.4W

Township Hayes County Otsego

17. Bottom hole location if directional drill (See instructions)
1/4 of 1/4 of 1/4 of Sec. T. R.

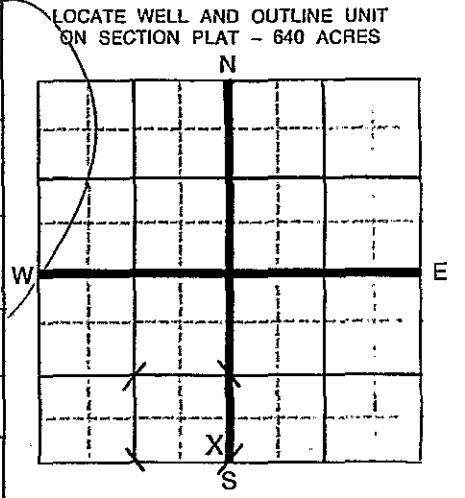
Township County

18. LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT. (See instructions)

a. Location: 330 ft. from (N/S) South Line of quarter section. AND 330 ft. from (E/W) East Line of quarter section.

b. Location: _____ ft. from (N/S) _____ Line of quarter section. AND _____ ft. from (E/W) _____ Line of quarter section.

c. Drilling Unit: 330 ft. from (N/S) South Line of drilling unit. AND 330 ft. from (E/W) East Line of drilling unit.



19. Drilling contractor: To be determined

20. Kind of tools (Rotary, cable, combination) Rotary

21. Is sour oil or gas expected? No Yes

22. Blowout control diagram enclosed? No Yes

23. Blowout control (Detail equipment type, size, trim, rating, testing, choke manifold, etc. See instructions)
71351 99003 9096 \$100.00

24. Intended Total Depth 2000'

25. Formation at Total Depth Traverse

26. Producing Formation Antrim

27. Objective Pool or Field Antrim

28. PROPOSED DRILLING, CASING, CEMENTING AND SEALING PROGRAM

HOLE			CASING			CEMENT		MUD		
Depth	Geol. Form	Bit Dia.	O.D. Size	Wt./Ft. — Grade — Condition	Depth	Sacks	W.O.C.(hrs.)	Wt.	Vis.	W.L.
48'	Drift	Driven	13 3/8"	48# Conductor - New	48'	Driven				
1000'	Coldwater	12 1/4"	8 5/8"	24# J-55 - New	1000'	175	12	8.8	50	NC
2000'	Traverse	7 7/8"	5 1/2"	15.5# J-55 New	2000'	308	NA	8.6	28	NC

29. Send correspondence and permit to: Address
Mercury Exploration Company P.O. Box 1256, Gaylord, MI 49735

FOR DNR USE ONLY

Permit	Date Issued	Number
<input type="checkbox"/> Act 61		
<input type="checkbox"/> Act 315		

30. Application Prepared By: (Print) Frederick H. Thomson, PE, PS 616-775-7755
Phone: 316-775-7755

31. Signature: Frederick H. Thomson Date: 3-7-95

15603

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION
BOX 30028
LANSING, MICHIGAN 48909

PERMIT TO

DRILL DEEPEN REWORK OPERATE

GRANTED UNDER PROVISIONS OF

Act 61, P.A. 1939, as amended (M.C.L. 319.1 to 319.27)

Violation of and/or non-compliance with the provisions of the acts and conditions of permit may result in penalties. This permit includes as requirements all the operations and methods proposed by the applicant, unless rejected or altered by the DNR, and along with the attached stipulations are incorporated in its entirety by reference.

WELL NAME
THOMAS LAKE #D2-33

PERMIT	ISSUED	TYPE OF WELL
50352	08/22/95	OIL OR GAS
CANCEL AND TRANSFER		FORMATION
		TRAVERSE LIMESTONE
DEEPENING PERMIT		DEPTH
		2000'
PERMIT EXPIRES		KIND OF TOOLS
08/22/96		ROTARY
ISSUED TO		
MERCURY EXPLORATION COMPANY		
PO BOX 1256		
720 S. OTSEGO RD.		
GAYLORD, MI 49735		


LOCATION AND FOOTAGES:
SHL: SE 1/4 SE 1/4 SW 1/4, Sec 33, 30N 04W, HAYES Twp, OTSEGO Co.
330 ft. from South and 330 ft. from East line of quarter section.
330 ft. from South and 330 ft. from West line of drilling unit.

CASING AND SEALING REQUIREMENTS						
O.D. SIZE	WT./FT.	CASING GRADE	CONDITION	DEPTH	SACKS CEMENT	W.O.C. (HRS.)
13 3/8"	48#	CONDUCTOR	NEW	48'	DRIVEN	
8 5/8"	24#	J-55	NEW	1000'	C TO S	12
5 1/2"	15.5#	J-55	USED	2000'	C TO S	N/A

1. The "Rat Hole" in the Traverse Lime shall be cased and sealed such that no brine from the Antrim Formation or any other formation is disposed of in the Traverse Lime.
2. District Geologist shall be notified prior to pit encapsulation.
3. A derrick floor or ground elevation above sea level datum shall be run by a competent surveyor or competent engineer. This elevation shall be filed with the Supervisor within 14 days after the well is spudded.
4. Tubulars or downhole equipment that are classified as NORM materials by Order No. 3-6-92 SHALL NOT be used for the construction of this well.

OFFICE TO BE NOTIFIED BEFORE DRILLING/DEEPENING STARTS
GAYLORD (517) 7323541

FOR THE SUPERVISOR OF WELLS

BY 
REX TEFERTILLER (517) 3346974 PERMIT COORDINATOR

SEE REVERSE SIDE FOR ADDITIONAL REQUIREMENTS

THIS PERMIT IS SUBJECT TO THESE GENERAL CONDITIONS

1. Drilling operations shall not start until drill site preparation requirements are completed.
2. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all the terms and conditions of this permit and rules, orders and requirements of the Supervisor of Wells/Mineral Wells.
3. The permittee is required to give notice to public utilities in accordance with Act 53, PA 1974 (M.C.L. 460.701 to 460.718).
4. Any changes from what is stated in the permit application and permit shall be approved by the Supervisor of Wells/Mineral Wells.
5. This permit is valid only for the permittee of issue and any changes of ownership shall be accompanied by a request to the Supervisor of Wells/Mineral Wells to transfer the permit from the current owner to the new owner.
6. "NOTICE AND REQUIREMENTS FOR SOURCE OF WATER AND WATER WELLS USED IN CONJUNCTION WITH OIL AND GAS OR MINERAL WELL DRILLING, AND OPERATIONS", December 1, 1984 is made part of and a condition of this permit.
7. During well completion and testing procedures all fluids shall be contained in tanks and transported to off site disposal facilities.
8. The Michigan Air Pollution Control Commission rules require that a person shall not install nor alter sour gas or oil well production equipment and flares unless a permit to install has been approved by the Commission. An operator is allowed to drill and test a sour well prior to obtaining the necessary permit to install from the Commission, but is not allowed full production of such wells before issuance of the necessary air use permits.
9. This permit does not convey property rights in either real estate or material or does it authorize any injury to private property or invasion of private or public rights or does it waive the necessity of seeking federal and local permits or complying with other state statutes.
10. If a Hydrogen Sulfide contingency plan is required, a copy of Part II of the plan shall be posted in the primary briefing area.
11. All trash and garbage shall be removed from the drill site at the completion of drilling.
12. Blowout preventers, accumulators, and pumps shall be certified as operable under the product manufacture's minimum operational specifications. This certification shall include proper operation of the closing unit valving, pressure gauges, and manufacture's recommended accumulatory fluids. Certification may be obtained through those companies presently used to test the blowout preventers stack and casing. Certification shall be required annually and shall be posted on the rig floor.
13. In addition to the primary closing system, including an accumulator system, the blowout preventers shall have a secondary system. A combination of any two of the following secondary closing systems will be acceptable: Electric-operated pump; Air-operated pump; Hand-operated pump or nitrogen. Extensions with hand wheels are not mandatory.
14. Blowout preventer rams shall be of proper size for the drill pipe being used or production casing being run in the well. Variable type rams of the proper size range will be acceptable.
15. The gas buster and flare system shall be in place and operable prior to drilling into a reservoir known or believed to contain Hydrogen Sulfide in excess of 500 ppm with the intention to complete in and/or test that reservoir.
16. A trip tank, or any accurate fluid monitoring system, as well as a gas buster and flare system where justified, shall be in place when penetrating the A2 Carbonate formation. Changes may be granted by the Department of Natural Resources District Geologist.

TRANSMITTAL AND FIELD REVIEW
FOR PROPOSED WELL SITE

- Act 61 PA 1939 as amended.
 Act 315 PA 1969 as amended.

1a. App. No. 583	1b. Revision <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1c. Coordinator R. IEFERTILLER	1d. District Sent To GAYLORD	1e. Date 4-5-95
2. Applicant MERCURY EXPLORATION Co.				
3a. Well Name & No. THOMAS LAKE # D2-33			3b. For Redrills: Original Permit No.	
4a. Surface Location SE 1/4 SE 1/4 SW 1/4 Sec. 33 T30N R4W HAYES			Twp. HAYES County OTSEGO	
4b. Footages 330 ft. from S line of 1/4 sec. 330 ft. from E line of 1/4 sec.				
5a. Mineral Ownership <input checked="" type="checkbox"/> Private <input type="checkbox"/> State <input type="checkbox"/> Federal		5b. Surface Ownership <input checked="" type="checkbox"/> Private <input type="checkbox"/> State <input type="checkbox"/> Federal <input type="checkbox"/> DJ <input type="checkbox"/> PR		5c. State Lease: No.
5d. Lease Restrictions:		5d. Wellsite Area Local Zoning: <input type="checkbox"/> Residential: Date _____ <input checked="" type="checkbox"/> Other: FOREST RECREATIONAL 9-5-75, Rev. 3-93		
6. Information and requests: (Spacing, problem areas, etc.) THOMAS LAKE PROJECT				

FIELD REVIEW AND RECOMMENDATIONS: Date Received

7. Field Inspected By: Name and Date A. Sullivan 5-11-95	8a. Land use: <input type="checkbox"/> Crops <input type="checkbox"/> Forests <input checked="" type="checkbox"/> Recreation <input type="checkbox"/> Vacant <input type="checkbox"/> Other _____	8b. Cover Type/Density: light cover mixed with grapple
9. Topography gently sloping	10. Acreage Involved: Drill Pad: 1.0 Acres Access Road: .10 Acres	
11. Soil type and drainage, field tiles, etc. well drained sand		
12. Are soil erosion and sedimentation control measures adequate? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
13. Type, direction & distance to surface waters and waterways including wet lands within 1/4 mile. none	GEOLOGICAL SURVEY AUG 15 1995 Permits & Bonding Unit	
14. Nearby scenic, historical or recreational areas: none		
15. Structures, pipelines, other utility lines within 300 feet of proposed well site. none		
16. Is proposed method of disposal of produced and drilling brine acceptable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
17. Is casing and sealing adequate? Conductor <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Surface <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Intermediate <input type="checkbox"/> Yes <input type="checkbox"/> No Production <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	ARE REQUIREMENTS OF S.I. 1-94 MET? OK	
18. Is Special Order #2-73 exception recommended? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	RECEIVED	
19a. H ₂ S Contingency Plan: <input checked="" type="checkbox"/> "Sweet". Plan not required. <input type="checkbox"/> "Sour". Plan required. Complete and accurate? <input type="checkbox"/> Yes <input type="checkbox"/> No	AUG 11 1995	
19b. H ₂ S production Facilities & Flare Stack S.I. No. 2-87 apply? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Other? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	DNR - REGION II	
20. Pumping Jack Prime Mover: Require electric? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

Discuss RECOMMENDATIONS with applicant before forwarding to Lansing

21. Source of freshwater: (Describe if other)
 Surface Water Exclusive Use
 Potable Well Municipal
 Other

22. Drilling pit requirements:
a. Forbidden! Use mud tanks only?
 Yes No

b. Specific placement required?
 Yes No

c. Relocate pit for burial?
 Yes No

d. Pit liner exception?
 Yes No

e. Salt cuttings to be: (Give Details)
 Dissolved
 Removed for disposal
 None

f. District Geologist to be notified prior to:
Excavation Yes No
Liner installation Yes No
Encapsulation Yes No

23. Wildlife/Fisheries/Forest Management's comments:

24. Items continued and/or not covered above (attach additional sheets if needed): (B.O.P.'s etc.)

25a. Permits Needed:
 Wetlands
 Inland lakes and streams
 County drain crossing
 Other _____

25b. Company Agent contacted regarding recommendations/deficiencies/non Act 61 requirements: _____ Date _____ Telephone No. _____

26. Revisions En Route?
 Yes No

27. District: Recommend a permit: Yes No See Memo:

Signature: *Andrew J. Leadwaker* Title: Leadwaker Date: 5-12-95

28. Land Manager: Recommend a permit: Yes No See Memo:

Signature: _____ Title: _____ Date: _____

29. Region: Recommend a permit: Yes No See Memo:

Signature: *D. Luman* Title: DEPUTY DIRECTOR Date: AUG 11 1995

SURVEY RECORD OF WELL LOCATION

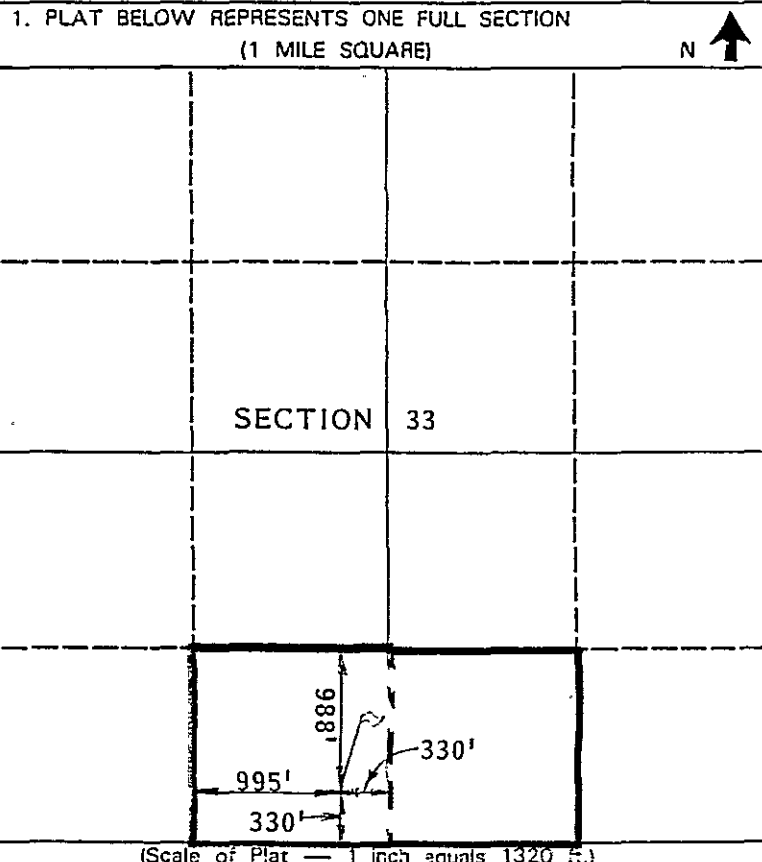
Act 61, P.A. 1939, as amended. Act 315, P.A. 1969, as amended.
 Filing of Survey Record, Plat or Plot Plan and Environmental Impact Assessment with Application
 for Permit to Drill are REQUIRED by the above listed Acts, in order to obtain a Permit.

95118

APPLICANT Mercury Exploration Company	WELL NAME AND NUMBER Thomas Lake D2-33
SURFACE LOCATION SE 1/4 of SE 1/4 of SW 1/4 of Section 33	TOWNSHIP COUNTY T 30N R 4W Hayes Otsego
BOTTOM HOLE LOCATION % of % of % of Section T R	COUNTY

Instructions: Outline drilling unit and spot well location on Plat shown below (1.). Where drilling unit crosses section lines, divide the Plat into an East half and a West half OR a North half and a South half (whichever applies). Outline the Unit and locate the well in two directions from NEAREST quarter section and unit lines (For Act 61, P.A. 1939, as amended).

2. Location of well in two directions from NEAREST quarter section and unit lines is (For Act 61, P.A. 1939, as amended):
 Surface Location:
330 ft. from South line of Quarter Section
(north-south)
330 ft. from East line of Quarter Section
(east-west)
 Bottom Hole Location:
 _____ ft. from _____ line of Quarter Section
(north-south)
 _____ ft. from _____ line of Quarter Section
(east-west)
 Bottom Hole Will Be:
330 ft. from South line of unit/property (Act 315) lease
(north-south)
995 ft. from West line of unit/property (Act 315) lease
(east-west)



3a. Describe wellsite marker. Show or describe access route if it is not readily accessible.
Wellsite is marked with a painted wood stake
Site can be reached from the intersection of Springay and Hayes Tower Road, then West on Springay approx. 1 mile to marker, then North approx. 350' to stake.

3b. Zoning. Residential Other: Forest Recreational
 3c. Effective date: Adopted 9-5-75, Rev. March, 1993

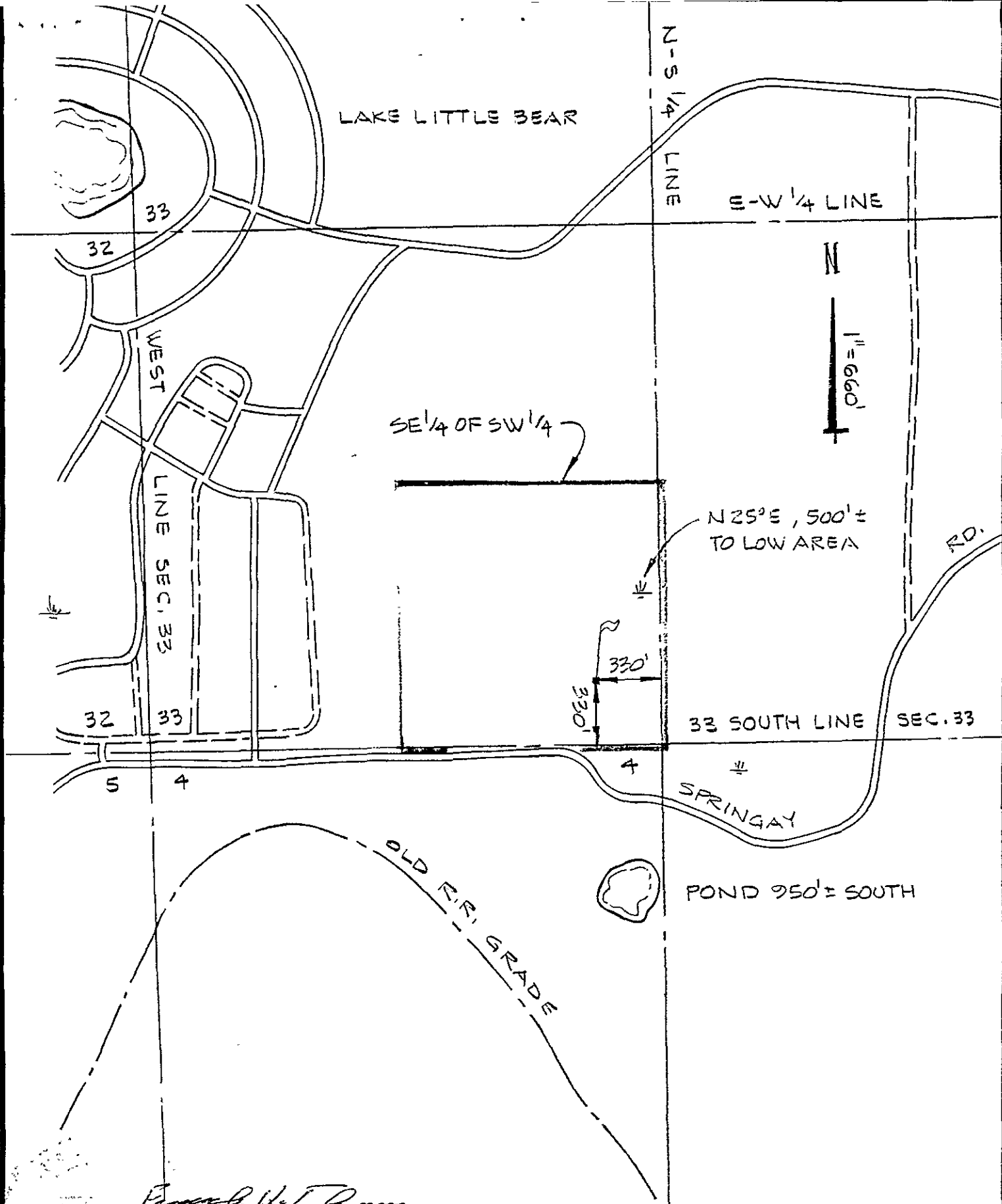
4. ON SEPARATE PLAT OR PLOT PLAN, LOCATE, IDENTIFY AND SHOW DISTANCES TO:
- A. All roads, power lines, residences, farm buildings, and other structures within 300 feet of the stake.
 - B. All lakes, streams, swamps, drainage-ways or any other surface water features within 1320 feet of the stake.
5. In an ENVIRONMENTAL IMPACT ASSESSMENT describe all structures and surface features shown detailing plans for hazards prevention and erosion control (See instructions and guidelines for preparation of an environmental impact assessment).

NAME OF INDIVIDUAL WHO SURVEYED SITE <i>Frederick H. Thomson</i> Frederick H. Thomson	DATE PS#21996 3-9-95	TITLE Professional Surveyor
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WILCOX ASSOCIATES, INC. 7711 S US-131, Cadillac, MI 49601

I CERTIFY THE ABOVE INFORMATION IS COMPLETE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

SIGNATURE (Applicant, or authorized representative) <i>Frederick H. Thomson</i>	ADDRESS (if different than Lessee) P.O. Box 580 Cadillac, MI 49601	DATE (Month, Day, Year) 3-9-95
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Francis W. J. Brown

534350

SUPPLEMENTAL PLAT; THOMAS LAKE 'DZ-33, SEC. 33, T30N-R4W, HAYES TWP, OTSEGO CO., MICHIGAN	DATE	2-23-95	Wilcox Associates Engineering Surveying and Environmental Sciences P.O. Box 500 7711 South US 131 Cadillac, MI 49601 616 775-7755	SHEET	JOB NO.
	DRN	R.M.I.			
CLIENT: MERCURY EXPLORATION CO.	CHD	FHT	SCALE	PG.	
			V: 1" = 660'	19	

II. Environmental Impact Assessment

The drilling and operation of a producing well at this location should have only a minimal effect on the ecological system of the vicinity. Wildlife is abundant throughout the region, but no special or endangered species are known to exist in the vicinity of the proposed wellsite. Operation of a producing well at this location could have a slight effect on future population patterns.

An area of approximately one (1) acre will be required for drilling. The site lies in a light cover of cherry and poplar which will have to be removed for pad preparation. The ground at the proposed pad slopes at 3% or less and a slight amount of earthwork will be required to prepare a drilling pad. Appropriate drill site drainage and sedimentation control measures will be incorporated in the operational plan. These will include utilization of earthen dikes along the fill portion of drilling pad perimeter, stabilization of slopes as needed, location of the reserve pit in the cut portion of the drilling pad, and sloping of the pad toward a collection-infiltration basin. Soils in the vicinity of the wellsite are generally well drained and no unusual erosion problems are anticipated at this location.

In compliance with Supervisor of Wells Instruction 1-94, surface casing will be set no less than 100 feet into competent bedrock (Coldwater Shale and/or Bedford Shale) and 100 feet below the base of all fresh water aquifers occurring below the glacial drift. The lowest know aquifer is the glacial drift and the estimated depth of the base of the drift is 900 feet. The certification of surface casing will be filed with the Supervisor of Wells within 30 days of completion of drilling.

Drilling muds and fluids will be handled and disposed of in accordance with Supervisor of Wells Special Order No. 1-81, and Letters of Instruction No. 1-84 and 3-81. All fluids will be circulated to a reserve pit lined with 20 mil pvc or equivalent. Any drilled salt cuttings will be dissolved and the liquid brine will be disposed of in a manner approved by the Supervisor of Wells. Upon completion of the drilling operations, any clear liquids in the reserve pit will be pumped off and disposed of in a manner approved by the Supervisor of Wells. Remaining liquids and drill cuttings will be covered with 10 mil pvc, or equivalent, encapsulated, and buried onsite.

Access to the wellsite will be from the South off of Springay Road. Approximately 250 feet of new, single lane access trail will need to be constructed for this project. In the event that production is established, it may be necessary to upgrade the access trail in order to accommodate all weather operations.

Any brine or hydrocarbons produced by this well will be transferred through a flowline to the Hayes 34 Central Processing Facility, located in the Northeast 1/4 of the Southwest 1/4 of Section 34, T30N, R4W.

Fresh water utilized for drilling purposes will be trucked to the site and stored in onsite storage facilities during drilling operations.

Any brines produced by this well would be disposed of in a prudent manner in accordance with Supervisor of Wells Special Order No. 1-81 (amended) and Letter of Instruction No. 3-81. Produced brines and any hydrocarbon liquids would be stored at the site of the production facilities, with proper compliance being given to monitoring and secondary containment in accordance with Supervisor of Wells Instructions No. 1-89. Brine will be taken for disposal either down an approved saltwater disposal well or disposed of by other means approved by the Supervisor of Wells.

If the well is non-productive, or upon abandonment following production, it will be plugged in accordance with MDNR instructions. The surface location will be fine graded, stabilized and restored in accordance with an agreement with the property owners. If the well is productive, there will be a slight effect on the immediate environment.

III. Possible Alternatives to the Proposed Well Location

The proposed location has been selected on the basis of a surface evaluation, and a geological interpretation and is the most desirable location to allow an evaluation of that interpretation. The location is reasonably well isolated from surface waters and well isolated from places of human habitation. We believe that the proposed surface location is well suited for the construction of a drilling pad. It is our belief that adequate protection of the environment can be maintained at this location. For these reasons, we consider the site to be the best available alternative.

IV. Any Irreversible and Irretrievable Commitment of Resources

The current shortage of oil and gas in the State of Michigan requires the efficient use of all resources. Production of oil and gas is an irreversible and irretrievable commitment of resources. However, this procedure is a necessary characteristic in the production of hydrocarbons. The productivity of the land will be lost during the life of the well but the surface resources of the drill site will not be irreversibly committed. Drilling of the well will not curtail the use of the surrounding environment.

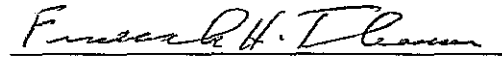
V. Summary

The proposed project is aimed at increasing the hydrocarbon reserves within the State of Michigan. In addition, in the event that production can be established on this drilling unit, it will be of financial benefit to the private holders of mineral rights within the drilling unit. The proposed wellsite has been staked on gently sloping, wooded, recreational use land. The site has a light cover of mixed hardwood which will need to be removed for pad preparation. The

ENVIRONMENTAL IMPACT ASSESSMENT
MERCURY EXPLORATION - THOMAS LAKE D2-33
PAGE 4

ground at the proposed pad slopes at 3% or less and a slight amount of earthwork will be required for drilling pad preparation. General drainage in the vicinity is to the West. Appropriate drill site drainage and sedimentation control measures will be incorporated in the operational plan. Access to the wellsite will be from the South off of Springay Road. Approximately 250 feet of new, single lane access trail will need to be constructed. We consider the environmental impact of this project to be slight, and will make every effort to insure protection and preservation of the environment during the course of our drilling and producing operations.

The ground elevation for the proposed location has been determined to be 1,316.0 feet, to sea level datum.


Applicant's Representative

Comments by Supervisor of Wells or Department of Natural Resources Representative:

Authorized Representative

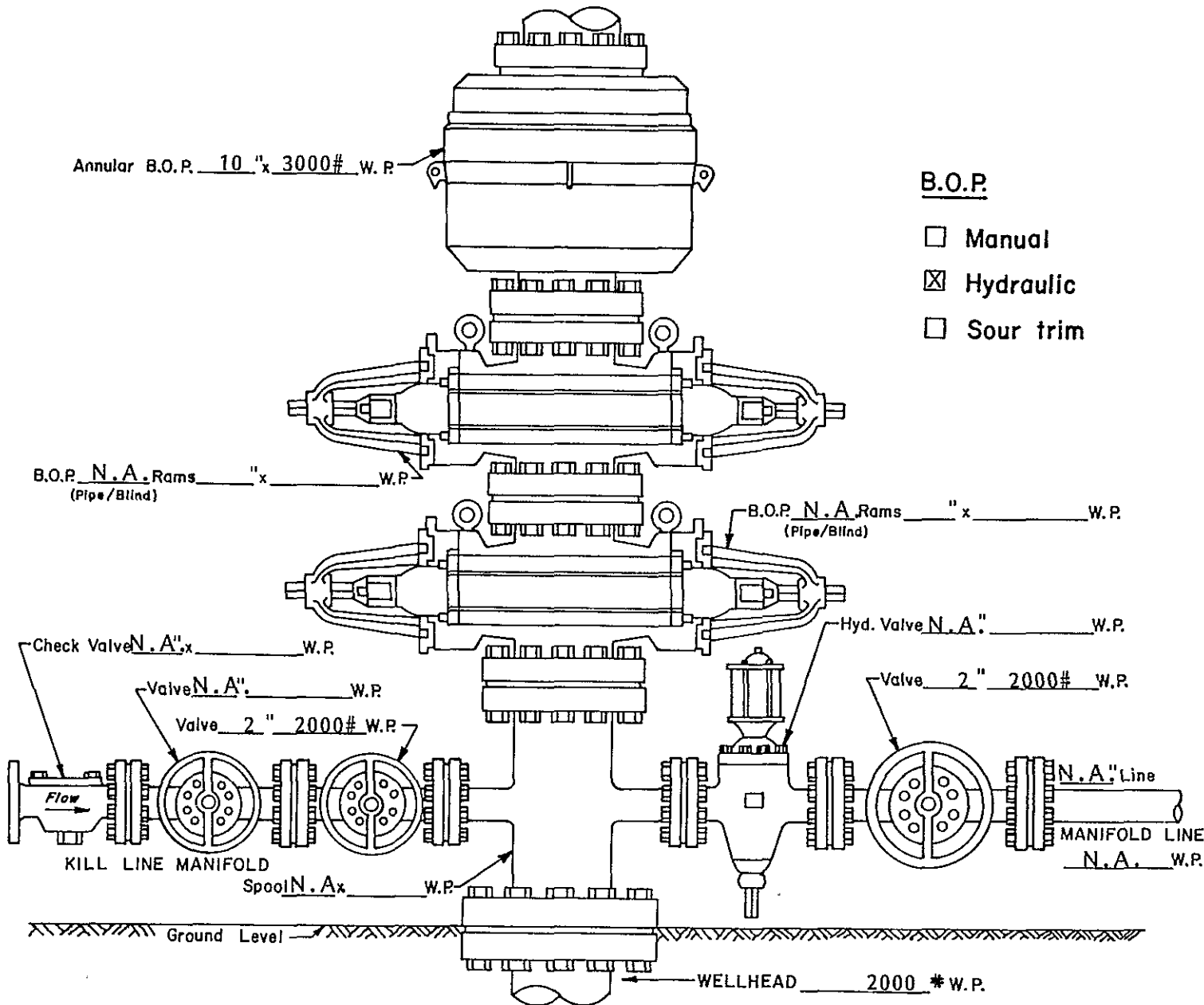
WELLHEAD BLOWOUT CONTROL SYSTEM

Optional worksheet supplement for "Application For Permit to Drill, Deepen, Rework, or Operate a Well." By Authority of Act 61, P.A. 1939, as amended or Act 315, P.A. 1969, as amended.

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION
Box 30028
Lansing, Michigan 48909

95118

COMPANY Mercury Exploration Company	WELL NAME AND NUMBER Thomas Lake D2-33
LOCATION SE 1/4 of SE 1/4 of SW 1/4 of Section 33, T30N, R4W, Hayes Twp., Otsego Co., Michigan	



B.O.P.

- Manual
- Hydraulic
- Sour trim

Fill blanks with applicable information. If not applicable, enter "N.A." or cross-out item shown. Enter other pertinent information below.

Wilcox Associates



Engineering
Surveying and
Environmental
Sciences

7711 South US 131 . P.O. Box 580 . Cadillac, Michigan 49601
616 775-7755 Fax # 616 775-3135

March 10, 1995

Lake Arrowhead Property Owners' Association
Mr. Lee Edmiston
7065 Arrowroot Trail
Gaylord, MI 49735

Dear Mr. Edmiston:

Our records indicate that your association is the owner of the surface and mineral rights for a parcel of land where our client, Mercury Exploration Company, intends to file an application with the State of Michigan for a permit to drill an exploratory gas well. The well will be drilled on a 40 acre unit described as follows:

The Southeast 1/4 of the Southwest 1/4 of Section 33, T30N, R4W,
Hayes Township, Otsego County, Michigan.

A copy of the first page of the permit application is enclosed for your use, and gives more precise location information. If the permit is granted, you will be informed (either in writing or verbally) not less than 5 days prior to the start of any construction or earth moving activities, and again not less than 48 hours prior to commencement of any drilling.

The well will be drilled and operated under the supervision of the Department of Natural Resources of the State of Michigan and we want to assure you that Mercury Exploration Company will do everything expected of a prudent operator to protect the land and the surrounding environment. If you have any questions, please contact me at 616-775-7755 or Mr. Todd Limbocker at 517-732-0020.

Sincerely,

Frederick H. Thomson, P.E., P.S.
Wilcox Associates, Inc acting for Mercury Exploration Company

xc: County Clerk, Otsego County
Supervisor of Wells, Geological Survey Division, MDNR

Revised (11)

DRILLING PERMIT APPLICATION FLOW SHEET

APPLICANT Mercury Exploration Co NUMBER 583
WELL NAME Thomas Lake # D2-33 DATE REC'D 3-13-95

VENDOR # 5017 NEW VENDOR [] ORGANIZATIONAL CHART REC'D []

FEE [] Ck cashier (Ch#/Bank/City) MBO - Cadillac file # 034337 for 1200.00 for 12 wells
[] Deepening
[] Revision
[] C & T Tag enclosed

BOND [] Single Well [] Surety [] C.D. [] L.C. [] Cash
[] Blanket Bond Number _____

DRILLING UNIT [] S.O. 1-73 [] S.O. 1-86 [] Statement of control of unit
[] 10-12-87 [] Sub 330
[] General Rules Conflicts _____
[] Field Spacing Order _____
[] Voluntary Pooling [] Admin. Approval [] Pooling Doc's

LOCATION [] Survey ^{v 244} [] Certification of Elevation to be Run
[] Directional Plans
[] Posted on Map Zoning Forest R4. 9-5-75, Rev. 3-93 [] S.I. 2-87

CASING SEALING [] Rotary [] Cable [] Combination
[] Int. Csg. S.O. 2-73 [] 30% Exception [] Short Int Exc
[] Through Gas Storage S.O. 1-87
[] BOP

SURFACE/MINERAL OWNERSHIP [] Private Surface, Notified by [] Statement [] Letter
[] State Surface
[] State Minerals Lease # _____ Restrictions _____
[] Real Estate Emp. Contacted _____ Date _____
[] Real Estate Approval by _____ Date _____
[] Federal [] Copy to MMS [] Copy to USFS [] USFS Approval

H₂S [] Copy to H₂S Unit [] Sweet [] Sour
[] Contingency Plan Acceptable _____

EIA REVIEW [] Special Order 1-81 [] Supervisor Letter 1-84 _____
[] Remote Pit Required [] Landowner Approval _____
[] Water Well [] Temp. [] Perm. [] Surface [] Trucked
[] EIA Acceptable Deficiencies _____
[] Field Review Rec'd 1-94

DISTRIB. [] Confidential Request [] Copy to Northville, Plymouth, Canton Twp
[] Copy to Subsurface and Petroleum Geology Unit
[] Transmittal to District Copy to CAD Copy to Cadillac
[] Transmittal to Region

MISC. [] Public Hearing Pending
[] Permits Hold [] Other Compliance No F/K notes
[] Other Problems

REVIEWER: [Signature] DATE SENT TO FIELD: 4-5-95 [] E.P. ENTRY

[Signature]

MAY 29 1996

DNR STATE OF MICHIGAN
DEPARTMENT of NATURAL RESOURCES

GEOLOGICAL SURVEY DIVISION
PO BOX 30256
LANSING MICHIGAN 48909 - 7756

**CERTIFICATION OF CASING AND SEALING
OF SURFACE HOLE**

REQUIRED BY AUTHORITY OF: ACT 61, P.A. 1939, AS
AMENDED NON-SUBMISSION AND/OR FALSIFICATION OF THIS
INFORMATION MAY RESULT IN FINES AND/OR IMPRISONMENT.

PERMIT NUMBER 50352
WELL NAME THOMAS LAKE D2-33
SURFACE LOCATION SE 1/4 OF SE 1/4 OF SW 1/4, SECTION 33, T. 38 N. R. 4 W.
TOWNSHIP HAYES COUNTY OTSEGO
NAME AND ADDRESS OF PERMITTEE MERWYN EXPLORATION PO BOX 1256 GAYLORD, MI 49735
NAME AND ADDRESS OF DRILLING CONTRACTOR INDUCCERS, LLC

SURFACE HOLE

HOLE DIAMETER (NOTE REDUCTIONS)	DEPTH TO BEDROCK	BASE OF SPECIFIED AQUIFER (See Permit)	TOTAL DEPTH OF SURFACE HOLE	FORMATION AT SURFACE CASING SEAT	DATE DRILLING COMPLETED
12 1/4"	879 MO	9	979 MO 985 WIS		5-14-96

NARRATIVE OF UNUSUAL DRILLING CIRCUMSTANCES OR PROBLEMS ENCOUNTERED

NAME AND ADDRESS OF GEOLOGIST/MUD LOGGER
**GREG LA COURSE
132 N. ELMWOOD AVE
TRAVERSE CITY, MI 49684**

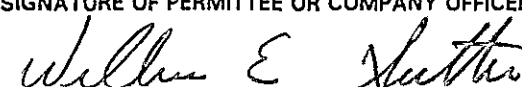
DATE **5/13/96** SIGNATURE 

SURFACE CASING

CASING O.D. (IN)	CASING DEPTH (FT)	CEMENT TYPE AND ADDITIVES	AMOUNT OF CEMENT (SKS)	VOLUME (BBLs)		PLUG DOWN DATE & TIME
				PUMPED	Returned To Surface	
8 5/8	982	35/65/02 w/ 3% CLASS AW 3%	400	132	153 bbls 26 bbls	1230 Hr. 5-14-96
			100	21.1		

NARRATIVE OF PROBLEMS ENCOUNTERED RUNNING OR CEMENTING CASING. NOTE ANY CEMENT FALLBACK OR GROUTING.

I AM RESPONSIBLE FOR THIS REPORT. THE INFORMATION IS COMPLETE AND CORRECT.

DATE **5-14-96** SIGNATURE OF PERMITTEE OR COMPANY OFFICER 

SUBMIT THE ORIGINAL AND ONE COPY, TYPEWRITTEN OR LEGIBLY PRINTED, WITHIN 30 DAYS AFTER DRILLING IS COMPLETED.

JUN 6 1996



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - GEOLOGICAL SURVEY DIVISION

RECORD OF WELL DRILLING OR DEEPENING

Required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, of Act 451 PA 1994, as amended
Non-submission and/or falsification of this information may result in fines and/or imprisonment

- Part 615 Oil/Gas Well (Submit 3 copies within 30 days of completion.)
- Part 625 Mineral Well (Submit 3 copies within 60 days of completion.)

Permit number/Deepening number 50352	Type of well (after completion) Antrim Gas
Well name and number Thomas Lake #D2-33	
Field/facility name (Part 625 Mineral Wells only)	
Surface location SE 1/4 of SE 1/4 of SW 1/4 section 33 T30N R4W	
Name and address of owner Mercury Exploration Company P.O. Box 1256 / 720 S. Otsego Gaylord, MI 49735	Township Hayes
	County Otsego
Name and address of drilling contractor Indrillers P.O. Box 509 Mt. Pleasant, MI 48804	Subsurface location (if directionally drilled) 1/4 of 1/4 of 1/4 section T R
Date drilling began 05/14/96	Date drilling completed 05/16/96
Date well completed 05/29/96	
Total depth of well Driller 1727 Log 1701	Formation at total depth Traverse
Prod. formations(s) Antrim	
Date of first injection NA	Injected formation NA
	Solution formation NA
Footages North/South 330 ft. from S line and	East/West 330ft. from Eline of 1/4 Sec.
Footages North/South ft. from line and	East/West ft. from line of 1/4 Sec.
Feet drilled - cable tools from NA to	Feet drilled - rotary tools from Surf to 1727
Elevations K.B. 1327 ft. R.F. 1325 ft. R.T. 1326 Ft. Grd 1316 ft.	

Casing, Casing Liners and Cementing, Operating Strings

Perforations

Size	Where set	Cement	T.O.C.	Ft. pulled	Date	Number of holes	Interval perforated	Open	
								Yes	No
13 3/8	42	Driven		none					
8 5/8	982	365, HLC 3% CaCl 175 Class A 3%CaCl	surf		5/29/96	120	1350-1430	X	
5 1/2	1718	235, HLC 2% CaCl 175 Class A 2%CaCl	surf		5/29/96	33	1477-1499	X	

Gross Pay Intervals

All Other Oil and Gas Shows Observed or Logged

Formation	Oil or Gas	From	To	Formation	Oil or Gas	Depth	Where Observed (X)					
							Samp-les	Odor	Pits	Mud Line	Gas Log	Fill Up
Antrim - Shale	Gas	1350	1499	NA								

Stimulation by Acid or Fracturing

Water Fill Up (F.U.) or Lost Circulation (L.C.) (X)

Date	Interval treated	Materials and amount used	Formation	F.U.	L.C.	Depth	Amount
5/29/96	1350-1430	60,000# in SD 70 Quality Foam	NA				
5/29/96	1477-1499	30,000# in SD 70 Quality Foam					

Geophysical / Mechanical Logs (list each type run)

Depth Correction

Deviation Survey

Plugged Back

Brand	Log types	Logged intervals	Depth	Correction	Run at	Degrees	Yes	No	Depth
Schlumberger	Gammy Ray	1170-1487			1727	1 1/2	X		1701

Production Test Data

Oil - bbls/day NA	Gravity - °API 0	Cond. bbls/day 0	Gas - Mcf/day 64	Water - bbls/day 122	H ₂ S - grains/100 cu. ft. 0	B.H.P. and depth NA
----------------------	---------------------	---------------------	---------------------	-------------------------	--	------------------------

I am responsible for this report. The information is complete and correct.

Date 06/04/96	Name and title (print) Diana Charletta / Petroleum Engineer	Signature <i>Diana M. Charletta</i>
------------------	--	--

EQP 7200-5 (Rev 2/96)

Notice: Report complete sample and formation record, coring record, and drill stem test information on reverse side.

Mail this record 30 days after well completions to: MICHIGAN DEPT OF ENVIRONMENTAL QUALITY GSD, BOX 30256 LANSING MI 48909-7756

FORMATION RECORD

56532

(Attach additional sheets if necessary)

Elevation used: Ground	Geologist name: Greg LaCourse	Tops taken from: <input type="checkbox"/> Drillers log <input type="checkbox"/> Sample log <input checked="" type="checkbox"/> Electric log
---------------------------	----------------------------------	--

From	To	Formation (type, color, hardness)	From	To	Formation (type, color, hardness)
Note: if well directionally drilled, add true vertical depth formation tops where appropriate					
0	850	Drift - Sand, gravel, and clay beds			
NA	NA	Sunbury- Shale, black-very dark brow, carbonaceous, fissle			
1350	1431	Antrim Shale Shale, black-very dark brown, very carbonaceous, non-calcareous, graniny texture, fissle, trace disseminated pyrite.			
1431	1477	Shale, gray brown-gray gray green, limy in part, clay rich, carbonaceous in part			
1477	1498	Shale, black, very carbonaceous, non-calcareous, grainy texture, fissle, minor disseminated pyrite.			
1498	1560	Traverse Formation Shale, brown-gray, mostly calcareous, limy in part			
1560	TD	Limestone, browngray, argillaceous, fossiliferous, microcrystalline, pyrite, inclusions, dense.			
If well was cored, attach core description					
DRILL STEM TEST DATA					
NA					
LIST ATTACHMENTS:					
Gammy Ray					
GEOLOGICAL SURVEY USE ONLY					
Reviewed by:					
Date of review:					

33-30N-04W
HAYES TWP. (OTSEGO CO.)

MERCURY EXPLORATION CO

THOMAS LAKE #D2-33

GAS WELL
TD 1727 FT. IN TRAVERSE LIMESTONE

PERMIT NO. 50352

<u>SURFACE LOCATION:</u>	<u>QT</u>	<u>QT</u>	<u>QT</u>	<u>SEC</u>	<u>T</u>	<u>R</u>	<u>FT FROM QT</u>	<u>SEC</u>	<u>LINES</u>
	SE	SE	SW	33	30N	04W	330 S		330 E

THIS WELL RECORD ASSEMBLY IS A COMPILATION OF WELL DATA FILED BY OR ON BEHALF OF THE OPERATOR, AS REQUIRED BY ACT 61, P.A. 1939, AS AMENDED; FORMATION TOPS AND STRATIGRAPHIC INTERVALS DETERMINED OR CONFIRMED WHERE POSSIBLE BY GEOLOGICAL SURVEY DIVISION PERSONNEL FROM MECHANICAL LOGS AND PRELIMINARY INFORMATION COLLECTED WHILE DRILLING WAS IN PROGRESS. RECORDS COMPILED BY R C ELOWSKI, GEOLOGIST.

ELEVATIONS: 1327 KELLY BUSHING, 1325 RIG FLOOR, 1316 GROUND (DATUM)
1326 ROTARY TABLE

FORMATION TOPS AND STRATIGRAPHIC INTERVALS DETERMINED OR CONFIRMED BY GEOLOGICAL SURVEY PERSONNEL FROM SCHLUMBERGER GAMMA RAY AND COLLAR LOGS AND RECORDS FILED BY OPERATOR.

	MD		MD
PLEISTOCENE:		ANTRIM	956
GLACIAL DRIFT	850	ANTRIM DARK	1350
MISSISSIPPIAN:		DEVONIAN:	
COLDWATER	850	TRAVERSE FORMATION	1497
SUNBURY	875	TRAVERSE LIMESTONE	1569
BEREA-BEDFORD	894		

THE FOLLOWING DOCUMENTS ARE REPRODUCTIONS OF OFFICIAL RECORDS SUBMITTED BY:
DIANA CHARLETTA, ON BEHALF OF MERCURY EXPLORATION CO

06/13/96

JUN 17 1996

50352

MERCURY

EXPLORATION * DRILLING * PRODUCTION

June 14, 1996

Mr. Michael Bricker
Department of Environmental Quality
Geological Survey Division
P.O. Box 30473
725 East Hazel Street
Lansing, Michigan 48912

Re: 7200-5 Records of Well Drilling

Dear Mr. Bricker:

Enclosed please find a 7200-5 form with an accompanying logs on the following wells:

Thomas Lake	D2-33
Thomas Lake	D4-33
Thomas Lake	D3-29
Thomas Lake	D1-29
Thomas Lake	D1-28
Thomas Lake	A2-33
Thomas Lake	A3-33

Please call if there are any questions or problems. Thank you for your time.

Best regards,



Alma Carr

STATE OF MICHIGAN



JOHN ENGLER, Governor
DEPARTMENT OF ENVIRONMENTAL QUALITY
HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973
RUSSELL J. HARDING, Director

REPLY TO:

GEOLOGICAL SURVEY DIVISION
735 E HAZEL ST
PO BOX 30256
LANSING MI 48909-7756

June 28, 1996

Mr. John King
Petroleum Engineering Section
Public Service Commission
Department of Commerce
6545 Mercantile Way
Lansing, Michigan 48909

Dear Mr. King:

Based on information in our files, these wells are hereby transferred to the Public Service Commission for proration.

Mercury Exploration Co. Inc.
Coaches/Hayes 34

PRU 19283
Thomas Lake D2-33, P.N. 50352->

PRU 19284
Thomas Lake D1-29, P.N. 50354

PRU 19285
Thomas Lake D1-28, P.N. 50407

PRU 19286
Thomas Lake D3-29, P.N. 50408

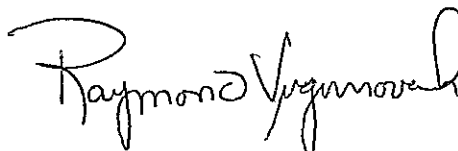
PRU 19289
Thomas Lake A2-33, P.N. 50409

PRU 19287
Thomas Lake A3-33, P.N. 50410

Page 2

PRU 19288
Thomas Lake D4-33, P.N. 50529

Sincerely,

A handwritten signature in cursive script that reads "Raymond Vugrinovich". The signature is written in black ink and is positioned above the typed name.

Raymond Vugrinovich
Senior Geologist
Petroleum Geology and Production
Geological Survey Division
517-334-6930

RV:pps

cc: Ms. Andrea Sullivan, MDEQ
Permit Files, MDEQ

GEOLOGICAL SURVEY



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - GEOLOGICAL SURVEY DIVISION

APR 2 1993

REQUEST FOR TRANSFER OF PERMIT

Required by authority of Part 615 of the Michigan Administrative Code, **Permits & Bonding Unit** Mineral Wells, Act 451 PA 1994 as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment.

Part 615 Oil/Gas Well Part 625 Mineral Well

Permit number 50352	Well type ANTRIM GAS	Current true vertical depth 1727
Well name and number THOMAS LAKE D2-33		
Surface location SE 1/4 SE 1/4 SW 1/4 Section 33 T 30N R 4W		
Township HAYES		County OTSEGO

NOTE: Eligibility for permits is conditioned upon compliance with the statutes, rules and orders of the Department of Environmental Quality. Permits shall not be transferred to persons not in compliance. A permit for a well shall not be transferred if the permittee is under notice because of unsatisfactory conditions at the well site until compliance is achieved. The acquiring permittee shall attach a current Organization Report (EQP 7200-13)
This permit does not convey property rights in either real estate or material nor does it authorize any injury to private property or invasion of private or public rights nor does it waive the necessity of seeking federal and local permits or complying with other state statutes.

TRANSFER OF A PERMIT FROM:

Name(s) of Selling Permittee(s) MERCURY EXPLORATION COMPANY	Fed. I.D.# or S.S.# 75-1608586
Address: Number and Street, City or Town, State, ZIP Code P.O. BOX 1256 GAYLORD, MI 49734	Telephone 517-732-0020

All permits rights and responsibilities are discharged by:

MERCURY EXPLORATION COMPANY, <u>ROBERT N. WAGNER</u>	<u>Robert N. Wagner</u>	<u>3/18/98</u>
Permittee	Authorized representative name	Signature
_____	_____	_____
_____	_____	_____
_____	_____	_____

TRANSFER OF A PERMIT TO:

Name(s) of Acquiring Permittee(s): DOMINION MIDWEST ENERGY, INC.	Fed. I.D.# or S.S.# 38-1710995
Address: Number and Street, City or Town, State, ZIP Code ONE RIVERFRONT PLAZA, 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2616	Telephone 616-458-1150

(We are) (I am) an owner or authorized representative of the owner of the well under this permit and assume full responsibility for the drilling, operation, and abandonment in conformity with the law, regulations and orders.

BOND: Single Well Attached Surety or Bank MICHIGAN NATIONAL BANK
 Blanket On File Bond Number LC 018403 Amount \$250,000.00
 Statement of Financial Responsibility

All permittee rights and responsibilities are assumed by:

DOMINION MIDWEST ENERGY, INC., <u>S.J. JANSMA, JR.</u>	<u>[Signature]</u>	<u>3-26-98</u>
Permittee	Authorized representative name	Signature
_____	_____	_____
_____	_____	_____
_____	_____	_____

FOR DEPARTMENT OF ENVIRONMENTAL QUALITY USE ONLY

Approved <u>[Signature]</u>	JAN 28 1999	Distribution by DEQ <input checked="" type="checkbox"/> Lansing <input type="checkbox"/> Selling Owner <input type="checkbox"/> Acquiring Owner <input type="checkbox"/> Field
Signature	Date	



CHECKLIST FOR WELL BOND TERMINATION AND PERMIT TRANSFER

Permit number 50352	Well name and number Thomas Lake D2-33
Permittee Mercury Expl. Co.	Vendor number 5017
Surface location SE 1/4 SE 1/4 SW 1/4 Sec 33 T30N R 4W	
Township name E	County name
Bond number 158416833	Bond type
Effective date	Amount
Bank number	

Check ONE: **APR 14 1998**

Part 615, Supervisor of Wells as amended, Act 451 PA 1994
 Part 625, Mineral Wells as amended, Act 451 PA 1994

Check ONE of the following activities:
 Well plugged and abandoned
 Permit transfer requested
 Permit terminated
 Bond replaced/cancelled

Checklist start date:

This form is processed concurrently by both field and Lansing staff. Fill-in appropriate check boxes. Check if requirement has been met. Mark box N if the requirement does not apply, then forward this form to the next Unit in sequence listed in summary below. R208, R403 etc. refer to Part 625 NREPA rules.

PROCESSING SUMMARY

Plugged and Abandoned or Terminated Permit 1. Field: Complete section "A" below, return form to PB Unit 2. PGP Unit: Complete "Drilling Records" section on reverse 3. PGP Unit: Complete "...Production Records" section (plugged wells only) 4. Compliance Unit: Complete "Compliance" section 5. PB Unit: Complete "Permit..." section and terminate well bond if apparent final completion is achieved	Permit Transfer or Bonding Change 1. Field: Perform site inspection, attach copy of inspection Form EQ 7235; complete section "B" below, return form to PB Unit 2. PGP Unit: Complete "Drilling Records" section on reverse 3. PGP Unit: Complete "Engineering and Production Records" section 4. Compliance Unit: Complete "Compliance" section 5. PB Unit: Complete "Permit..." section and release well bond if compliance is achieved (transfers only)
--	--

FIELD COMPLETE SECTION A OR B BELOW:

A - for Plugged and Abandoned well or Terminated Permit <input type="checkbox"/> R403 Water well plugged or permitted under Public Health Code <input type="checkbox"/> R407, R1003 Well cellar and all pits and excavations have been filled <input type="checkbox"/> R422 Rat and mouse holes are properly abandoned <input type="checkbox"/> R511 Change of Well Status records are filed <input type="checkbox"/> R902 Plugging Record received and reviewed <input type="checkbox"/> R902, R904 Surface casing properly abandoned <input type="checkbox"/> R1003 Contour has been restored and erosion minimized <input type="checkbox"/> R1003, R1011 Flowlines and vessels have been properly abandoned <input type="checkbox"/> Permit term elapsed as defined in R208 <input type="checkbox"/> Well site construction has not occurred <input type="checkbox"/> R403 Water well log is filed <input type="checkbox"/> R407 Pit plot is filed <input type="checkbox"/> R1003 Debris has been removed <input type="checkbox"/> R1118 H2S analysis is filed <input type="checkbox"/> Other well records are filed <input type="checkbox"/> Landowner's assumption of responsibility has been filed	B - for Permit Transfer Requested or Bond Replaced Attach inspection form EQ 7235 <input checked="" type="checkbox"/> Well construction has not occurred <input checked="" type="checkbox"/> R403 Water well log is filed <input checked="" type="checkbox"/> R407 Pit plot is filed <input checked="" type="checkbox"/> R511 Change of Well Status records are filed <input checked="" type="checkbox"/> R1008 Loss reports are filed <input checked="" type="checkbox"/> R1118 H2S analysis is filed <input checked="" type="checkbox"/> Other required records are filed
---	---

Comments/Exceptions:

GEOLOGICAL SURVEY
DEC 07 1998
Permits & Bonding Unit

OK to terminate the well bond YES NO (If NO, specify reason in comments, continue bond termination procedure)

Recommend approval of permit transfer YES NO (If NO, specify reason in comments, continue bond termination procedure)

Signature & Date **Mark Cromell** **11-30-98**



CHECKLIST FOR WELL BOND

TERMINATION AND PERMIT TRANSFER

Permit number 50352	Well name and number Thomas Lake D2-33
Permittee Mercury Expl. Co.	Vendor number 5017
Surface location SE 1/4 SE 1/4 SW 1/4 Sec 33 T30N R 4W	
Township name	County name
Bond number 158416833	Bond type
Effective date	Amount
Bank number	

Check ONE:

Part 615, Supervisor of Wells as amended, Act 451 PA 1994

Part 625, Mineral Wells as amended, Act 451 PA 1994

Check ONE of the following activities:

Well plugged and abandoned

Permit transfer requested

Permit terminated

Bond replaced/cancelled

Checklist start date:

This form is processed concurrently by both field and Lansing staff. Fill-in appropriate check boxes. Check if requirement has been met. Mark box N if the requirement does not apply, then forward this form to the next Unit in sequence listed in summary below. R208, R403 etc. refer to Part 625 NREPA rules.

PROCESSING SUMMARY

<p>Plugged and Abandoned or Terminated Permit</p> <ol style="list-style-type: none"> Field: Complete section "A" below, return form to PB Unit PGP Unit: Complete "Drilling Records" section on reverse PGP Unit: Complete "...Production Records" section (plugged wells only) Compliance Unit: Complete "Compliance" section PB Unit: Complete "Permit..." section and terminate well bond if apparent final completion is achieved 	<p>Permit Transfer or Bonding Change</p> <ol style="list-style-type: none"> Field: Perform site inspection, attach copy of inspection Form EQ 7235; complete section "B" below, return form to PB Unit PGP Unit: Complete "Drilling Records" section on reverse PGP Unit: Complete "Engineering and Production Records" section Compliance Unit: Complete "Compliance" section PB Unit: Complete "Permit..." section and release well bond if compliance is achieved (transfers only)
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FIELD COMPLETE SECTION A OR B BELOW:

<p>A - for Plugged and Abandoned well or Terminated Permit</p> <p><input type="checkbox"/> R403 Water well plugged or permitted under Public Health Code</p> <p><input type="checkbox"/> R407, R1003 Well cellar and all pits and excavations have been filled</p> <p><input type="checkbox"/> R422 Rat and mouse holes are properly abandoned</p> <p><input type="checkbox"/> R511 Change of Well Status records are filed</p> <p><input type="checkbox"/> R902 Plugging Record received and reviewed</p> <p><input type="checkbox"/> R902, R904 Surface casing properly abandoned</p> <p><input type="checkbox"/> R1003 Contour has been restored and erosion minimized</p> <p><input type="checkbox"/> R1003, R1011 Flowlines and vessels have been properly abandoned</p> <p><input type="checkbox"/> Permit term elapsed as defined in R208</p> <p><input type="checkbox"/> Well site construction has not occurred</p> <p><input type="checkbox"/> R403 Water well log is filed</p> <p><input type="checkbox"/> R407 Pit plot is filed</p> <p><input type="checkbox"/> R1003 Debris has been removed</p> <p><input type="checkbox"/> R1118 H₂S analysis is filed</p> <p><input type="checkbox"/> Other well records are filed</p> <p><input type="checkbox"/> Landowner's assumption of responsibility has been filed</p>	<p>B - for Permit Transfer Requested or Bond Replaced Attach inspection form EQ 7235</p> <p><input type="checkbox"/> Well construction has not occurred</p> <p><input type="checkbox"/> R403 Water well log is filed</p> <p><input type="checkbox"/> R407 Pit plot is filed</p> <p><input type="checkbox"/> R511 Change of Well Status records are filed</p> <p><input type="checkbox"/> R1008 Loss reports are filed</p> <p><input type="checkbox"/> R1118 H₂S analysis is filed</p> <p><input type="checkbox"/> Other required records are filed</p>
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Comments/Exceptions:

OK to terminate the well bond YES NO (If NO, specify reason in comments, continue bond termination procedure)

Recommend approval of permit transfer YES NO (If NO, specify reason in comments, continue bond termination procedure)

Signature & Date

DRILLING RECORDS

R416 Service company records filed as requested

R417, R420 Drill cuttings and cores have been delivered

R418 Driller's log has been filed

R418 Well elevations are filed

R418, S.I. 1-94 Certification of surface casing filed

R419 Electric logs have been filed

R420 Deepening records have been filed

R421 Directional surveys have been filed

Other required records have been filed

Comments/Exceptions:

OK to terminate the well bond YES NO (If NO, specify reason in comments, continue bond termination procedure)

Recommend approval of permit transfer YES NO (If NO, specify reason in comments, continue bond termination procedure)

Signature and date *D. Michael Bricker 4/13/98*

ENGINEERING AND PRODUCTION RECORDS (skip this section if permit is terminated)

R418 Well completion report has been filed

R605 - R607 Well capacity tests have been filed

R609 Reservoir evaluation test data has been filed

R510 & 610 Gas and oil production has been reported

R612 Secondary recovery records have been filed

R806 Injection well operating reports are filed

Other required records have been filed.

Comments/Exceptions:

OK to terminate the well bond YES NO (If NO, specify reason in comments, continue bond termination procedure)

Recommend approval of permit transfer YES NO (If NO, specify reason in comments, continue bond termination procedure)

Signature and date *Shantha Schmidt APR 28 1998*

COMPLIANCE

No compliance cases initiated for this well

Consent order signed by acquiring owner

All field level cases for this well are closed

Compliance unit cases for this well are closed.

R205 Acquiring owner eligible for permit

Comments/Exceptions:

OK to terminate the well bond YES NO (If NO, specify reason in comments, continue bond termination procedure)

Recommend approval of permit transfer YES NO (If NO, specify reason in comments, continue bond termination procedure)

Signature and date *Reg. M. Comb. Powche 6/9/98*

PERMIT & BONDING UNIT RECORDS

Bond in effect prior to September 20, 1996 rule changes

One year has elapsed since PLGC date (Part 625 only)

Affidavit of compliance is on file (Part 625 only)

Final well on blanket bond

Replaced by Bond No. _____

Bond cancelled per R213

Permit transferred

Effective date of any of above JAN 28 1999

Comments

Recommend approval of permit transfer YES NO (If NO, specify reason in comments, continue bond termination procedure)

Liability for the subject well under the above specified bond has terminated as presently determined.

Signature and date *David R. Davis JAN 28 1999*