

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

205

MICHIGAN DEPARTMENT OF NATURAL RESOURCES  
GEOLOGICAL SURVEY DIVISION  
BOX 30028, LANSING, MICHIGAN 48909  
JAN 27 1995

BY AUTHORITY OF:

1a.  Act 61, P.A. 1939, as amended  
 Oil & Gas  
 Brine Disposal  
 Hydrocarbon Storage  
 Secondary Recovery

1b.  Act 315, P.A. 1969, as amended  
 Disposal  Storage  
 Brine   
 Test Well Type  
  
 Single  Blanket

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

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.  
38-2786663

7. Surety Bond:  Blanket  Single Well

8.  Attached  On File

9. Bond No. LC-14919

10. Bond Amount: \$50,000

11. Applicant: (name each "owner" as they are bonded)  
WOLVERINE ENVIRONMENTAL PRODUCTION, INC.

12. Address: (operator only if more than one "owner")  
ONE RIVERFRONT PLAZA, 55 CAMPAU NW  
GRAND RAPIDS, MI 49503-2616

Phone: (616) 458-1150

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

Well number: C3-32

14. Surface owner:  
EDWIN DEGEN

15. Address:  
14480 HAWKINS RD, HUBBARD LAKE, MI 49747

Phone:

16. Surface location (See instructions)  
NW 1/4 NW 1/4 of SE 1/4 of Sec. 32 T 29N R 7E

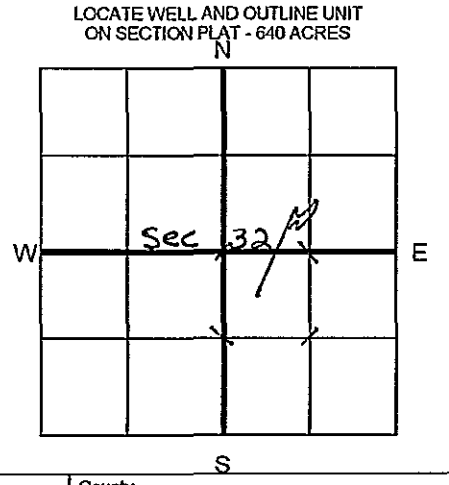
Township: OSSINEKE

County: ALPENA

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: 626 ft. from (N/S) NORTH Line of quarter section. AND 462 ft. from (E/W) WEST 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: 626 ft. from (N/S) NORTH Line of drilling unit. AND 462 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)  
1000#

MDNR18324-4 02/15/95  
71351 99003 9096 \$100.00

24. Intended Total Depth: 1000'

25. Formation at Total Depth: TRAV LS

26. Producing Formation: ANTRIM

27. Objective Pool or Field: \_\_\_\_\_

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.
40'	G. DRIFT	—	13-3/8"	54.5# CONDUCTOR: NEW	40'	DRVN				
450'	SUNBRY	11"	8-5/8"	20# LS: SPECS ENCLOSED N/3w	450'	C.T.O.S	12	8.8	35	NC
1000'	TRAV LS	7-7/8"	5-1/2"	14# & 15.5# LS: NEW	1000'	100	—	8.4	28	NC

29. Send correspondence and permit to: Address  
LIDSCO, INC. P. O. BOX 174 TRAVERSE CITY, MI 49685-0174

FOR DNR USE ONLY

Permit	Date Issued	Number
<input checked="" type="checkbox"/> Act 61	4-6-95	49552
<input type="checkbox"/> Act 315		

30. Application Prepared By. (Print) Phone:  
JAMES W. JOHNSON (616) 941-7628

31. Signature: *[Signature]* Date: 1/25/95

ATZET 98003 2058 11000  
HIMRIB23A-4 051219Z

14765

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.

PERMIT	ISSUED	TYPE OF WELL
49552	04/06/95	OIL OR GAS
CANCEL AND TRANSFER		FORMATION
		TRAVERSE LIMESTONE
DEEPENING PERMIT		DEPTH
		1000'
PERMIT EXPIRES		KIND OF TOOLS
	04/06/96	ROTARY
ISSUED TO		
WOLVERINE ENVIRONMENTAL PRODUCTION INC. ONE RIVERFRONT PLAZA 55 CAMPAU NW GRAND RAPIDS, MI 49503-2616		

WELL NAME

DEGEN #C3-32

LOCATION AND FOOTAGES:

SHL: NW 1/4 NW 1/4 SE 1/4, Sec 32, 29N 07E, OSSINEKE Twp, ALPENA Co.  
626 ft. from North and 462 ft. from West line of quarter section.  
626 ft. from North and 462 ft. from West line of drilling unit.

CASING AND SEALING REQUIREMENTS

O.D. SIZE	WT./FT.	CASING GRADE	CONDITION	DEPTH	CEMENT SACKS	W.O.C. (HRS.)
13 3/8"	54.5#	CONDUCTOR	NEW	40'	DRIVEN	
8 5/8"	20#	LS	NEW	450'	C TO S	12
5 1/2"	14# OR 15.5#	LS	NEW	1000'	100	N/A

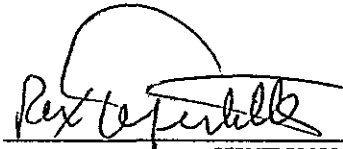
NOTE: PERMISSION IS HEREBY GRANTED TO USE 8 5/8", 20# LIMITED SERVICE, NEW AND 5 1/2", 14# OR 15.5# LIMITED SERVICE, NEW CASING FOR SURFACE AND PRODUCTION CASING RESPECTIVELY.

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.

OFFICE TO BE NOTIFIED BEFORE DRILLING/DEEPENING STARTS

GAYLORD (517)7323541

FOR THE SUPERVISOR OF WELLS

BY   
PERMIT COORDINATOR  
REX TEFERTILLER (517)3346974

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. <b>205</b>	1b. Revision * <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1c. Coordinator <b>R. IERANTILLER</b>	1d. District Sent To <b>GAYLORD</b>	1e. Date <b>2-16-95</b>
2. Applicant <b>WOLVERINE ENVIRONMENTAL PRODUCTION INC.</b>				
3a. Well Name & No. <b>DESEN # C2-32</b>			3b. For Redrills: Original Permit No.	
4a. Surface Location <b>NW 1/4 NW 1/4 SE 1/4 Sec. 32 T29N R7E OSSINEKE ALPENA</b>				
4b. Footages <b>626 ft. from N/A line of 1/4 sec. 462 ft. from NW line of 1/4 sec.</b>				
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: _____ Lease Restrictions: No.
6. Information and requests: (Spacing, problem areas, etc.) <b>SCOTT CREEK ANTRIM PROJECT</b>			5d. Wellsite Area Local Zoning: <input type="checkbox"/> Residential: Date _____ <input checked="" type="checkbox"/> Other: <b>FARM &amp; FOREST</b> <b>MAY 21, 1974</b>	

FIELD REVIEW AND RECOMMENDATIONS: Date Received

7. Field Inspected By: Name and Date <b>Jean Stogquist</b> <b>2-22-95</b>	8a. Land use: <input type="checkbox"/> Crops <input checked="" type="checkbox"/> Forests <input checked="" type="checkbox"/> Recreation <input type="checkbox"/> Vacant <input type="checkbox"/> Other _____	8b. Cover Type/Density: <b>Selectively cut over area w scattered oak, maple, birch + beech + dense maple + poplar saplings</b>
9. Topography <b>Slat to gentle sloping</b>	10. Acreage Involved: Drill Pad: <b>180' x 220'</b> Acres   Access Road: <b>Existing trail</b> Acres	
11. Soil type and drainage, field tiles, etc.	<b>Mixed sand + clay soil - moderately well drained Surface drainage North</b>	
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.	<b>Intermittent drainage way 270' north</b>	
14. Nearby scenic, historical or recreational areas:	<b>None</b>	
15. Structures, pipelines, other utility lines within 300 feet of proposed well site.	<b>None</b>	
16. Is proposed method of disposal of produced and drilling brine acceptable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>RECEIVED</b> MAR 28 1995 <b>DNR - REGION II</b>	
17. Is casing and sealing adequate? Conductor <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Surface <input 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		
18. Is Special Order #2-73 exception recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>ARE REQUIREMENTS OF S.I. 1-94 MET?</b> <b>Bad 420' in sec 36 6E + 319' in sec 34 7E</b>	
19a. H <sub>2</sub> 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	<b>GEOLOGICAL SURVEY</b>  <b>APR 03 1995</b>  <b>Permits &amp; Bonding Unit</b>	
19b. H <sub>2</sub> 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 type="checkbox"/> No		
20. Pumping Jack Prime Mover: Require electric? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>RECEIVED</b> <b>FEB 17 1995</b>	

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 None

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:  
Jean Shogint Geologist 3-24-95  
Signature Title Date

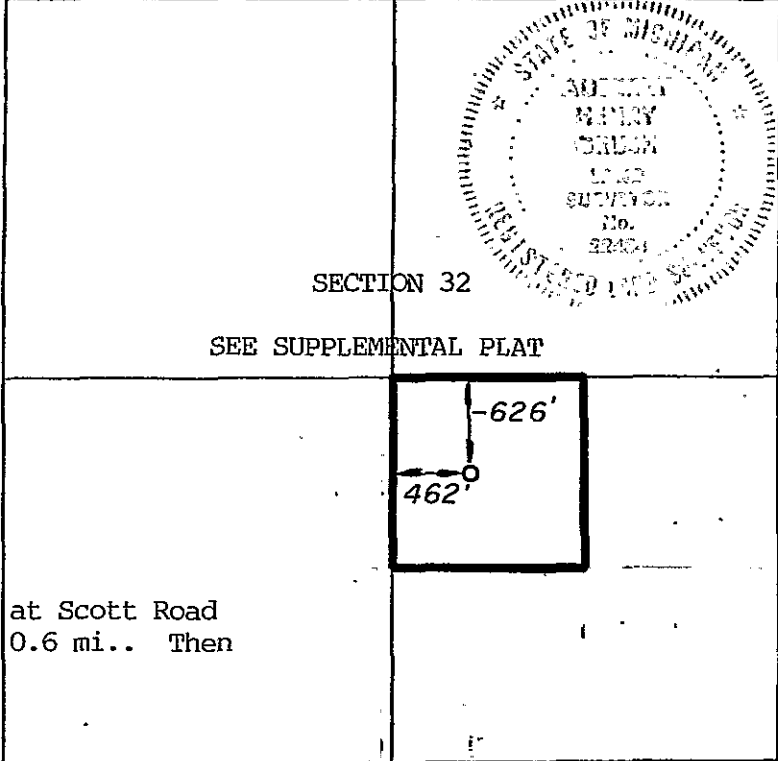
28. Land Manager: Recommend a permit:  Yes  No  See Memo:  
\_\_\_\_\_  
Signature Title Date

29. Region: Recommend a permit:  Yes  No  See Memo:  
Don Trimmer Dep Dir. 3/30/95  
Signature Title Date

**SURVEY RECORD OF WELL LOCATION**

Act 61, P.A. 1939, as amended.  Act 315, P.A. 1989, 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.

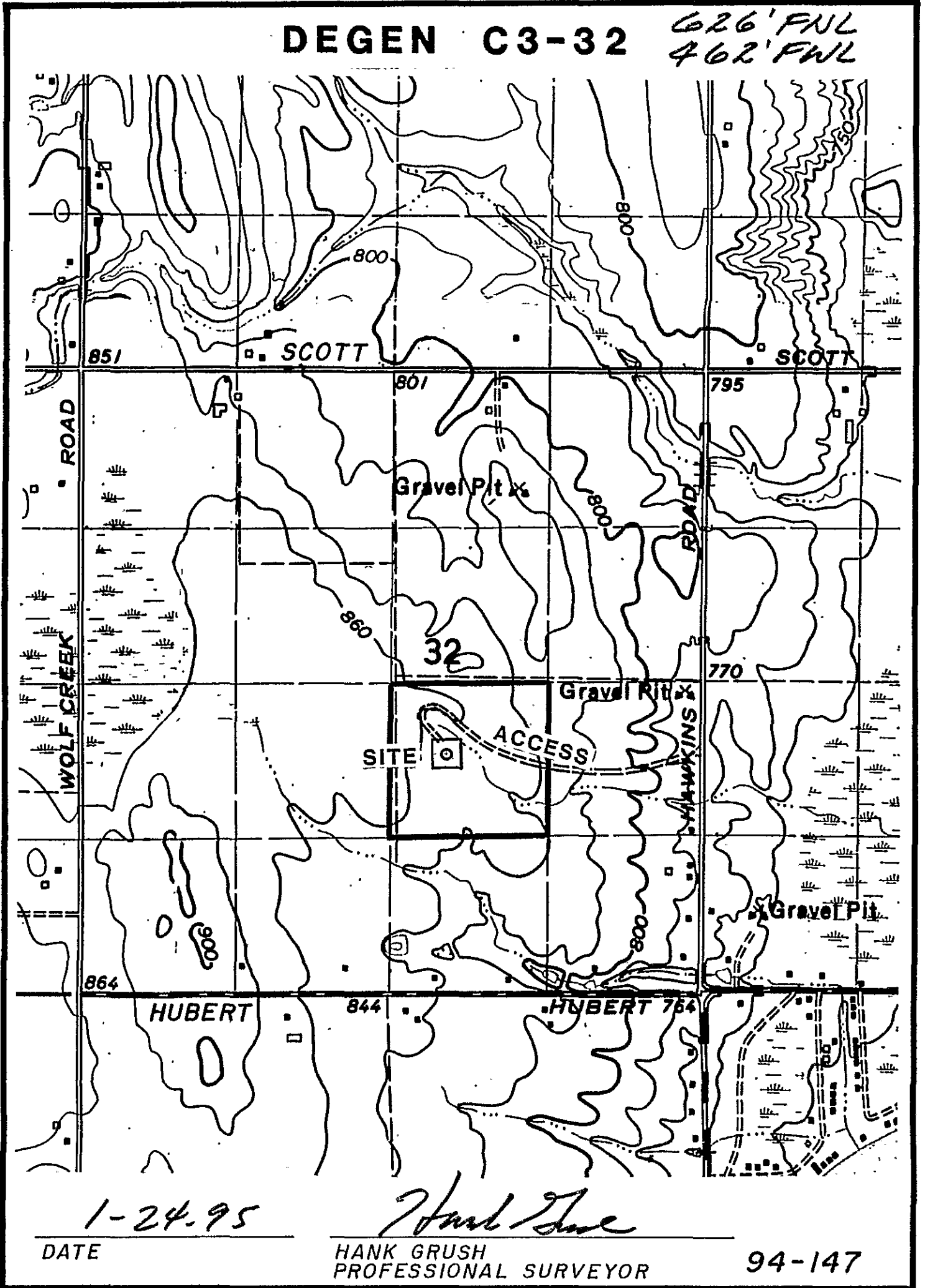
NON-SUBMISSION AND/OR FALSIFICATION OF THIS INFORMATION MAY  
 RESULT IN FINES AND/OR IMPRISONMENT.

APPLICANT WOLVERINE ENVIRONMENTAL PRODUCTION, INC	WELL NAME AND NUMBER DEGEN C3-32
SURFACE LOCATION NW 1/4 of NW 1/4 of SE 1/4 of Section 32 T 29N R 7E	TOWNSHIP COUNTY OSSINEKE ALPENA
BOTTOM HOLE LOCATION NW 1/4 of NW 1/4 of SE 1/4 of Section 32 T 29N R 7E	COUNTY ALPENA
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: 626 ft. from <u>North</u> line of Quarter Section <small>(north-south)</small> 462 ft. from <u>West</u> line of Quarter Section <small>(east-west)</small> Bottom Hole Location: 626 ft. from <u>North</u> line of Quarter Section <small>(north-south)</small> 462 ft. from <u>West</u> line of Quarter Section <small>(east-west)</small> Bottom Hole Will Be: 626 ft. from <u>North</u> line of unit/property (Act 315) lease <small>(north-south)</small> 462 ft. from <u>West</u> line of unit/property (Act 315) lease <small>(east-west)</small>	1. PLAT BELOW REPRESENTS ONE FULL SECTION (1 MILE SQUARE) <span style="float:right">N ↑</span> <div style="text-align: center;">  </div>
3. Describe wellsite marker. Show or describe access route if it is not readily accessible. The proposed wellsite is marked with an orange painted wood stake. For access begin at Scott Road and Hawkins Road. Then South on Hawkins Road 0.6 mi.. Then West across field and on trails to site.	(Scale of Plat — 1 inch equals 1320 ft.)
3b. Zoning. <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Other: <u>Farm &amp; Forest</u>	
3c. Effective date: <u>May 21, 1974</u>	
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 Auberry H. (Hank) Grush <i>Auberry H. Grush</i>	DATE TITLE 1-13-95 Professional Surveyor
ADDRESS Grush Surveying and Mapping 111 Wakulat Drive, Traverse City, MI 49684	
SIGNATURE <i>Scott Grush</i>	DATE (Month, Day, Year) 1/25/95

WOLVERINE ENVIRONMENTAL PRODUCTION, INC.  
 SCOTT CREEK ANTRIM GAS PROJECT  
**SUPPLEMENTAL PLAT**

**DEGEN C3-32**

626' FNL  
 462' FNL



1-24-95

*Hank Grush*

DATE

HANK GRUSH  
 PROFESSIONAL SURVEYOR

94-147

**WOLVERINE ENVIRONMENTAL PRODUCTION, INC.**

**SUPPLEMENTAL PLAT - ANTRIM GAS WELLSITE**  
 A PART OF THE NW 1/4 OF THE SE 1/4 OF SECTION 32  
 T29N, R7E, OSSINEKE TOWNSHIP, ALPENA COUNTY, MI.

Drawn by H. Grush  
 Checked by J. Johnson  
 Date 1-20-95  
 Sheet 1 of 1



OIL AND GAS OPERATIONS  
STATE OF MICHIGAN  
ENVIRONMENTAL IMPACT ASSESSMENT

---

WELL IDENTIFICATION

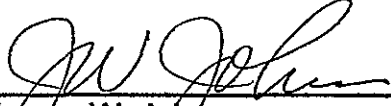
NAME OF APPLICANT: WOLVERINE ENVIRONMENTAL  
PRODUCTION, INC.

ADDRESS: 55 CAMPAU N.W.  
ONE RIVER FRONT PLAZA  
GRAND RAPIDS, MICHIGAN  
49503-2616

WELL NAME AND NUMBER: DEGEN C3-32

SURFACE LOCATION: N.W. 1/4, N.W. 1/4, S.E. 1/4,  
SECTION 32, T29N, R7E,  
OSSINEKE TOWNSHIP  
ALPENA COUNTY, MICHIGAN

APPLICANT'S REPRESENTATIVE:

  
\_\_\_\_\_  
James W. Johnson  
Drilling Consultant

Scott Creek Project

DEPARTMENT OF AGRICULTURE  
STATE OF MISSISSIPPI  
BUREAU OF PLANT INDUSTRY

PLANT INDUSTRY

PLANT INDUSTRY  
BUREAU OF PLANT INDUSTRY

STATE OF MISSISSIPPI

PLANT INDUSTRY  
BUREAU OF PLANT INDUSTRY  
STATE OF MISSISSIPPI

PLANT INDUSTRY

PLANT INDUSTRY

PLANT INDUSTRY

PLANT INDUSTRY  
BUREAU OF PLANT INDUSTRY  
STATE OF MISSISSIPPI

PLANT INDUSTRY

PLANT INDUSTRY

PLANT INDUSTRY  
BUREAU OF PLANT INDUSTRY  
STATE OF MISSISSIPPI

PLANT INDUSTRY

## I. DESCRIPTION OF PROJECT

Wolverine Environmental Production, Inc. proposes to drill an exploratory test well into the Traverse Lime formation for the testing and possible production of hydrocarbons from the Antrim shale. The well is to be drilled at a surface location of 626 feet from the North line and 462 feet from the West line of the Southeast 1/4 of Section 32, T29N, R7E, Ossineke Township, Alpena County, Michigan. The well will be drilled with rotary tools to an intended depth of 1000 feet. The proposed well will be completed on a 40 acre drilling unit consisting of the N.W. 1/4 of the S.E. 1/4 of Section 32, T29N, R7E. Surface and mineral rights for the proposed drilling location are privately owned. All concerned parties have been informed of the proposed well location and advised of our intentions to complete an application for a drilling permit.

The proposed wellsite has been staked in a reasonably high, level to gently rolling cutover hardwoods on a large tract of privately owned farm land/forest land. The site has been selected in the least wooded, most level part of this forest area with reasonable access to existing trails. Land usage within the proposed drillsite area and in the surrounding area is predominantly Forestry and Forest Recreational use with some Agricultural use to the distant North or East. Very sparse Residential activity occurs on adjoining large tracts of private land along the county road system. This area of the private land is somewhat remote, with limited or seasonal use by the owners (a small private hunting area). The area is zoned by the township for Farm and Forest land use. The site occurs in an upland wooded area with medium-coarse sand to a clay sand soil and a surface drainage pattern to the East. Ground conditions at the site are well to medium drained with upland tree and vegetation species. The site occurs in a select cut hardwoods with a remaining cover of 4" to 14" oak, maple, birch and beech which are 15 to 20 feet on centers. A dense small diameter poplar and maple regrowth covers much of the cutover area. No known structures, utilities or improvements occur nearby except deer blinds. No specific surface water features occur in the area. The origin of an upland intermittent drainage pattern occurs 270 feet North and then extends Southeast in a gentle valley. An upland cedar-balsam laden marginal wet area is located 700 feet+/- Northeast. Other upland poorly drained areas occur nearby. Surface slopes within the proposed wellsite area are nearly uniform and very reasonable for this intended activity. To the North the ground surface descends at a -3%. To the East the ground is at a -2%. To the South the ground is level. To the West the ground surface ascends at a +2%.

Access to this proposed wellsite is available by way of a field access lane/forest area access lane extending West from Hawkins Road to the proposed wellsite, with some improvement necessary.

This proposed wellsite is one of the first wells of this type in the area and is part of a proposed Antrim gas project which is planned to contain approximately 15 wells in this first phase. A map or plan showing the overall project, the individual well locations, their proposed flowlines, the central production facility, disposal well and gas sales line has been prepared and will accompany the applications for drilling. A project EIA has been prepared which addresses the scope of the project and lists and outlines treatment for individual sensitive areas such as wetlands, steep slopes, endangered species and other sensitive areas, if any.



## II. ENVIRONMENTAL IMPACT ASSESSMENT

It is anticipated that the drilling and operation of a successful well at this location will have no adverse effects on any wildlife or aquatic life in the area and only a minor effect on surface cover. No special or endangered species are known to exist in the vicinity. Drilling and production operations will have no effect on the population patterns, land use, public utilities or public services in the near future. Noise levels during drilling operations may be continuous but not unusually high. If production is achieved, noise levels should be minimal during the operation and maintenance of the well. No effect should occur to subsurface or surface water in the vicinity because of this operation. Necessary soil erosion and sedimentation safeguards will be built into the wellpad configuration as necessary to either avoid or maintain steep slopes and nearby surface water features, if any. No unusual effect is anticipated on air quality.

The drilling pad will utilize an area of just less than one acre (180' x 220'). The wellpad size and configuration may be varied to best "fit" the terrain. The topsoil will be removed, stockpiled and will be replaced later as conditions permit. A light to moderate amount of earthwork will be necessary to level a wellpad and improve the access road. The area necessary to accommodate production equipment, in the event of a successful well is not expected to greatly exceed that of the drilling pad. We cannot ascertain the exact location of the production equipment in relation to the wellhead at this time. Future development of additional wells will probably dictate the use of a central tank battery and separator installation, removed from the proposed well site, or such equipment may be located on the proposed wellsite as described above. In either event, all equipment will be located in accordance with existing regulations.

No detailed plan should be necessary for soil erosion and sediment control because of a careful wellsite selection, a level to gently sloping terrain and existing soil and land use conditions. The perimeter of the proposed wellpad will be diked to contain any surface runoff. Appropriate drill site drainage and sedimentation control measures will be incorporated into the operational plan. These will include earthen dikes along the North and East sides of the proposed wellpad and specifically along the sides of the proposed wellpad having earth "fill". The reserve pit will be located in the South or West portions of the proposed pad area which will be in a "cut" area of the wellpad. Any steep, loosely constructed and newly created slopes will be stabilized with acceptable natural or synthetic surfacing and maintained to prevent erosion and drill site influenced sedimentation during drilling operations or during subsequent drilling site use. We do not anticipate any unusual erosion problems at this site, due to gentle surface slopes, a proposed limited earth change effort, and planned soil erosion control and sedimentation control efforts.

The conditions of individual access routes as existing and where proposed to be constructed, have been given special study and concern with regard to the provisions of P.A. 347 of 1972, the Soil Erosion and Sedimentation Control Act. Areas having steep slopes, areas having current surface erosion or non-stabilized surfaces, areas having potentially unstable subsurfaces or areas where planned construction activities are in close proximity to surface water features or surface drainage routes have been given special study and concern. Studies, plans, permits and construction procedures will be undertaken to competently deal with matters of soil erosion and sedimentation along access routes. For access to this wellsite an existing farm field access lane/forest area access lane extends Westerly from Hawkins Road to the wellsite. The West end of the trail is primitive

Degen C3-32

It is anticipated that the drilling and completion of the well will result in a significant increase in the production of gas and oil. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant.

The drilling and completion of the well is expected to result in a significant increase in the production of gas and oil. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant.

The drilling and completion of the well is expected to result in a significant increase in the production of gas and oil. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant.

The drilling and completion of the well is expected to result in a significant increase in the production of gas and oil. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant. The well is expected to be completed in the near future. The production of gas and oil is expected to be significant.

in construction and will require some tree removal for widening and some rough grading. Some machine grading will be done to smooth out rough areas. Gravel will be placed to stabilize soft areas, if necessary. Areas of potential soil erosion will be monitored and repaired. Any cross drainage routes of minor nature which may exist will be maintained with a culvert and acceptable stabilization material.

The location will be graded to accommodate a standard rotary drilling rig. In accordance with Supervisor of Wells Special Order No. 1-81, as amended by Special Order No. 1-85, and Letter of Instruction Nos. 3-81 and 1-84, a prefabricated concrete or steel cellar will be installed prior to moving in a drilling rig, the rat and mouse holes will be sealed, a lined reserve pit will be utilized during the drilling of this test. Drilling fluids and cuttings will be circulated to the reserve pit lined with 20 mil P.V.C. or equivalent. No salt formations will be drilled. Upon completion of drilling operations, any fluid contained in the lined reserve pit will be hauled to an approved disposal site or will be disposed of in another manner approved by the Supervisor of Wells. Remaining heavy fluids and drill cuttings will be encapsulated within the reserve pit lining. The top of the folded liner will then be covered by a sheet of 10 mil P.V.C. or equivalent, and buried at least four (4) feet below ground. Operational wastes such as production brine will be stored in approved tanks contained by earthen dikes and will periodically be removed to an approved disposal site by a licensed waste hauler. The exact source of the drilling brine is unknown at this time.

The water well to be drilled on this proposed location, if any, is a temporary water well, and will meet the minimum requirements for a temporary water well. Water from this well will be used strictly for drilling operations and at no time will be used for drinking water. The reserve pit, conductor, pipe racks, and chemical mixing facilities will be located not closer than 50 feet from this water well. The water well will be plugged and abandoned in accordance with Rule 166, Act 368 P.A. 1978, part 127, immediately following the completion operations.

At the present time, it can safely be assumed that any produced gas will be marketed via pipeline to one of the gas utility companies active in this area of Northeastern Michigan. After completion and testing, the well will be shut-in until production facilities can be constructed. The construction of a gas flowline from a planned carrier pipeline to this site should have only a minimal effect on the local environment. No effect should occur to the air or water quality in the vicinity due to pipeline construction. The pipeline should have no adverse influence on the health and welfare of the public because of careful route planning, including special attention to lowlands, steep slopes and other environmentally sensitive areas. The cumulative long term effect on the immediate environment should be minimal. This pipeline operation should have no adverse consequences to the environment. Because the land is gently to moderately rolling woodland and farmland only minimal changes should occur. Existing corridors will be utilized so far as possible. Routes will be selected which will minimize intervention with wetlands. Planning will be done to either avoid or safely treat other environmentally sensitive areas, if any.

If the well is productive, the effect on the air or the water quality is expected to be non-existent. Human activity in this vicinity is reasonably limited. No negative effect should occur to the health or welfare of the public as a result of a producing well at this location. The cumulative long term effect on the immediate environment should be only slight due to

to construction and will require some time for removal of the existing and some for grading of the site. The site will be graded to meet the requirements of the local health department. The site will be graded to meet the requirements of the local health department. The site will be graded to meet the requirements of the local health department.

The location will be subject to the requirements of the local health department. The location will be subject to the requirements of the local health department. The location will be subject to the requirements of the local health department. The location will be subject to the requirements of the local health department. The location will be subject to the requirements of the local health department.

The water will be taken from the ground water. The water will be taken from the ground water. The water will be taken from the ground water. The water will be taken from the ground water. The water will be taken from the ground water.

All the water will be treated before it is used. All the water will be treated before it is used. All the water will be treated before it is used. All the water will be treated before it is used. All the water will be treated before it is used.

The water will be treated before it is used. The water will be treated before it is used. The water will be treated before it is used. The water will be treated before it is used. The water will be treated before it is used.



visual activity. With proper maintenance of the production site and control of the work activity there, adverse consequences to the environment should be very limited.

If the well is non-productive, or upon abandonment following production, it will be plugged in accordance with D.N.R. instructions. The wellsite and access road will be restored in accordance with our agreements with the surface owners and as soon as practical under existing weather and surface conditions.

### III. POSSIBLE ALTERNATIVES TO THE PROPOSED LOCATION

This proposed drilling location was selected on the basis of a geological interpretation. The selection and construction of this proposed drilling site is considered to be the best alternative to complete this proposed test.

### 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. The production of oil and gas is an irreversible and irretrievable commitment of resources. This is a necessary characteristic in the production of hydrocarbons. The surface resources at the drillsite will not be irreversibly committed. The drilling and operation of a successful well at this location 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 at this location it will be of financial benefit to the holders of mineral rights with the proposed drilling unit. The surface location for this well has been staked in a level to gently sloping cutover hardwoods on privately owned Forest Recreational land/farmland. A light to moderate amount of earthwork will be required to prepare the well pad and improve the access road. Soil erosion and sedimentation control concerns should be minimal due to gentle slopes, however appropriate drill site drainage and sedimentation control measures will be incorporated into the operational plan as described in Part II of this EIA. The area is currently zoned by the township for Farm and Forest land use. Surface drainage, if any, is Easterly along natural routes. No surface improvements occur nearby except hunting blinds. The integrity of surface water features occurring in the area, if any, will be closely regarded during the construction and drilling phases of this operation. For drilling site access an existing farm trail/forest trail extending West from Hawkins Road will be improved and utilized. The anticipated depth of this Traverse Formation well is 1000 feet. Ground level and Kelly Bushing elevations will be ran within 14 days of spudding of this well. The environmental impact of this well is considered to be minimal or acceptable, and every effort will be made to ensure the protection and preservation of the environment.

Grush Surveying and Mapping

With proper maintenance of the structure and control of the work activity there exists a possibility of an effective and safe work environment.

It is well known that a non-productive or even abandonment following a period of inactivity is a common occurrence. The worker and supervisor must be kept informed of the situation and the worker must be encouraged to return to work as soon as possible. The worker must be encouraged to return to work as soon as possible. The worker must be encouraged to return to work as soon as possible.

### III. PROBABILITIES TO THE PROBABILITIES

The probability of a worker being selected on the basis of a geological evaluation is a function of the probability of the worker being selected on the basis of a geological evaluation. The probability of a worker being selected on the basis of a geological evaluation is a function of the probability of the worker being selected on the basis of a geological evaluation.

### IV. ALTERNATIVE AND RESPONSIBLE COMMITMENT OF RESOURCES

The current approach of oil and gas in the state of Michigan requires the efficient use of resources. The production of oil and gas is an intricate and intricate commitment of resources. The production of oil and gas is an intricate and intricate commitment of resources. The production of oil and gas is an intricate and intricate commitment of resources.

### V. CONCLUSION

The proposed project is a study of the oil and gas resources within the state of Michigan. The study is a study of the oil and gas resources within the state of Michigan. The study is a study of the oil and gas resources within the state of Michigan. The study is a study of the oil and gas resources within the state of Michigan.

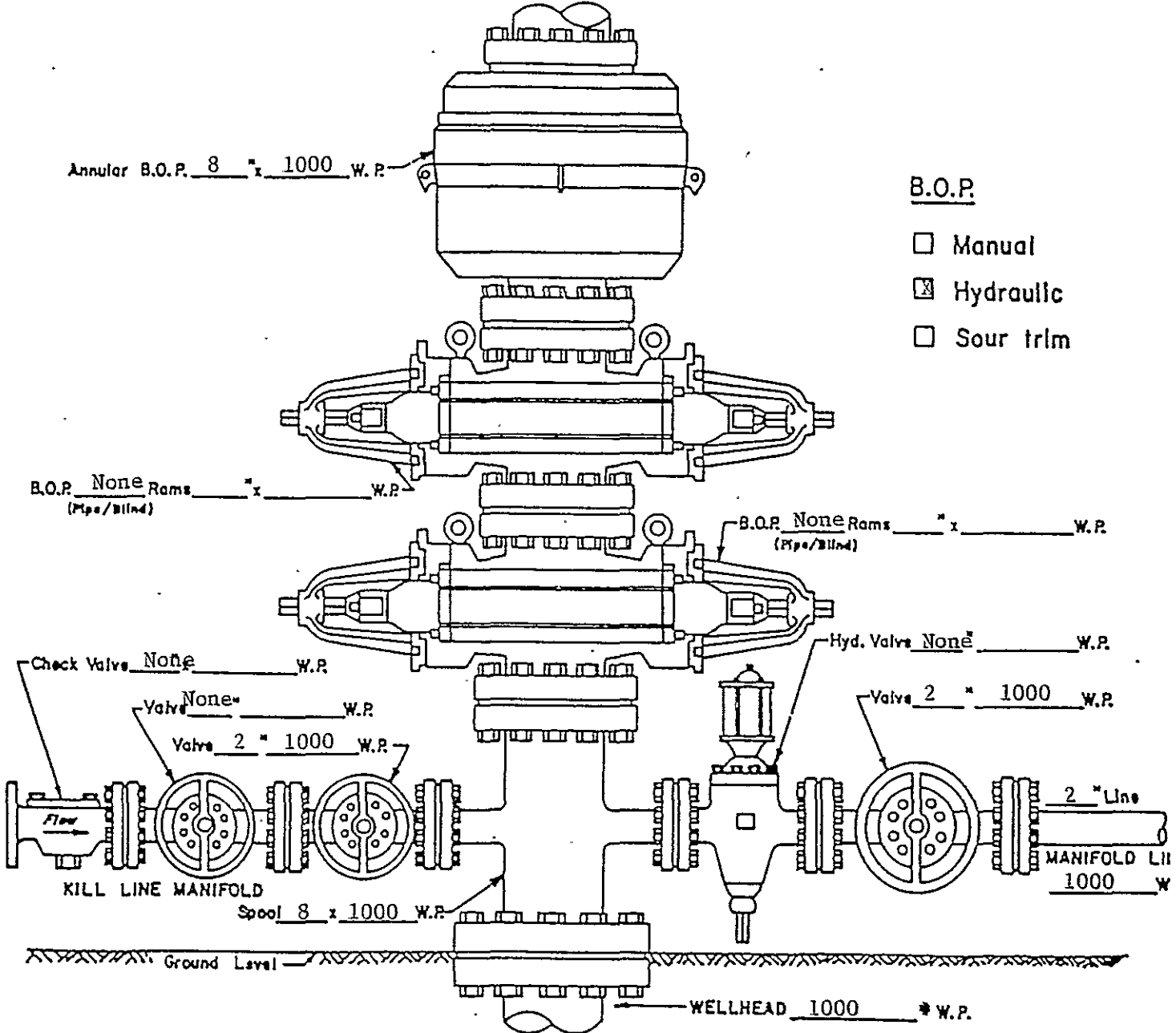
Oil and Gas Resources

# 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

COMPANY WOLVERINE ENVIRONMENTAL PRODUCTION INC	WELL NAME AND NUMBER DEGEN C3-32
LOCATION SL: NW/NW/SE SECTION 32 T29N R7E OSSINEKE TOWNSHIP, ALPENA COUNTY	



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

---

---

---

---

---

---

---

---

---

---

---

---



**McJunkin**  
**APPALACHIAN** | OIL  
FIELD  
SUPPLY  
COMPANY

P.O. BOX 826 • WOOSTER, OH 44691  
PHONE (216) 264-0077 • FAX (216) 264-0335

August 31, 1994

Mr. James W. Johnson  
Lidsco Incorporated  
P.O. Box 174  
Traverse City, Michigan 49684

Dear Jigger,

The <sup>\*</sup>8-5/8" .219 WT 20# ERW surface casing that you have purchased for W.E.P.I. has been hydrostatic pressure tested to 1220 PSI. Also it is being end finished in accordance with API spec.

If you have any further questions regarding this, please feel free to contact me at 216-264-0077.

Sincerely,

Tommy L. Smith

ENCLOSURE: MILL TEST REPORTS

**McJunkin**  
**APPALACHIAN** | OIL  
FIELD  
SUPPLY  
COMPANY

P.O: BOX 826 • WOOSTER, OH 44691  
PHONE (216) 264-0077 • FAX (216) 264-0335

August 31, 1994

Mr. James W. Johnson  
LIDSCO Incorporated  
P.O. Box 174  
Traverse City, Michigan 49684

Dear Jigger,

The <sup>\*</sup>5-1/2" .244WT 14# NEW LIMITED SERVICE casing that  
you are purchasing for W.E.P.I. has been hydrostatic pressure  
tested to 3,900# PSI.

If you have any questions, please feel free to contact  
me at 216-264-0077.

Sincerely,

Tommy L. Smith

8/31/94

COFSCO Inc.

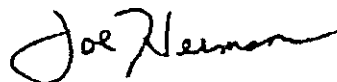
LIDSCO

Jigger Johnson

\*  
The 5 1/2" will be .275 Wall 15.50#per / ft. , Limited Service; ERW, J 55  
Grade, 8 Round Thread, LT&C Casing. API End finished , API Tested.

The 8 5/8" .219 Wall 20# per/ft., Limited Service , ERW, X42 Grade,  
8 Round Thread , ST&C Casing. API End Finished, API Tested.

Thank You,



Joe Herman



# LIDSCO INC.

1485 BARLOW • P.O. BOX 174  
TRAVERSE CITY, MICHIGAN 49685  
BUS. PHONE (616) 941-7628  
FAX (616) 941-4634

January 26, 1995

Edwin Degen  
14480 Hawkins Rd.  
Hubbard Lake, MI 49747

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

"Scott Creek" Antrim Project  
Wolverine Environmental Prod., Inc.  
Degen C3-32  
NW/NW/SE Sec. 32, T29N, R7E  
Ossineke Twp, Alpena County

Dear Mr. Degen:

Please find enclosed the first page of a drilling permit application being filed by Wolverine Environmental Production, Inc. requesting a Permit to Drill a gas well on the above referenced land.

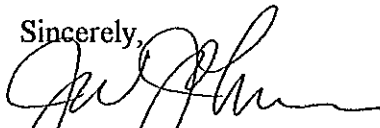
Contingent upon the Department of Natural Resources granting a Permit to Drill and upon the evaluation of Wolverine data, a well will be drilled at the above described site. Prior to any activity, a company representative will discuss the location, the area required for the drilling of the proposed well, and any surface disruptions.

In compliance with Supervisor of Wells Letter of Instruction # 2-94, Wolverine Environmental Production, Inc. also notifies you, as surface owner of record, that Michigan law provides certain rights to surface owners of lands where the mineral rights have been severed. If you have questions regarding these rights, you may wish to consult an attorney.

Please acknowledge receipt of this letter by signing the enclosed duplicate in the space provided and return same in the self-addressed envelope.

Thank you for your cooperation.

Sincerely,



James W. Johnson

JWJ/sv  
Enclosures

RECEIVED THIS \_\_\_\_\_ DAY OF JANUARY, 1995.

\_\_\_\_\_  
EDWIN DEGEN



**LIDSCO INC.**

1485 BARLOW • P.O. BOX 174  
TRAVERSE CITY, MICHIGAN 49685  
BUS. PHONE (616) 941-7628  
FAX (616) 941-4634

January 26, 1995

Ms. Jean Shoquist  
Department of Natural Resources  
P. O. Box 667  
Gaylord, MI 49735

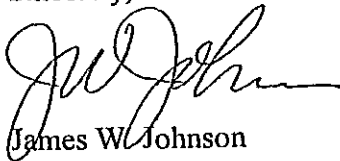
RE: "Scott Creek Antrim Project"  
W.E.P.I.  
Degen C3-32  
SL: NW/NW/SE Sec. 32, T29N, R7E  
Ossineke Township, Alpena County

Dear Ms. Shoquist:

Enclosed are copies of the necessary information required to obtain a Permit to Drill. The originals have been sent to the Permits & Bonds Division in the Lansing Office.

Please advise should you have questions or require additional information for your field review.

Sincerely,



James W. Johnson

JWJ/sv  
Enclosures





## LIDSCO INC.

1485 BARLOW • P.O. BOX 174  
TRAVERSE CITY, MICHIGAN 49685  
BUS. PHONE (616) 941-7628  
FAX (616) 941-4634

January 26, 1995

Mr. Tom Wellman  
Department of Natural Resources  
Permits & Bonds Division  
P. O. Box 30256  
Lansing, MI 48909

RE: "Scott Creek" Antrim Project  
W.E.P.I.  
Degen C3-32  
NW/NW/SE Sec. 32, T29N, R7E  
Ossineke Township, Alpena County

Dear Mr. Wellman:

Enclosed is a drilling permit for the Degen C3-32 in Section 32, T29N - R7E in Ossineke Township, Alpena County. Enclosed is the following:

1. An original and 4 copies of Application for Permit to Drill.
2. An original and 4 copies of Wellhead Blowout Control System.
3. An original and 4 copies of Survey Record of Well Location & Supplemental Plat.
4. An original and 4 copies of Environmental Impact Assessment.
5. 1 copy of letter to Jean Shoquist of the Gaylord Field Office of the DNR for her field review.
6. 1 copy of letter sent to Landowner of Intent to Drill.
7. A check in the amount of \$100 for the Application Fee.

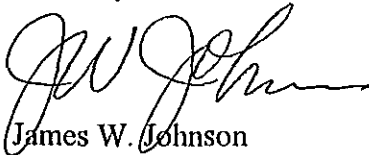
In compliance with Supervisor of Wells Letter of Instruction #1-94, Wolverine Environmental Production, Inc. has examined bedrock geology within this area and has determined that a surface casing point 100' below the base of the Glacial Drift will be in the Sunbury. No known fresh water aquifers exist in this project area below the top of the Sunbury.

Wolverine Environmental Production, Inc. would like permission to drill to a total depth into the Traverse Lime. Production casing will be run to bottom, cemented, and will not be drilled out. Perforations will not be placed below the base of the Antrim. The additional cased hole below the base of the Antrim is for downhole pump equipment that may be necessary for future productions.

Wolverine Environmental Production, Inc. has a blanket bond on file with the Supervisor of Wells. Wellsite and access road information is included in the Environmental Impact Assessment. Ground level and Kelly bushing elevations will be run within fourteen (14) days after spud and supplied to the DNR.

Please advise should you have questions or require additional information to support the issuance of a drilling permit.

Sincerely,

A handwritten signature in cursive script, appearing to read "JW Johnson", written in black ink.

James W. Johnson

JWJ/sv

Enclosures

DRILLING PERMIT APPLICATION FLOW SHEET

APPLICANT W E P I NUMBER 205  
WELL NAME Degen #C3-32 DATE REC'D 1-27-94  
VENDOR # 4814 NEW VENDOR [ ] ORGANIZATIONAL CHART REC'D [ ]

FEE  [ ] Ck cashier (Ch#/Bank/City) NBD Bank / Traverse City  
#0010930 for \$1500.00, 15 apps  
[ ] 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 [ ] Certification of Elevation to be Run  
[ ] Directional Plans  
[ ] Posted on Map Zoning Farm & Forest [ ] S.I. 2-87  
S-21-74

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

H<sub>2</sub>S  [ ] Copy to H<sub>2</sub>S 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 sent Copy to advised  
[ ] Transmittal to Region \_\_\_\_\_

MISC.  [ ] Public Hearing Pending \_\_\_\_\_  
[ ] Permits Hold [ ] Other Compliance NO / RAJUNK 20 14  
[ ] Other Problems \_\_\_\_\_

REVIEWER: 101 DATE SENT TO FIELD: 2-16-95 [ ] T.F.T. ENTRY  
*Ready for permit*

JUL 25 1995

**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 49552
WELL NAME Degen C3-32
SURFACE LOCATION NW/NW/SE Section 32, T29N, R7E 1/4 OF 1/4 OF 1/4, SECTION T R
TOWNSHIP COUNTY Ossineke Alpena
NAME AND ADDRESS OF PERMITTEE Wolverine Environmental Production, Inc. One Riverfront Plaza, 55 Campau NW Grand Rapids, MI 49503-2616
NAME AND ADDRESS OF DRILLING CONTRACTOR Antrim Drilling Company PO Box 174 Traverse City, MI 49685-0174

**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
11"	336'	336'	454'	Sunbury	7/14/95

**NARRATIVE OF UNUSUAL DRILLING CIRCUMSTANCES OR PROBLEMS ENCOUNTERED**

NONE

**NAME AND ADDRESS OF GEOLOGIST/MUD LOGGER**

Allen Bright  
PO Box 320  
Lake Ann, MI 49650

DATE 7/19/95	SIGNATURE <i>Allen J Bright</i>
-----------------	------------------------------------

**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"	454'	Lite 3%	150	52	15	6:00 am
		CL A 3%	50	11		7/13/95

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

NO PROBLEMS

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

DATE 7-21-95	SIGNATURE OF PERMITTEE OR COMPANY OFFICER <i>John P. Vora</i>
-----------------	--

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

JAN 18 1996

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

**RECORD OF WELL DRILLING OR DEEPENING**

USE APPROPRIATE BLOCKS, FOR ITEMS NOT LISTED SUBMIT ATTACHMENTS  
REQUIRED BY AUTHORITY OF

ACT 61, P.A. 1939, AS AMENDED (Submit 2 copies within 30 days of completion)  
 ACT 315, P.A. 1969, AS AMENDED (Submit 2 copies within 60 days of completion)

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

NAME AND ADDRESS OF OWNER <b>WOLVERINE ENVIRONMENTAL PRODUCTION, INC. ONE RIVERFRONT PLAZA, 55 CAMPAU NW GRAND RAPIDS, MI 49503-2616</b>		
NAME AND ADDRESS OF DRILLING CONTRACTOR <b>ANTRIM DRILLING COMPANY P.O. BOX 174 TRAVERSE CITY, MI 49685-0174</b>		
DATE DRILLING BEGAN <b>7/12/95</b>	DATE DRILL COMPLETED <b>7/14/95</b>	DATE WELL COMPLETED <b>12/18/95</b>
TOTAL DEPTH OF WELL Driller <b>870</b> Log <b>801</b>	FORMATION AT T.D. <b>TRAVERSE LIMESTONE</b>	PROD. FORMATION(S) <b>ANTRIM SHALE</b>
DATE FIRST INJECTION <b>N/A</b>	INJECTED FORMATION <b>N/A</b>	SOLUTION FORMATION <b>N/A</b>

PERMIT NO./DEEPENING PERMIT NO. <b>49552</b>	TYPE OF WELL (after completion) <b>GAS</b>
FIELD/FACILITY NAME <b>N/A</b>	
WELL NAME & NUMBER <b>Degen C3-32</b>	
SURFACE LOCATION <b>NW 1/4 of NW 1/4 of SE 1/4 Section 32 T 29N R 7E</b>	
TOWNSHIP <b>Ossineke</b>	COUNTY <b>Alpena</b>
FOOTAGES: NORTH/SOUTH EAST/WEST <b>626 Ft. from N Line and 462 Ft. from W Line of 1/4 Sec.</b>	
SUBSURFACE LOCATION (# directionally drilled) <b>N/A 1/4 of 1/4 of 1/4 Section T R</b>	
TOWNSHIP <b>N/A</b>	COUNTY <b>N/A</b>
FOOTAGES: NORTH/SOUTH EAST/WEST <b>N/A Ft. from Line and Ft. from Line of 1/4 Sec.</b>	
FEET DRILLED --- CABLE TOOLS From <b>N/A</b> To	FEET DRILLED --- ROTARY TOOLS From <b>SURFACE</b> To <b>870</b>
ELEVATIONS K.B. <b>881.3 ft.</b> R.F. <b>860.1 ft.</b> R.T. <b>N/A ft.</b> Grd. <b>854.1 ft.</b>	

**CASING, CASING LINERS AND CEMENTING, OPERATING STRINGS**

**PERFORATIONS**

SIZE	WHERE SET	CEMENT	FT. PULLED	DATE	NUMBER HOLES	INTERVAL PERFORATED	OPEN	
							YES	NO
13-3/8"	50'	DRIVEN	0					
8-5/8"	454'	150 SX LITE, 3 % 50 SX CLASS A, 3 %	0	12/7/95	80	566-586	X	
5-1/2"	870'	60 SX LITE, 2% 100 SX CLASS A, 2 %	0	12/7/95	64	620-636	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)					
							Sam- ples	Odor	Pits	Mud Line	Gas Log	FJ Up
ANTRIM SHALE	GAS	533	638	NONE								

**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
12/14/95	566-636	1925 GAL 7.5% HCl ACID	NONE				
12/15/95	620-636	12,768 GAL N2 FOAM W/25,000 # 20/40 SAND					
12/15/95	566-586	23,184 GAL N2 FOAM W/50,000 # 20/40 SAND					

**MECHANICAL LOGS, LIST EACH TYPE AND RUN**

**DEPTH CORRECTION DEVIATION SURVEY PLUGGED BACK**

BRAND	(X)	LOG TYPES	LOGGED INTERVALS	DEPTH	CORRECTION	RUN AT	DEGREES	PLUGGED BACK		DEPTH
								YES	NO	
Schlumberger	X	GR,CCL	0-801	NONE		870	1 Deg.		X	
Birdwell										
Western Atlas										

**PRODUCTION TEST DATA**

OIL - Bbls/day <b>N/A</b>	GRAVITY-API <b>N/A</b>	COND. Bbls/day <b>N/A</b>	GAS - MCF/day <b>50 est.</b>	WATER - Bbls/day <b>350 est.</b>	H2S - Grains/100 cu. ft. <b>N/A</b>	B.H.P. AND DEPTH <b>N/A</b>
------------------------------	---------------------------	------------------------------	---------------------------------	-------------------------------------	--	--------------------------------

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

DATE <b>1/17/96</b>	NAME AND TITLE (PRINT) <b>BARRY W. KALNBACH, PRODUCTION ENGINEER</b>	SIGNATURE <i>Barry W. Kalnbach</i>
------------------------	---	---------------------------------------

NOTICE: REPORT COMPLETE SAMPLE AND FORMATION RECORD, CORING RECORD AND DRILL STEM TEST INFORMATION ON REVERSE SIDE.

# FORMATION RECORD

49552

(ATTACH ADDITIONAL SHEETS IF NECESSARY)

ELEVATION USED:	GEOLOGIST NAME:	TOPS TAKEN FROM:
<b>K.B.</b>	<b>BARRY W. KALNBACH</b>	<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	330	<b>Glacial Drift</b>
330	533	<b>Ellsworth Shale -</b> Sh, Gry, Green, Gmmy
533	638	<b>Antrim Shale -</b> Sh, Dk gry, Blk and Br, Calc, Brittle, Blocky
638	673	<b>Traverse Formation -</b> Sh, Gry, very cacl, Tr Ls-Brn, Gry
673	TD	<b>Traverse Limestone -</b> LS, tan, buff, Lt brn, firm tr dolomite

--	--	--	--	--	--

IF WELL WAS CORED, ATTACH CORE DESCRIPTION

DRILL STEM TEST DATA

--	--	--	--	--	--

LIST ATTACHMENTS:

--	--	--	--	--	--

GEOLOGICAL SURVEY USE ONLY

REVIEWED BY:	
DATE OF REVIEW:	

32-29N-07E  
OSSINEKE TWP. (ALPENA CO.)

DEGEN #C3-32

PERMIT NO. 49552

<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>
	NW	NW	SE	32	29N	07E	626 N	462	W

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: 861 KELLY BUSHING (DATUM), 860 RIG FLOOR, 854 GROUND

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:		DEVONIAN:	
GLACIAL DRIFT	330	TRAVERSE FORMATION	641
MISSISSIPPIAN:		TRAVERSE LIMESTONE	673
ANTRIM	330		
ANTRIM DARK	533		

THE FOLLOWING DOCUMENTS ARE REPRODUCTIONS OF OFFICIAL RECORDS SUBMITTED BY:  
BARRY W KALNBACH, ON BEHALF OF WOLVERINE ENVIRONMENTAL PRODUCTION INC

02/06/96



# REQUEST FOR TRANSFER OF PERMIT

Required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, Act 451 PA 1994 as amended.

Non-submission and/or falsification of this information may result in fines and/or imprisonment.

**Permits & Bonding Unit**

Part 615 Oil/Gas Well       Part 625 Mineral Well

Permit number <b>49552</b>	Well type	Current depth
Well name and number <b>See attached SCHEDULE OF WELLS dated 6/16/99.</b>		
Surface location 1/4      1/4      1/4 Section      T      R		
Township		County

**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) <b>Wolverine Environmental Production, Inc.</b>		Fed. I.D.# or S.S.# <b>38-2786663</b>	
Address: Number and Street, City or Town, State, ZIP Code, Telephone <b>One Riverfront Plaza, 55 Campau NW, Grand Rapids, MI 49503-2616 616-458-1150</b>			
All permits rights and responsibilities are discharged by:			
<b>Wolverine Environmental Production, Inc.</b>	<b>S. J. Jansma, Jr. - President</b>		<b>1-4-99</b>
Permittee	Authorized representative name	Signature	Date

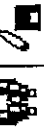
### TRANSFER OF A PERMIT TO:

Name(s) of Acquiring Permittee(s): <b>Dominion Midwest Energy, Inc.</b>		Fed. I.D.# or S.S.# <del>38-3442881</del> <b>38-1710995</b>	
Address: Number and Street, City or Town, State, ZIP Code, Telephone <b>One Riverfront Plaza, 55 Campau NW, Grand Rapids, MI 49503-2616 616-458-1150</b>			
(We are) (I am) an 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: <input type="checkbox"/> Single Well <input type="checkbox"/> Attached    Surety or Bank <u>Michigan National Bank</u>			
<input checked="" type="checkbox"/> Blanket <input type="checkbox"/> On File    Bond Number <u>LC-018403-MA</u>			
All permittee rights and responsibilities are assumed by:			
<b>Dominion Midwest Energy, Inc.</b>	<b>S. J. Jansma, Jr. - President</b>		<b>1-4-99</b>
Permittee	Authorized representative	Signature	Date

### FOR DEPARTMENT OF ENVIRONMENTAL QUALITY USE ONLY

Approved	<b>6/16/99</b>	Distribution by DEQ
Signature	Date	<input checked="" type="checkbox"/> Lansing <input type="checkbox"/> Selling Owner
		<input type="checkbox"/> Acquiring Owner <input type="checkbox"/> Field





# Check List for Bond Release



Date Request Received: 01/06/1999 Status: EXEC  
 Requestor: 4814 WOLVERINE ENVIRONMENTAL PR  
 Part 615 Supervisor of Wells as amended, Act 451 P.A. 1994  
 Part 625 Mineral Wells as amended, Act 451 P.A. 1994  
 Activity: TRAN Permit Transfer Requested

Permit Number: 49552 Well Name/No.: DEGEN C3-32  
 Original Permittee: WOLVERINE ENVIRONMENTAL PRODUCTION, ORG/Permittee#: 4814  
 Surface Location: Orig: MYNWSR Sec: 32 T: 29N R: 7E County: ALPENA  
 Original Bond No.: LC14919 Amount: \$250,000 Type: Letter of Credit  
 Guarantor: MICHIGAN NATIONAL BANK-INTERNATIONAL Guarantor#: 5647  
 Effective Date: 2/22/1989 Purpose: General Conformance Bond

Field Section - A | Field Section - B | Drilling | Engineering & Production | Compliance | Permit & Bonding Unit | Wells on Permit

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  
 Effective Date of Action: 06/16/1999

Comments / Exceptions

Permit & Bonding Unit Approval Date: 06/16/1999 Staff ID: [ ]  
 New Permittee: 1252 DOMINION MIDDLEWEST ENERGY INC  
 Replacement Bond: LC018403MA Guarantor#: 5647 Amount: \$250,000 Type: LC Purpose: C

Dates Signed	
Filed	06/16/1999 Yes
Drilling	03/23/1999 Yes
Production	02/23/1999 Yes
Compliance	04/28/1999 Yes
Permit/Bond	06/16/1999
Approved Date	06/16/1999



JOHN ENGLER, Governor  
**DEPARTMENT OF ENVIRONMENTAL QUALITY**

"Better Service for a Better Environment"  
 HOLLISTER BUILDING, PO BOX 30473, LANSING MI 48909-7973

REPLY TO:

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

INTERNET: www.deq.state.mi.us

RUSSELL J. HARDING, Director

June 16, 1999

Attachment to oil well permit transfer request approved June 16, 1999. Permits transferred from Wolverine Environmental Production Inc. to Dominion Midwest Energy Inc.:

Permit	API Well Number	Well Name and Number
44583	21-039-44583-00-	MAPLE FOREST 1-3
47201	21-039-47201-00-	STATE MAPLE FOREST B4-3
47202	21-039-47202-00-	STATE MAPLE FOREST D4-10
47203	21-039-47203-00-	STATE MAPLE FOREST B3-10
47204	21-039-47204-00-	STATE MAPLE FOREST D3-8
47205	21-039-47205-00-	STATE MAPLE FOREST B3-8
47206	21-039-47206-00-	STATE MAPLE FOREST A1-8
47207	21-039-47207-00-	STATE MAPLE FOREST D3-5
47208	21-039-47208-00-	STATE MAPLE FOREST C2-5
47209	21-039-47209-00-	STATE MAPLE FOREST B3-5
47210	21-039-47210-00-	STATE MAPLE FOREST A2-5
47211	21-039-47211-00-	STATE MAPLE FOREST D4-3
48055	21-039-48055-00-	MACCOLEMAN B4-15
48066	21-039-48066-00-	HAMMOND D1-8
48067	21-039-48067-00-	STATE MAPLE FOREST A4-5
48363	21-007-48363-00-	TOWNSEND B1-20
48364	21-007-48364-00-	STATE OSSINEKE A3-26
48442	21-007-48442-00-	BADER D1-29
48489	21-007-48489-00-	STATE OSSINEKE A1-36
48499	21-007-48499-00-	BROAD A1-22
48500	21-007-48500-00-	BIANCHINI A1-33
48894	21-007-48894-00-	MILLER C1-36
48908	21-007-48908-00-	STATE OSSINEKE A3-10
48909	21-007-48909-00-	STATE OSSINEKE A3-14
48910	21-007-48910-00-	STATE OSSINEKE B2-14
48911	21-007-48911-00-	STATE OSSINEKE D2-14
48912	21-007-48912-00-	STATE OSSINEKE B2-26
48913	21-007-48913-00-	STATE OSSINEKE C3-26
48933	21-007-48933-00-	STATE OSSINEKE C4-14
48964	21-007-48964-00-	STATE OSSINEKE C3-36
48984	21-007-48984-00-	SADDLER C1-10
49001	21-007-49001-00-	ANDOR A3-19
49002	21-007-49002-00-	STATE OSSINEKE D2-11
49003	21-007-49003-00-	STATE OSSINEKE D4-11
49004	21-007-49004-00-	STATE OSSINEKE A1-23

Permit	API Well Number	Well Name and Number
49006	21-007-49006-00-	STATE OSSINEKE A1-25
49007	21-007-49007-00-	STATE OSSINEKE C2-25
49008	21-007-49008-00-	WILD C4-19
49009	21-007-49009-00-	TOWNSEND A2-29
49010	21-007-49010-00-	BADER C4-30
49011	21-007-49011-00-	WALLACE HUNTING CLUB C2-17
49014	21-007-49014-00-	SULLIVAN C1-18
49015	21-007-49015-00-	DEER LANE HUNT CLUB C3-18
49016	21-007-49016-00-	BADER C2-30
49034	21-007-49034-00-	TIBOR ET AL D3-9
49049	21-007-49049-00-	STATE OSSINEKE D4-15
49072	21-007-49072-00-	STATE OSSINEKE A4-36
49073	21-007-49073-00-	BADER B2-29
49117	21-007-49117-00-	STATE OSSINEKE D1-2
49118	21-007-49118-00-	STATE OSSINEKE C4-3
49208	21-007-49208-00-	STATE OSSINEKE & SCHMITT CREEK 1-24
49382	21-007-49382-00-	BROAD B2-23
49383	21-007-49383-00-	SPRATT C3-23
49552	21-007-49552-00-	DEGEN C3-32
49583	21-007-49583-00-	BROAD B1-27
49867	21-007-49867-00-	STATE OSSINEKE D2-24
49876	21-007-49876-00-	LISKE B1-28
49965	21-007-49965-00-	BROAD B1-34
50339	21-007-50339-00-	RUMBLES C1-34
50399	21-007-50399-00-	BROAD D3-27
50734	21-007-50734-00-	DOCTORS CLUB & BROAD D1-27
50740	21-007-50740-00-	SOMMERFELD & MELVILLE D4-32
50743	21-007-50743-00-	BROAD & KLEIN A4-34
50744	21-007-50744-00-	BROAD B3-34
50745	21-007-50745-00-	STATE OSSINEKE C1-34
51106	21-007-51106-00-	BECK, ET AL B1-35
51109	21-007-51109-00-	BECK, ET AL D4-35
51497	21-001-51497-00-	DRY HOLE CLUB B1-7
51817	21-001-51817-00-	LOST LAKE WOODS ASSOC. ET AL D3-32
52389	21-007-52389-00-	STOKES PROPERTIES C4-17
52813	21-007-52813-00-	STATE OSSINEKE & WERTH C2-19
52814	21-007-52814-00-	GONSLER TRUSTS C3-21
52815	21-007-52815-00-	BARTZ & MILLER D2-20