

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

658

MAIL TO: MICHIGAN DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION
BOX 3002E, LANSING, MICHIGAN 48916

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

GEOLOGICAL SURVEY
MAY 07 1992
Permits & Bonding Unit

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. 1979, 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 checked="" type="checkbox"/> Blanket

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. **38-2347395**

7. Surety Bond: Blanket Single Well

8. Attached On File

9. Bond No. **S-114161030692**

10. Bond Amount **\$50,000.00**

11. Applicant: (name each "owner" as they are bonded)
TERRA ENERGY LTD.

12. Address: (operator only if more than one "owner")
**1503 N. Garfield Rd.
Traverse City, MI 49684**

Phone: **616-941-7919**

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

Well number: **9-10**

14. Surface owner:
Marvin Kelso

15. Address: **4298 Hallock Rd Gaylor, MI 49735**

Phone: **616-546-3680**

16. Surface location (See instructions)
NE 1/4 NE 1/4 of SE 1/4 of Sec. 10 T. 31N R. 4W

Township **Elmira** 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)

Surface Location: **379** ft. from (N/S) **N** Line of quarter section. AND **468** ft. from (E/W) **E** Line of quarter section.

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

Drilling Unit: **379** ft. from (N/S) **N** Line of drilling unit. AND **468** ft. from (E/W) **E** 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 ***1950**

25. Formation at Total Depth ***Dundee**

26. Producing Formation **Antrim Shale**

27. Objective Pool or Field **Thrive East**

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.
100	Drift	Driven	14"	54# H-40 New	100	Driven				
850	Coldwtr	10 5/8	8 5/8	24# J-55 New	850	300	12	Spud	Mud	
1950	Dundee	7 7/8	5 1/2	14# H-40 Used	1950	400	12+	FW		
<i>or</i>										
100	Drift	Driven	14"	54# H-40 New	100	Driven				
850	Coldwtr	11 3/4	9 5/8	32# H-40 New	850	300	12	Spud	Mud	
1950	Dundee	8 1/2	7	17# H-40 Used	1950	400	12+	FW		

29. Send correspondence and permit to. Address **Terra Energy Ltd. 1503 N. Garfield Rd. Traverse City, MI 49684**

FOR DNR USE ONLY

Permit	Date Issued	Number
Act 61	2-20-92	46269
Act 315		

30. Application Prepared By: (Print) **Stephen J. Savoie, Geologist 616-941-7919**

31. Signature *Stephen J. Savoie* Date: **5/5/92**

11282 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
46269	07/20/92	OIL OR GAS
CANCEL AND TRANSFER		FORMATION
		*DUNDEE
DEEPENING PERMIT		DEPTH
		* 1950'
PERMIT EXPIRES		KIND OF TOOLS
07/20/93		ROTARY
ISSUED TO		
TERRA ENERGY LIMITED 1503 N. GARFIELD RD., TRAVERSE CITY, MI 49684		

WELL NAME
 KELSO #9-10

LOCATION AND FOOTAGES:
 SHL: NE 1/4 NE 1/4 SE 1/4, Sec 10, 31N 04W, ELMIRA Twp, OTSEGO Co.
 379 ft. from North and 468 ft. from East line of quarter section.
 379 ft. from North and 468 ft. from East line of drilling unit.

CASING AND SEALING REQUIREMENTS

O.D. SIZE	WT./FT.	CASING GRADE	CONDITION	DEPTH	CEMENT SACKS	W.O.C. (HRS.)
14"	54#	H-40	NEW	100'	DRIVEN	
8 5/8"	24#	J-55	NEW	@ 850'	300	12
5 1/2"	14#	H-40	USED	1950'	400	12
			OR			
14"	54#	H-40	NEW	100'	DRIVEN	
9 5/8"	32#	H-40	NEW	@ 850'	300	12
7"	17#	H-40	USED	1950'	400	12

1. Conductor and surface casing shall be NEW pipe.
2. @ Surface casing shall be set at least 100' into competent bedrock or below all fresh water zones, whichever is deeper, and circulated to surface.
3. Surface water from lakes, streams, wetlands, or other sources shall NOT be utilized for drilling fluids.
4. * The "Rat Hole" through the Bell Shale shall NOT penetrate more than 10' into the Dundee Limestone and be cased and sealed such that no brine from the Antrim Formation or any other formation is disposed of in the Traverse Lime or Bell Shale. The production casing string shall be cemented to surface with the bottom joint of casing being left filled with cement.
5. The annulus of the rathole and mousehole shall be back filled with soil and at least the top 2' sealed with bentonite or an approved equivalent.
6. District Geologist shall be notified prior to pit encapsulation.
7. Pans or 20 mil PVC liners with perimeter dikes shall be placed under rig floor, mud system and storage tanks and constructed and maintained such that contained fluids do not discharge to the ground.

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

BY 
 WILLIAM LEE (517)3346974
 PERMIT COORDINATOR

FOR THE SUPERVISOR OF WELLS

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.

1a. App. No. 658	1b. Revision <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1c. Coordinator LEE	1d. District Sent To GAYLORD	1e. Date 5-12-92
2. Applicant TERRA ENERGY LTD.				
3a. Well Name & No. # KELSO 9-10			3b. For Redrills: Original Permit No.	
4a. Surface Location NE 1/4 NE 1/4 SE 1/4 Sec. 10 T 31 N R 4 W ELMIRA OTSEGO				
4b. Footages 379 ft. from N 1/4 line of 1/4 sec. 468 ft. from E 1/4 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: Lease Restrictions: No.
6. Information and requests: (Spacing, problem areas, etc.) THRIVE EAST Project			5d. Wellsite Area Local Zoning: <input type="checkbox"/> Residential: Date _____ <input checked="" type="checkbox"/> Other: FOREST/RECREATION	

7. Field Inspected By: Name and Date Mark Cronell 6/22/92		8a. Land use: <input type="checkbox"/> Crops <input type="checkbox"/> Forests <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Vacant <input type="checkbox"/> Other _____		8b. Cover Type/Density: Open Field	
9. Topography Nearly Level		10. Acreage Involved: Drill Pad: 1.0 Acres Access Road: .12 Acres			
11. Soil type and drainage, field tiles, etc. Well drained sand - level site					
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					
14. Nearby scenic, historical or recreational areas: None		GEOLOGICAL SURVEY			
15. Structures, pipelines, other utility lines within 300 feet of proposed well site. None		JUL 17 1992			
16. Is proposed method of disposal of produced and drilling brine acceptable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Permits & Bonding Unit			
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		RECEIVED			
18. Is Special Order #2-73 exception recommended? <input type="checkbox"/> Yes <input type="checkbox"/> No		NA JUL 15 1992			
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		DNR - REGION II			
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		MAY 13 1992 GAYLORD			
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

1. Surface water from lakes, streams, wetlands, or other sources shall not be utilized for drilling fluids.
2. The annulus of the rathole and mousehole shall be backfilled with soil and at least the top two feet sealed with bentonite or an approved equivalent.
3. Pans or 20-mil PVC liners with perimeter dikes shall be placed under the rig floor, mud system and storage tanks; and constructed and maintained such that contained fluids do not discharge to the ground.

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:

Steve Savoie - Terra

Date
12/12/91

Telephone No.
(616) 741-7919

26. Revisions En Route?

Yes No

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

Signature
Mark D. Cromell

Title
Area Geologist

Date
7/14/92

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

Signature

Title

Date

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

Signature

Title

Date

Signature
James B. [unclear] asst. Rep. Dir.

Date
7/15/92

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.

9-10

APPLICANT Terra Energy Ltd.		WELL NAME AND NUMBER J. Kelso #9-10	
SURFACE LOCATION NE $\frac{1}{4}$ of NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 10 T 31N R 4W		TOWNSHIP Elmira	COUNTY Otsego
BOTTOM HOLE LOCATION NE $\frac{1}{4}$ of NE $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section 10 T 31N R 4W		TOWNSHIP Elmira	COUNTY Otsego

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:
379 ft. from North line of Quarter Section
(north-south)

468 ft. from East line of Quarter Section
(east-west)

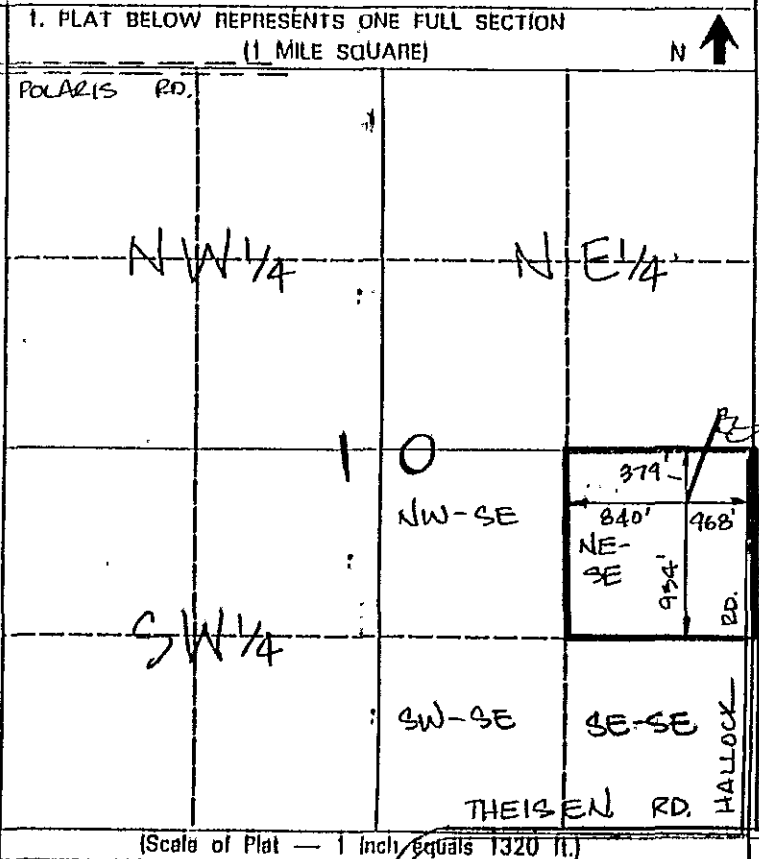
Bottom Hole Location:
379 ft. from North line of Quarter Section
(north-south)

468 ft. from East line of Quarter Section
(east-west)

Bottom Hole Will Be:
379 ft. from North line of Unit/property (Act 315) lease
(north-south)

468 ft. from East line of unit/property (Act 315) lease
(east-west)

3a. Describe wellsite marker. Show or describe access route if it is not readily accessible.
Two wood lath spliced together for a height of 6' (flagged & labeled). Access is from Hallock Rd., then West to the well site on a newly constructed lease road.



3b. Zoning. Residential Other: Forest/recreation

3c. Effective date: _____

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.

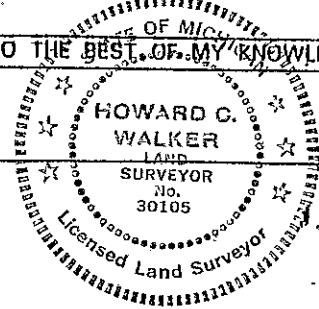
5. In an ENVIRONMENTAL IMPACT ASSESSMENT describe all structures and surface features shown detailing plans for hazards prevention and erosion control (See Instructions and guidelines for preparation of an environmental impact assessment).

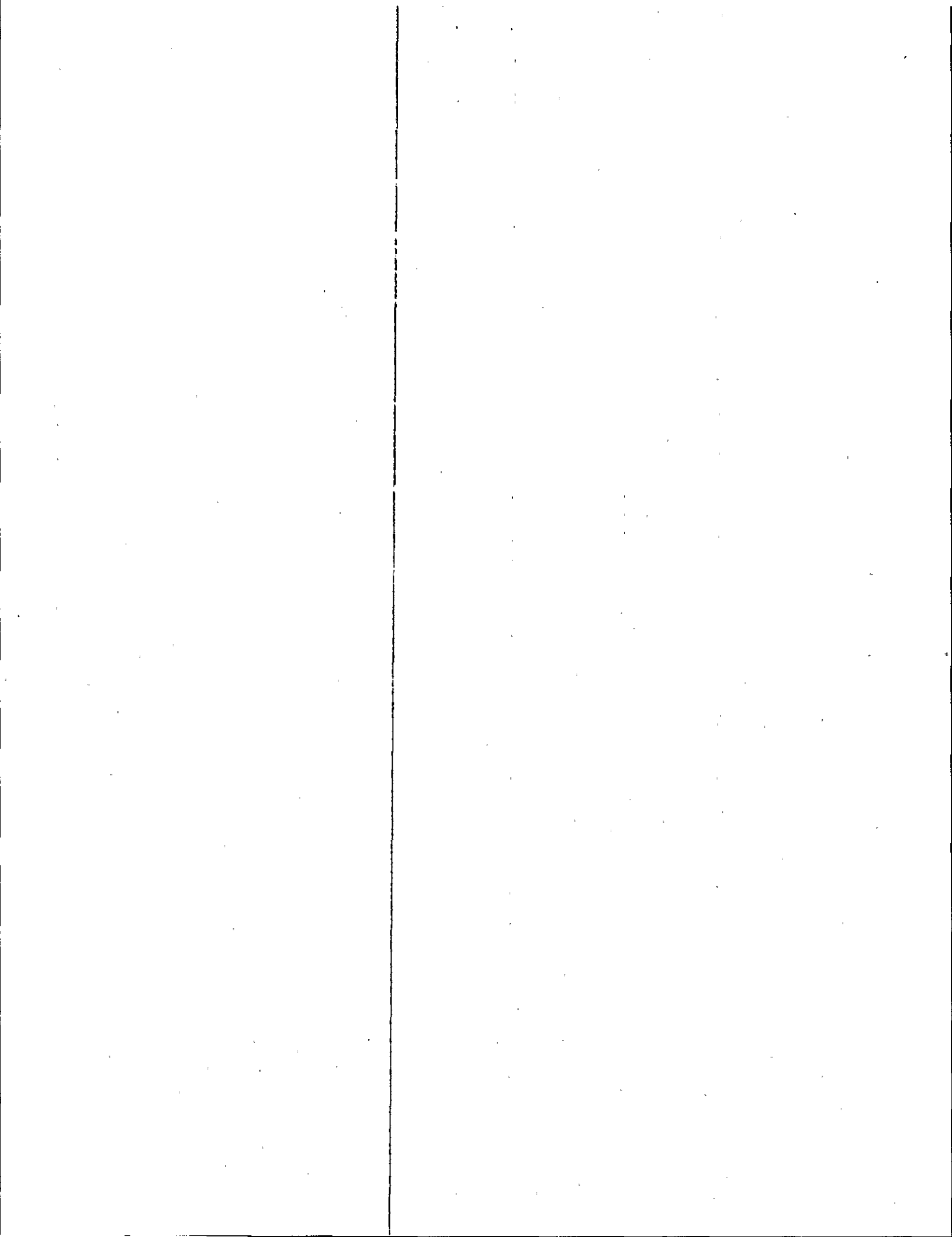
NAME OF INDIVIDUAL WHO SURVEYED SITE Howard C. Walker, Pres.	DATE 4/27/92	TITLE Licensed Land Surveyor
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12868 W. Bay Shore Dr., Traverse city, MI 49684

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

SIGNATURE (Applicant or authorized representative) <i>Howard C. Walker, Pres.</i>	ADDRESS (if different than Lessee)	DATE (Month, Day, Year) 5-7-92
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WELL SITE INSPECTION REPORT

WELL NAME: KELSO #9-10

LOCATION: NE-NE-SE- SEC. 10, T31N, R4W, ELMIRA
TWP., OTSEGO CO., MI.

TOPOGRAPHY: ROLLING W/GRADES TO 6%

COVER TYPE & DENSITY: OPEN FIELD

LAND UTILIZATION: FOREST/RECREATION

SURFACE WATER (location and description if within 1320'): NONE

STRUCTURES (location and description if within 660): BARN -
480' SE OF SITE, HSE. 630' ± SE OF SITE

EXISTING ROADS OR TRAILS (location and description if within 500'): HALLOCK RD - 468' E. OF SITE (GRAVEL RD.)

PROPOSED DRILL SITE ACCESS: FROM HALLOCK RD - WEST
468' ON NEWLY CONSTRUCTED LEASE RD TO SITE

RESTRICTIONS ON WELL SITE CONSTRUCTION: NONE

Prepared by: H. C. WALKER

Date: 4/27/92

Job #: 92017



WALKER LAND SURVEYING
P.O. BOX 1808
TRAVERSE CITY, MI 49686-1808
(616) 929 0544

OIL & GAS OPERATIONS
STATE OF MICHIGAN
ENVIRONMENTAL IMPACT ASSESSMENT

Name of Applicant: Terra Energy, Ltd.
Address: 1503 N. Garfield Rd.
Traverse City, MI 49684

Well Name and Number: Kelso #9-10
Location: NE1/4 NE1/4 SE1/4 Section 10,
T31N, R4W, Elmira Twp.,
Otsego County, Michigan

I. DESCRIPTION OF PROJECT:

This well will be drilled on property whose surface is privately owned in the Northeast 1/4 of the Northeast 1/4 of the Southeast 1/4 of Section 10, T31N, R4W, Elmira Township, Otsego County, Michigan. The drilling unit consists of the Northeast 1/4 of the Southeast 1/4 of Section 10, T31N, R4W, Elmira Township, containing approximately 40 acres, with the stake located 379' FNL and 468' FEL of the Southeast 1/4 of Section 10. All concerned parties have been notified of the location being staked and advised of our intentions to file an application for a drilling permit. This well will be drilled to a proposed depth of 1950' into the Dundee Limestone Formation for the purpose of producing hydrocarbons from the Antrim Shale Formation. The total depth of 1950' into the Dundee Limestone Formation is for possible placement of a downhole pump. Total depth shall not exceed 10' past the top of the Dundee Limestone Formation. Surface casing and production casing shall be cemented back to the surface, and there will be no fluid disposal into the Dundee Limestone Formation, or any other formation. The drill site is located approximately 2.0 miles North, and 3.5 miles East of Elmira, Michigan. Access to the site will be from Hallock Rd., then West 468' to the well site on a newly constructed lease road. The general topography of the land is rolling with grades to 6%, and surface drainage is to the West. The stake is located in an open field, which is utilized for forest/recreation. There are no lakes or streams within 1320' of the well site. A barn is located 480' Southeast of the site, and a house is 630±' Southeast of the well site. Hallock Rd., a gravel surface county road lies 468' East of the site.

II. ENVIRONMENTAL IMPACT ASSESSMENT:

It is anticipated that the well drilling and operation of a successful well at this location will have no adverse effects on any wildlife in the area. No special or endangered species are known to exist in the vicinity. Drilling and production operations will have no effect on population patterns, land use, or public utilities in the near future.

The drilling pad and access road will utilize an area of about 2.0 acres. Some grading will be necessary to construct the drilling pad and access drive. Top soil will be stockpiled and replaced as conditions permit. The area necessary to accommodate production equipment, in the event of a successful well, is expected to exceed that of the drilling pad. We cannot ascertain the exact location of the production equipment at this time. Future development may indicate the use of a certain tank battery and separator installation, removed from the well site as described above. In either event, all equipment will be located in accordance with existing regulations. Elevations used for drilling and logging purposes will be established using appropriate techniques, and relative to the USGS datum.

The location will be graded to accommodate a standard rotary drilling rig. Earthen dikes will be constructed to prevent contamination. In accordance with Supervisor of Wells Special Order No. 1-81, 2-18, 3-81 and 1-84, a prefabricated concrete or steel cellar will be installed prior to moving in a rig. The rat and mouse holes will be sealed. A lined reserve pit will be utilized during the drilling test. Drilling fluids and cuttings will be circulated to the reserve pit, lined with 20 Mil PVC or equivalent. Metal reserve pits may be used in the event the water table in the area is too high. Liquid brine will be circulated to the reserve pit. Upon completion of drilling operations, any brine contained in the lined reserve pit will be hauled to an approved brine disposal well or will be disposed of in another manner approved by the Supervisor of Wells. Heavy liquids and drill cutting remaining in the lined pit will be buried on site. The top of the folded liner will be buried at least four feet below ground. Production brine will be stored in approved tanks contained by earthen dikes, and will periodically be removed to an approved disposal site.

A temporary water well will be drilled for use while drilling is in progress. This well will be drilled in accordance with State rules and regulations. Immediately following drilling and completion operations the well will be plugged in accordance with Rule 166, Act 368, P A 1978, part 127. The water will be used exclusively for drilling operations and will at no time be available for consumption.

In the event the well is productive and operational, oil produced will be trucked to a refinery or pipeline terminal in the area. If gas is found in quantities, the well will be shut-in until market connections can be made. Any operational wastes will be removed from the production location to an approved disposal site.

Operation of a productive well will have a minimal effect on air and water quality. In addition, these operations will have minimal adverse effects upon the health and safety of the public. All environmental regulations will be complied with during operations. Long term environmental impact is considered minimal.

If the well is non-productive, or upon abandonment following production, it will be plugged in accordance with DNR instructions. The site will be restored in accordance with agreements with the property owners.

III. POSSIBLE ALTERNATIVE TO THE PROPOSED WELL LOCATION:

This site was selected on the basis of geological and topographical interpretations. There appears to be no reason to select an alternate location at this time.

IV. ANY IRREVERSIBLE OR 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 drill site will not be irreversibly committed. Drilling and operation of a producing well at his location will not curtail or limit the use of the surrounding environment.

SUMMARY

In the event that hydrocarbon production can be established at this location, it will prove beneficial in increasing hydrocarbon reserves in the State of Michigan. The proposed well location has been staked in an open field, which is utilized for forest/recreation. The general topography is rolling with grades to 6%, and surface drainage is to the West. Appropriate drill site drainage and sedimentation control measures will be incorporated into the operational plan.

Access to the drill site will be from Hallock Rd., then West 468' to the well site on a newly constructed lease road. The anticipated depth of this well is 1950' into the Dundee Limestone Formation, for the purpose of producing hydrocarbons from the Antrim Shale Formation. Clearing for site preparation and road construction will not disturb any wet areas. The environmental impact of this well is considered to be minimal, and every effort will be made to insure the protection and preservation of the environment.

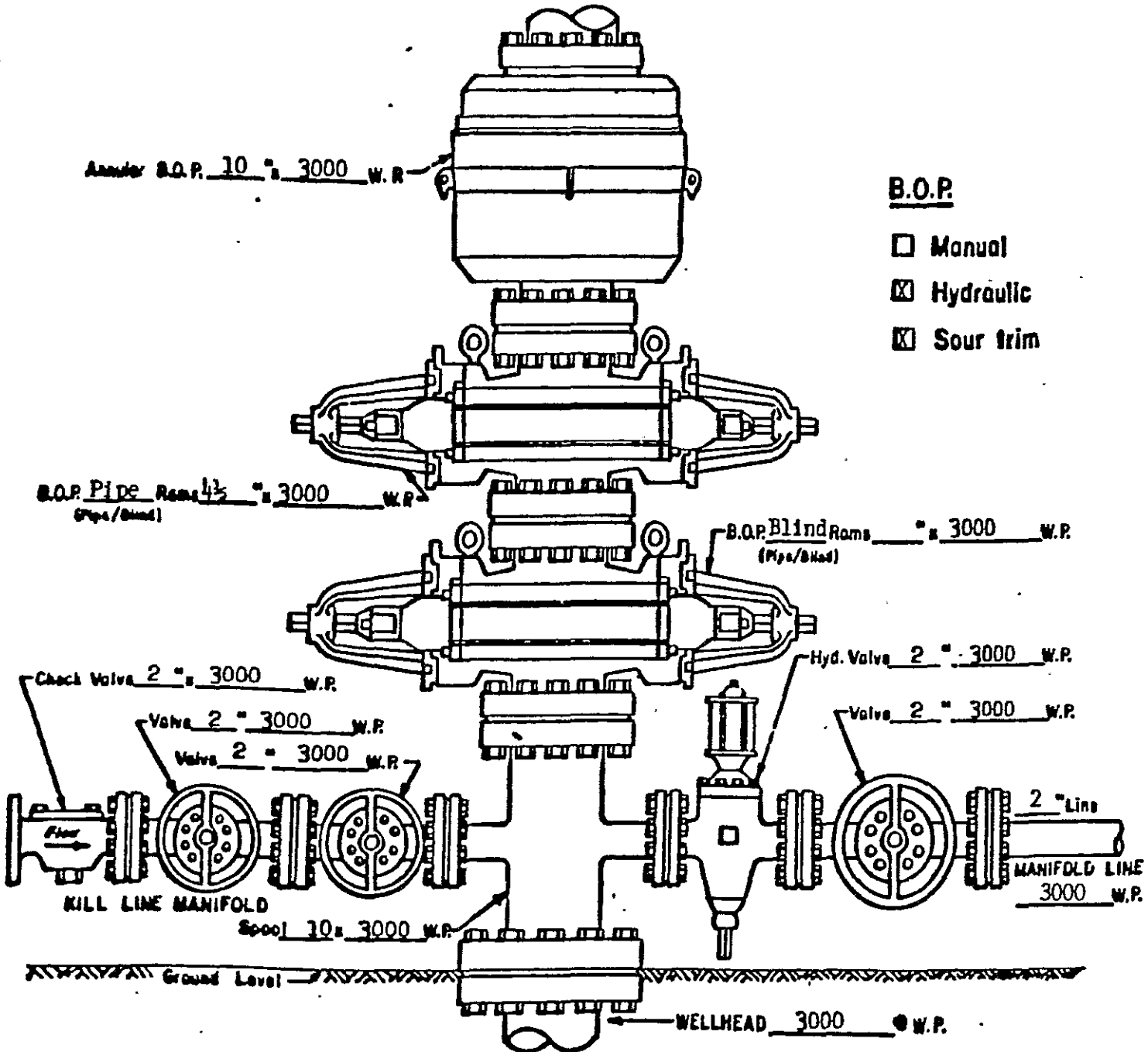
Respectfully Submitted,

Terra Energy, Ltd.



5/4/92

COMPANY Terra Energy Ltd.	WELL NAME AND NUMBER KELSO #9-10
LOCATION NE NE SE Section 10 T31N-R4W Elmira Twp. Otsego Co.	



- 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.

Applicant: TERRA

Application Number: 658

Well Name and Number: KELSO 9-10

Date:

The above well is believed to be:

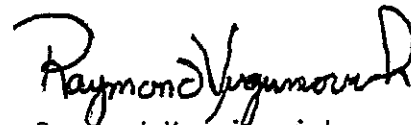
_____ potentially "sour" X potentially "sweet".

A contingency plan ~~is~~ is not required for the above well.

The plan submitted:

_____ appears to meet GSD requirements for Part II. The contingency plan has not been review for accuracy or completeness of contained information.

_____ is not complete. The following information is needed before this plan will meet GSD requirements for Part II:



Raymond Vugrinovich
Senior Geologist
Proration & Technical Evaluation



TERRA ENERGY LTD

1503 North Garfield Road
Traverse City, Michigan 49684
(616) 941-7919

OIL & GAS
EXPLORATION AND PRODUCTION

May 5, 1992

Mr. and Mrs. Marvin Kelso
4298 Hallock Road
Gaylord, MI 49735:

Dear Mr. and Mrs. Kelso:

Terra Energy Ltd. has prepared an application for a permit to drill an oil and gas test well on the NE NE SE, Section 10, T31N-R4W, Elmira Township, Otsego County, Michigan.

Our records indicate that you are the surface owners of the land on which the drilling location will be prepared. We hope to be drilling the above described well within the next six months. This letter is to serve as formal notification of our intention to drill.

If you have any questions regarding this matter, feel free to contact our office.

Sincerely,

TERRA ENERGY LTD.

A handwritten signature in cursive script, appearing to read "Stephen J. Savoie", written over a horizontal line.

Stephen J. Savoie
Geologist

SJS/lld
00000283.sjs



TERRA ENERGY LTD

1503 North Garfield Road
Traverse City, Michigan 49684
(616) 941-7919

OIL & GAS
EXPLORATION AND PRODUCTION

May 5, 1992

GEOLOGICAL SURVEY

MAY 07 1992

Permits & Bonding Unit

Mr. Rex Tefertiller
Michigan Dept. of Natural Resources
Geological Survey Division
Permits and Bonding
P. O. Box 30256
Lansing, MI 48909

RE: Kelso #9-10

Dear Rex:

Enclosed please find for the above referenced well the following:
a permit application, survey record of well location, supplemental
plat, Environmental Impact Statement, blowout control diagram, and
a check in the amount of \$100.00.

If you have any questions or need any additional information,
please feel free to contact me.

Sincerely,

TERRA ENERGY LTD.

Stephen J. Savoie
Geologist

Enclosures

SJS:lld
00000295.sjs

DRILLING PERMIT APPLICATION FLOW SHEET

APPLICANT TERRA ENERGY LTD NUMBER 658

WELL NAME Kelso # 9-10 DATE REC'D 5-7-92

VENDOR # 4328 Check # 12899 NEW VENDOR [] ORGANIZATIONAL CHART REC'D []

FEE [X] Ck cashier (Ch#/Bank/City) OLD KENT BANK, TRAVERSE CITY, MI
 [] C & T Tag enclosed
 [] Deepening
 [] Revision

BOND [] Single Well [] Surety [] C.D. [] L.C. [] Cash
 [X] Blanket [] Surety [] C.D. [X] L.C. [] Cash

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

LOCATION [X] Survey [X] Certification of Elevation to be Run
 [] Directional Plans
 [X] Posted on Map [X] Zoning [] Resid. [] S.I. 1-87
FOREST/RECREATION

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

SURFACE/MINERAL OWNERSHIP [X] Private Surface, Notified by [] Statement [X] 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 [X] Copy to H₂S Unit [X] Sweet [] Sour
 [] Contingency Plan Acceptable

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

DISTRIB. [X] Confidential Request [] Copy to Northville, Plymouth, Canton Twp
 [X] Copy to Subsurface and Petroleum Geology Unit
 [X] Transmittal to District CAYLOR Copy to _____
 [X] Transmittal to Region it

MISC. [X] Public Hearing Pending
 [] Permits Hold [X] Other Compliance NO jb
 [] Other Problems

REVIEWER: WRL , DATE SENT TO FIELD: 5-12-92 [] F.T. ENTRY

Ready to issue
WRL

STATE OF MICHIGAN
REQUEST FOR TRANSFER OF A PERMIT

TYPE OR PRINT

SUBMIT 4 COPIES TO: Department of Natural Resources
Geological Survey Division
Box 30028
Lansing, Michigan 48909

Filing for change of ownership of well is required in accordance with Act 61, P.A. 1939 and Act 315 P.A. 1969, as amended, and Administrative Rules promulgated thereunder.

PERMIT NO 46269	WELL TYPE Oil and Gas
FIELD NAME	
WELL NAME AND NUMBER Kelso 9-10	
WELL LOCATION NE 1/4 NE 1/4 SE 1/4 SECTION 10 T31N R 4W	
TOWNSHIP Elmira	COUNTY Otsego

TRANSFER OF A PERMIT FROM:

NAME(S) OF SELLING OWNER(S)
Terra Energy, Ltd.

ADDRESS: Number and Street — City or Town — State — Zip Code — Telephone
1503 Garfield Road, Traverse City, MI 49684 (616) 947-2490

All operating rights are discharged by

Owner(s)

Representative(s)

Signature(s)

Date(s)

Terra Energy, Ltd.

Stephen J. Savoie

[Signature] 11/24/92

ELIGIBILITY FOR PERMITS IS CONDITIONED UPON COMPLIANCE WITH THE STATUTES, RULES AND ORDERS OF THE DEPARTMENT OF NATURAL RESOURCES. PERMITS WILL NOT BE GRANTED TO PERSONS NOT IN COMPLIANCE.

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

TRANSFER OF A PERMIT TO:

NAME(S) OF ACQUIRING OWNER(S)
Oilfield Investments, Ltd.

ADDRESS: Number and Street — City or Town — State — Zip Code — Telephone
P.O. Box 148, Gaylord, MI 49735 (517) 732-6772

(We) (I) have acquired the well under this permit and assume full responsibility for the drilling, operation, and abandonment in conformity with law, regulations and orders.

SURETY BOND: SINGLE WELL ATTACHED
 BLANKET ON FILE

BONDING CO. _____
BOND NUMBER 5914

All operating rights and responsibilities are assumed by
Owner(s) Representative(s)

Signature(s)

Date(s)

Oilfield Investments, Ltd.

T.D. Provins

[Signature] X 11-23-92

GEOLOGICAL SURVEY

NOV 30 1992

FOR DEPARTMENT OF NATURAL RESOURCES USE ONLY

Permits & Bonding Unit

APPROVED

[Signature]
Signature

NOV 30 1992
Date

DISTRIBUTION BY DNR

- Lansing
- Acquiring Owner
- Selling Owner
- Field

RECEIVED - [illegible]

APR 2 1949

Smith & Bond [illegible]

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

MAY 24 1993

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 Oilfield Investments Ltd. P.O. Box 148 Gaylord, MI 49735			PERMIT NO./DEEPENING PERMIT NO. 46269		TYPE OF WELL (after completion) Antrim Gas	
NAME AND ADDRESS OF DRILLING CONTRACTOR CH&P Drilling Comp. P.O. Box 1809 Traverse City, MI 49685			FIELD/FACILITY NAME Elmira 14		WELL NAME & NUMBER Kelso 9-10	
DATE DRILLING BEGAN 12-12-92			DATE DRILL. COMPLETED 12-16-92		DATE WELL COMPLETED NYC	
TOTAL DEPTH OF WELL Driller 1570 Log 157			FORMATION AT T.D. Trav. Lime		PROD. FORMATION(S) Antrim	
DATE OF FIRST INJECTION NA			INJECTED FORMATION NA		SOLUTION FORMATION NA	
SURFACE LOCATION NE 1/4 of NE 1/4 of SE 1/4 Section 10 T31N R4W			TOWNSHIP Elmira		COUNTY Otsego	
FOOTAGES: NORTH/SOUTH 379 Ft. from N Line and 468 Ft. from E Line of 1/4 Sec.			EAST/WEST		SUBSURFACE LOCATION (if directionally drilled) NA 1/4 of NA 1/4 of NA 1/4 Section NA T NA R NA	
TOWNSHIP NA			COUNTY NA		FOOTAGES: NORTH/SOUTH NA Ft. from NA Line and NA Ft. from NA Line of 1/4 Sec.	
FEET DRILLED -- CABLE TOOLS From NA To NA			FEET DRILLED -- ROTARY TOOLS From 0 To 1570		ELEVATIONS K.B. 1453 ft. R.F. NA ft. R.T. NA ft. Grd. 1447 ft.	

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"	42'	Driven						
8-5/8"	908'	376 sxs Class	A	3-9-93	40	1148-1158	X	
5-1/2"	1570'	270 sxs Class	A		40	1174-1184	X	
					40	1239-1249		

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)					
							Samples	Odor	Pits	Mud Line	Gas Log.	Fill Up
Antrim	Gas	1118	1252	NONE	NA	NA	NA	NA	NA	NA	NA	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
	1239-1249	27,000 gal 700 foam+20,000# 20/40 sand+6500# 12/20 RC Sand	0# NONE	NA	NA	NA	NA
	1148-1184	27,000 gal 700 foam+20,000# 20/40 sand + 5000# 12/20 RC sand	0#				

MECHANICAL LOGS, LIST EACH TYPE RUN

DEPTH CORRECTION

DEVIATION SURVEY

PLUGGED BACK

BRAND	(X)	LOG TYPES	LOGGED INTERVALS	DEPTH	CORRECTION	RUN AT	DEGREES	YES	NO	DEPTH
Schlumberger	X	DIL	100-1561	NA	NA	NA	NA	NA	NA	NA
Blrdwell										

PRODUCTION TEST DATA

OIL -- Bbbls/day NA	GRAVITY -- °API NA	COND. Bbbls/day NA	GAS -- MCF/day NOT TESTED	WATER -- Bbbls/day NOT TESTED	H ₂ S -- Grains/100 cu. ft. NA	B.H.P. AND DEPTH NA
------------------------	-----------------------	-----------------------	------------------------------	----------------------------------	--	------------------------

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

DATE May 20 1993	NAME AND TITLE (PRINT) Renee Agee-Administrative Assistant	SIGNATURE Renee Agee
---------------------	---	-------------------------

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

FORMATION RECORD
(ATTACH ADDITIONAL SHEETS IF NECESSARY)

ELEVATION USED 1453	GEOLOGIST NAME: KWJ. Henry	TOPS TAKEN FROM. <input type="checkbox"/> DRILLERS LOG <input checked="" 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	806	Drift, Sand			
806	1118	Bedford, M-Dk-Gy Gy/Brn Sub Rnd Ang Inpt			
1118	1194	Antrim, M-Dk-Gy/Brn Dk Brn Sub Ang Silty			
1194	1224	Gray, V Dk Brn Sm Blk Sft Frm Ang			
1224	1252	2nd Hot Spot, V Dk Brn Blk Sl Carb Sub-Ang			
1252	1312	Traverse, M-Gy/Brn Dk-Gy Sft Frm Sm Pyr Fnt LS Brn Vfxln Cln			
1312	1570 TD	Traverse Lime, LS			

IF WELL WAS CORED, ATTACH CORE DESCRIPTION

DRILL STEM TEST DATA

PRELIMINARY COPY

LIST ATTACHMENTS:

GEOLOGICAL SURVEY USE ONLY

REVIEWED BY

DATE OF REVIEW

10-31N-04W
ELMIRA TWP. (OTSEGO CO.)

OILFIELD INVESTMENTS LTD

TD 1570 FT. IN

KELSO #9-10

PERMIT NO. 46269

SURFACE LOCATION:	QT	QT	QT	SEC	T	R	FT FROM QT	SEC	LINES
	NE	NE	SE	10	31N	04W	379 N	468 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: 1453 KELLY BUSHING (DATUM), 1447 GROUND

FORMATION TOPS AND STRATIGRAPHIC INTERVALS DETERMINED OR CONFIRMED BY GEOLOGICAL SURVEY PERSONNEL FROM SCHLUMBERGER DUAL INDUCTION-SFL/GAMMA RAY LOGS AND RECORDS FILED BY OPERATOR.

	MD		MD
PLEISTOCENE:		DEVONIAN:	
GLACIAL DRIFT	807	TRAVERSE FORMATION	1252
MISSISSIPPIAN:		TRAVERSE LIMESTONE	1297
ANTRIM	807		
ANTRIM DARK	1118		

THE FOLLOWING DOCUMENTS ARE REPRODUCTIONS OF OFFICIAL RECORDS SUBMITTED BY:
, ON BEHALF OF OILFIELD INVESTMENTS LTD

06/04/93

STATE OF MICHIGAN



NATURAL RESOURCES COMMISSION

JERRY C. BARTNIK
LARRY DEVUYST
PAUL EISELE
JAMES P. HILL
DAVID HOLLI
JOEY M. SPANO
JORDAN B. TATTER

JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

ROLAND HARMES, Director

GEOLOGICAL SURVEY DIVISION

P.O. BOX 30256
LANSING, MICHIGAN 48909

June 11, 1993

GEOLOGICAL SURVEY

JUN 11 1993

Permits & Bonding Unit

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

Dear Mr. King:

Oilfield Investments Ltd.
Elmira Township, Otsego County
Theisen A3-14, SW NW NE Sec. 14, T31N R4W, P.N. 41705
Kelso 9-10, NE NE SE Sec. 10, T31N R4W, P.N. 46269
Ames C4-14, SW NE SE Sec. 14, T31N R4W, P.N. 46298
Theisen D4-11, SW SE SE Sec. 11, T31N R4W, P.N. 46309
Vink B1-14, NE SW NW Sec. 14, T31N R4W, P.N. 47304
Theisen C2-11, NW NE SW Sec. 11, T31N R4W, P.N. 47307
Fleming C4-2, NE NE SE Sec. 2, T31N R4W, P.N. 47308
Fleming C1-12, SW NW SW Sec. 12, T31N R4W, P.N. 47316
Fleming A1-12, NE SW SE Sec. 10, T31N R4W, P.N. 47318
Scafe D3-10, NE SW SE Sec. 10, T31N R4W, P.N. 47354
Jasmer D3-12, NW SW SE Sec. 12, T31N R4W, P.N. 47462
Wescoat A4-12, SE NE NE Sec. 12, T31N R4W, P.N. 47464
State Elmira D1-14, SW SW SW Sec. 14, T31N R4W, P.N. 47471
Fleming D3-2, NW SW SE Sec. 2, T31N R4W, P.N. 47474

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

The PRU No. is 18640 (Elmira 14).

Sincerely,

Raymond Vugrinovich
Senior Geologist
Proration and Technical
Evaluation Unit
Geological Survey Division
517-334-6945

RV/bb

cc: Floyd Layton, DNR
Hal Fitch, DNR
Permits and Bonding, DNR
Subsurface and Petroleum Geology, DNR



"AMENDED"

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION
P.O. BOX 30076, LANSING, MICHIGAN 48909

JAN 5 1994

RECORD OF WELL DRILLING OR DEEPENING

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

ACT 61, P.A. 1930, 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 Oilfield Investments Ltd. P.O. Box 148 Gaylord, MI 49735			PERMIT NO./DEEPENING PERMIT NO. 46269		TYPE OF WELL (after completion) Antrim Gas	
NAME AND ADDRESS OF DRILLING CONTRACTOR CH&P Drilling Comp. P.O. Box 1809 Traverse City, MI 49685			WELL NAME & NUMBER Kelso 9-10		FIELD/LOCALITY NAME	
DATE DRILLING Began 12-12-92			DATE DRILL. COMPLETED 12-16-92		DATE WELL COMPLETED 8-6-93	
TOTAL DEPTH OF WELL Driller 1570 Log 1571			FORMATION AT TD. Trav. Lime		PROD. FORMATION(S) Antrim	
DATE OF FIRST INJECTION NA			INJECTED FORMATION NA		SOLUTION FORMATION NA	
SURFACE LOCATION NE 1/4 of NE 1/4 of SE 1/4 Section 10 T31N R4W			TOWNSHIP Elmira		COUNTY Olcato	
FOOTAGES: NORTH/SOUTH 379 Ft. from N Line and 468 Ft. from E Line of 1/4 Sec.			FOOTAGES: EAST/WEST NA Ft. from NA Line and NA Ft. from NA Line of 1/4 Sec.		SUBSURFACE LOCATION (if directionally drilled) NA 1/4 of NA 1/4 of NA 1/4 Section NA T NA R NA	
TOWNSHIP NA			COUNTY NA		FOOTAGES: NORTH/SOUTH NA Ft. from NA Line and NA Ft. from NA Line of 1/4 Sec.	
FEET DRILLED -- CABLE TOOLS From NA To NA			FEET DRILLED -- ROTARY TOOLS From 0 To 1570		ELEVATIONS K.D. 1453 ft. R.F. NA ft. R.T. NA ft. Grd. 1447 ft.	

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"	42'	Driven					X	
8-5/8"	908'	376 sxs Class	A	3-9-93	40	1148-1158	X	
5-1/2"	1570'	270 sxs Class	A		40	1174-1184	X	
					40	1239-1249		

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	Fls	Mud Line	Gas Log.	Flu Up
Antrim	Gas	1118	1252	NONE	NA	NA	NA	NA	NA	NA	NA	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
8-6-93	1239-1249	29,694 gal 700 foam+21,200 20/40 sand+5500# 12/20 RC	0# NONE	NA	NA	NA	NA
8-6-93	1148-1184	26,850 gal 700 foam+19,900 20/40 sand +63 00# 12/20	0# 7-1/2% acid				
		+3360 gal 7-1/2% acid	RC sand				

MECHANICAL LOGS, LIST EACH TYPE RUN

DEPTH CORRECTION DEVIATION SURVEY PLUGGED BACK

BRAND	(X)	LOG TYPES	LOGGED INTERVALS	DEPTH	CORRECTION	RUN AT	DEGREES	YES	NO	DEPTH
Schlumberger	X	DIL	100-1561	NA	NA	NA	NA	NA	NA	NA
Birdwell										

PRODUCTION TEST DATA

OIL -- Bbls/day NA	GRAVITY -- API NA	COND -- Bbls/day NA	GAS -- MCF/day 38	WATER -- Bbls/day 100	H ₂ S -- Grains/100 cu. ft. NA	G.I.P. AND DEPTH NA
-----------------------	----------------------	------------------------	----------------------	--------------------------	--	------------------------

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

DATE May 20 1993	NAME AND TITLE (PRINT) Renee Agee - Administrative Assistant	SIGNATURE Renee Agee
---------------------	---	-------------------------

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

FORMATION RECORD
(ATTACH ADDITIONAL SHEETS IF NECESSARY)

46269

ELEVATION USED 1453		GEOLOGIST NAME: K.J. Henry		TOBS TAKEN FROM <input type="checkbox"/> DRILLERS LOG <input checked="" 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	806	Drift, Sand					
806	1118	Bedford, M-Dk-Gy Gy/Brn Sub Rnd Ang Inpt					
1118	1194	Antrim, M-Dk-Gy/Brn Dk Brn Sub Ang Silty					
1194	1224	Gray, V Dk Brn Sm Blk Sft Frm Ang					
1224	1252	2nd Hot Spot, V Dk Brn Blk Sl Carb Sub-Ang					
1252	1312	Traverse, M-Gy/Brn Dk-Gy Sft Frm Sm Pyr Fnt LS Brn Vfxln Cln					
1312	1570 TD	Traverse Lime, LS					
IF WELL WAS CORED, ATTACH CORE DESCRIPTION							
DRILL STEM TEST DATA							
LIST ATTACHMENTS:							
GEOLOGICAL SURVLY USE ONLY							
REVIEWED BY							
DATE OF REVIEW							

**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.

Part 615 Oil/Gas Well Part 625 Mineral Well

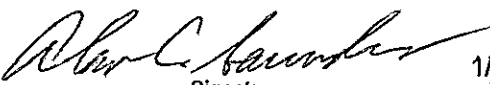
Permit number 46269	Well type GAS	Current true vertical depth 1570
Well name and number KELSO 9-10		
Surface location NE 1/4 NE 1/4 SE 1/4 Section 10 T31N R4W		
Township ELMIRA		County OTSEGO

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) O.I.L. ENERGY CORP.	Fed. I.D.# or S.S.# 38-2439926		
Address: Number and Street, City or Town, State, ZIP Code Telephone P.O. BOX 1073 TRAVERSE CITY, MI 49685-1073	616-933-3600		
All permits rights and responsibilities are discharged by:			
O.I.L. ENERGY CORP. Permittee	ALAN C. SAUNDERS, AIF Authorized representative name	 Signature	1/22/99 Date
Permittee	Authorized representative name	Signature	Date
Permittee	Authorized representative name	Signature	Date

TRANSFER OF A PERMIT TO:

Name(s) of Acquiring Permittee(s) MICHIGAN ACQUISITION PROPERTIES, INC.	Fed. I.D.# or S.S.# 38-3438900		
Address: Number and Street, City or Town, State, ZIP Code OFFICE OF GENERAL COUNSEL 10TH FLOOR, 500 GRISWOLD ST., DETROIT, MI 48226	Telephone 5500 313-256- XXXX		
(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: <input type="checkbox"/> Single Well <input type="checkbox"/> Attached Surety or Bank <input checked="" type="checkbox"/> Blanket <input checked="" type="checkbox"/> On File Bond Number <u>U2824018</u> Amount <u>\$250,000.00</u> <input type="checkbox"/> Statement of Financial Responsibility			
All permittee rights and responsibilities are assumed by:			
Michigan Acquisition Properties, Inc. Permittee	ALAN C. SAUNDERS, AIF Authorized representative name	 Signature	1/22/99 Date
Permittee	Authorized representative name	Signature	Date
Permittee	Authorized representative name	Signature	Date

FOR DEPARTMENT OF ENVIRONMENTAL QUALITY USE ONLY

Approved  Signature	NOV 01 1999 Date	Distribution by DEQ <input checked="" type="checkbox"/> Lansing <input type="checkbox"/> Selling Owner <input type="checkbox"/> Field <input type="checkbox"/> Acquiring Owner
---	---------------------	--

PERMITS & BONDING

MAY 07 1999

GEOLOGICAL SURVEY



Check List for Bond Release



Date Request Received	05/07/1999	Status	EXEC
Requestor	4777	OIL ENERGY CORP	
<input checked="" type="checkbox"/> Part 615 Supervisor of Wells as amended, Act 451 PA 1994 <input type="checkbox"/> Part 625 Mineral Wells as amended, Act 451 PA 1994			
Activity	TRKAN	Permit Transfer Requested	
Permit Number	46269	Well Name/No.	KELSO 9-10
Original Permittee	OIL ENERGY CORP	Original Bond No.	03262763034
Surface Location	Qty: NEMESE Sec: 10 T: 31N R: 4W	Amount	\$250,000
Guarantor	BANK ONE, N.A.-TRAVERSSE CITY	Type	Certificate of Deposit
Effective Date	9/27/1996	Purpose	General Conformance Bond
Guarantor#		Permittee#	4777
Country	OISEGO	Certificate of Deposit	

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

<input type="checkbox"/> Bond in effect prior to September 20, 1996 rule changes	<input type="checkbox"/> Affidavit of compliance is on file (Part 625 only)
<input type="checkbox"/> One year has elapsed since PLGC Date (Part 625 only)	<input type="checkbox"/> Final well on blanket bond
Effective Date of Action	11/01/1999

Comments / Exceptions

Permit & Bonding Unit Approval Date 11/01/1999 Staff ID DD3

New Permittee	5844	MICHIGAN ACQUISITION PROPERTIES INC
Replacement Bond	U3824018	Guarantor# 5517
Amount	\$250,000	Type SB
Purpose		Purpose G

Dates Signed	
Field	09/15/1999
Drilling	07/14/1999
Production	05/24/1999
Compliance	10/27/1999
Permit/Bond Approved Date	11/01/1999