

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

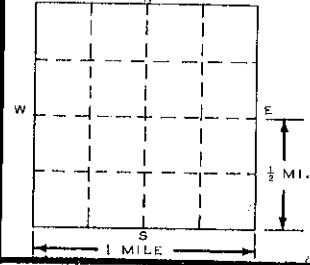
1 LOCATION OF WELL

County <i>Alcona</i>	Township Name <i>Montrose</i>	Fraction <i>NE 1/4 NW 1/4</i>	Section Number <i>21</i>	Town Number <i>3</i>	Range Number <i>N 13 W</i>
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Distance And Direction from Road Intersections
2 1/10 mi. East of 32nd St
South side of 130th Ave

Street Name and City of Well Location
South side of 130th Ave

Locate with "X" in section below



Sketch Map:

3 OWNER OF WELL:

Address
Oliver Ribben
R#11 Hopkins MI.

4 WELL DEPTH: (completed) Date of Completion

135 ft. *5-8-72*

5

<input type="checkbox"/> Cable tool	<input type="checkbox"/> Rotary	<input type="checkbox"/> Driven	<input type="checkbox"/> Dug
<input type="checkbox"/> Hollow rod	<input checked="" type="checkbox"/> Jetted	<input type="checkbox"/> Bored	<input type="checkbox"/>

6 USE:

<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Public Supply	<input type="checkbox"/> Industry
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Air Conditioning	<input type="checkbox"/> Commercial
<input type="checkbox"/> Test Well	<input type="checkbox"/>	<input type="checkbox"/>

7 CASING: Threaded Welded

Diam. _____ Height: Above/Below Surface *3* ft.
Weight *3.75* lbs./ft.
Drive Shoe? Yes No

2 FORMATION

FORMATION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
<i>Sand</i>	<i>25</i>	<i>25</i>
<i>Fine sand + Clay</i>	<i>38</i>	<i>63</i>
<i>Clay + Clay Gravel</i>	<i>40</i>	<i>103</i>
<i>Clay sand</i>	<i>7</i>	<i>110</i>
<i>Clay sand gravel</i>	<i>20</i>	<i>130</i>
<i>Sand</i>	<i>6</i>	<i>136</i>

8 SCREEN:

Type: *Stainless Steel* Dia.: *1 1/4*
Slot/Gauge: *15* Length *4 ft.*
Set between *131* ft. and *135* ft.
Fittings: *1/4 coupling Brunner*

9 STATIC WATER LEVEL

128 ft. below land surface

10 PUMPING LEVEL below land surface

_____ ft. after _____ hrs. pumping _____ g.p.m.
_____ ft. after _____ hrs. pumping _____ g.p.m.

11 WATER QUALITY in Parts Per Million:

Iron (Fe) _____ Chlorides (Cl) _____
Hardness _____ Other _____

12 WELL HEAD COMPLETION:

In Approved Pit
 Pitless Adapter 12" Above Grade

13 Well Grouted?

Yes No
 Neat Cement Bentonite _____
Depth: From _____ ft. to _____ ft.

14 Nearest Source of possible contamination

_____ feet _____ Direction _____ Type _____
Well disinfected upon completion Yes No

15 PUMP:

Not installed
Manufacturer's Name _____
Model Number _____ HP _____ Volts _____
Length of Drop Pipe _____ ft. capacity _____ G.P.M.
Type: Submersible Jet Reciprocating

USE A 2ND SHEET IF NEEDED

16 Remarks, elevation, source of data, etc.

ADDED INFO. BY DRILLER, ITEM NO. _____
CORRECTED BY: *KB*
ADDITION BY: _____

17 WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Oliver Ribben *353*
REGISTERED BUSINESS NAME REGISTRATION NO.
Address *R#1 Hopkins MI 49055*
Signed *Oliver Ribben* Date *5-8-72*
AUTHORIZED REPRESENTATIVE

WATER WELL AND PUMP RECORD

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PERMIT NUMBER

1 LOCATION OF WELL																										
County <i>Allegan</i>	Township Name <i>Monterey</i>	Fraction <i>NE 1/4 NE 1/4 NE 1/4</i>																								
Distance And Direction From Road Intersection <i>1/10 mi West of 30th St on South side of 130th Ave</i>		Section Number <i>21</i>																								
Street Address & City of Well Location		Town Number <i>3 N18</i>																								
Locate with "X" in Section Below		Range Number <i>13 E/W</i>																								
		3 OWNER OF WELL: <i>Bernard Smith</i> Address <i>3010 130th Ave Hopkins, MI 49328</i> Address Same As Well Location? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																								
2 FORMATION DESCRIPTION <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">FORMATION DESCRIPTION</th> <th style="width: 15%;">THICKNESS OF STRATUM</th> <th style="width: 15%;">DEPTH TO BOTTOM OF STRATUM</th> </tr> </thead> <tbody> <tr> <td><i>Clay-yellow w/sand & gravel</i></td> <td style="text-align: center;"><i>43</i></td> <td style="text-align: center;"><i>43</i></td> </tr> <tr> <td><i>Gravel & rocks - cemented</i></td> <td style="text-align: center;"><i>6</i></td> <td style="text-align: center;"><i>49</i></td> </tr> <tr> <td><i>Clay-gray, stones & gravel</i></td> <td style="text-align: center;"><i>59</i></td> <td style="text-align: center;"><i>108</i></td> </tr> <tr> <td><i>Clay-yellow, stones & gravel</i></td> <td style="text-align: center;"><i>3</i></td> <td style="text-align: center;"><i>111</i></td> </tr> <tr> <td><i>Clay-gray, stones & gravel</i></td> <td style="text-align: center;"><i>19</i></td> <td style="text-align: center;"><i>130</i></td> </tr> <tr> <td><i>Gravel - very hard</i></td> <td style="text-align: center;"><i>6</i></td> <td style="text-align: center;"><i>136</i></td> </tr> <tr> <td><i>Sand & Gravel</i></td> <td style="text-align: center;"><i>6</i></td> <td style="text-align: center;"><i>142</i></td> </tr> </tbody> </table>		FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	<i>Clay-yellow w/sand & gravel</i>	<i>43</i>	<i>43</i>	<i>Gravel & rocks - cemented</i>	<i>6</i>	<i>49</i>	<i>Clay-gray, stones & gravel</i>	<i>59</i>	<i>108</i>	<i>Clay-yellow, stones & gravel</i>	<i>3</i>	<i>111</i>	<i>Clay-gray, stones & gravel</i>	<i>19</i>	<i>130</i>	<i>Gravel - very hard</i>	<i>6</i>	<i>136</i>	<i>Sand & Gravel</i>	<i>6</i>	<i>142</i>	4 WELL DEPTH: (completed) <i>142 ft.</i> Date of Completion <i>7-14-87</i> 5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input type="checkbox"/> Auger <input checked="" type="checkbox"/> Jetted <input type="checkbox"/> _____ 6 USE: <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Type I Public <input type="checkbox"/> Type III Public <input type="checkbox"/> Irrigation <input type="checkbox"/> Type IIa Public <input type="checkbox"/> Heat pump <input type="checkbox"/> Test Well <input type="checkbox"/> Type IIb Public <input type="checkbox"/> _____ 7 CASING: Diameter <input checked="" type="checkbox"/> Steel <input checked="" type="checkbox"/> Threaded <input type="checkbox"/> Plastic <input type="checkbox"/> Welded Height: Above/Below Surface <i>1 1/2</i> ft. Weight <i>11</i> lbs./ft. Drive Shoe <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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USE A 2ND SHEET IF NEEDED		8 SCREEN: <i>Johnson Stainless</i> <input type="checkbox"/> Not Installed Type <i>Stainless</i> Diameter <i>4"</i> Slot/Groove <i>30</i> Length <i>4 ft.</i> Set between <i>138</i> ft. and <i>142</i> ft. FITTINGS: <input checked="" type="checkbox"/> K-Packer <input type="checkbox"/> Lead Packer <input type="checkbox"/> Bremer Check <input checked="" type="checkbox"/> Blank above screen <i>1</i> ft. Other _____ 9 STATIC WATER LEVEL: <i>93</i> ft. below land surface <input type="checkbox"/> Flow 10 PUMPING LEVEL: below land surface _____ ft. after _____ hrs. pumping at _____ G.P.M. _____ ft. after _____ hrs. pumping at _____ G.P.M.																								
_____		11 WELL HEAD COMPLETION: <input checked="" type="checkbox"/> Pitless adapter <input type="checkbox"/> 12" above grade <input type="checkbox"/> Basement offset <input type="checkbox"/> Approved pit 12 WELL GROUTED? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes From _____ to _____ ft. <input type="checkbox"/> Neat cement <input type="checkbox"/> Bentonite <input type="checkbox"/> Other _____ No. of bags of cement _____ Additives _____ 13 Nearest source of possible contamination Type _____ Distance _____ ft. Direction _____ Well disinfected upon completion? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																								
_____		14 PUMP: <input type="checkbox"/> Not Installed <input type="checkbox"/> Pump installation Only Manufacturer's name <i>Howell</i> Model number <i>13EM10412</i> HP <i>1</i> Volts <i>230</i> Length of Drop Pipe <i>112</i> ft. capacity <i>17.5</i> G.P.M. TYPE: <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Jet <i>@ 30 p.s.c.</i> PRESSURE TANK: <i>Salvaged</i> Manufacturer's name _____ Capacity <i>82</i> Gallons																								
15. Remarks, elevation, source of data, etc. _____ _____		16. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. <i>Brindley Well Drilling 80-0353</i> REGISTERED BUSINESS NAME _____ REGISTRATION NO. _____ Address <i>37897 C.R. 390 Hobbes, Mich 49055</i> Signed <i>Bruce Brindley</i> Date <i>7-14-87</i> AUTHORIZED REPRESENTATIVE																								

WATER WELL AND PUMP RECORD

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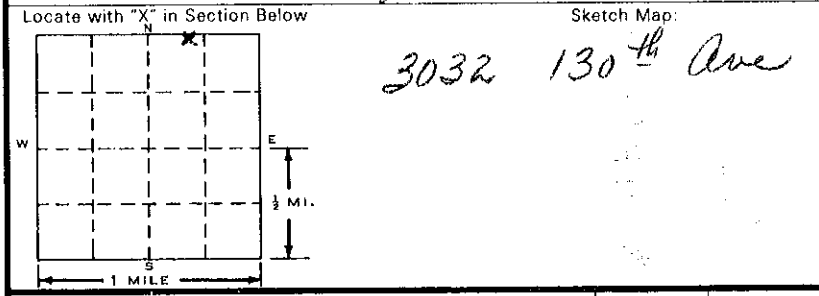
PERMIT NUMBER

1 LOCATION OF WELL					
County <i>Allegan</i>	Township Name <i>Monterey</i>	Fraction <i>NW 1/4 NE 1/4 NE 1/4</i>	Section Number <i>21</i>	Town Number <i>3 N18</i>	Range Number <i>13 E1W</i>

Distance And Direction From Road Intersection
3/10 mi West of 30th St. on South Side of 130th Ave

Street Address & City of Well Location

3 OWNER OF WELL: *Robert Deary*
Address *3032 130th Ave Hopkins, Mich. 49328*
Address Same As Well Location? Yes No



4 WELL DEPTH: (completed) *134 ft.* **Date of Completion** *10-10-86*

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
<i>Clay - yellow - stones</i>	<i>22</i>	<i>22</i>
<i>Sand</i>	<i>9</i>	<i>31</i>
<i>Clay blue gravel</i>	<i>7</i>	<i>38</i>
<i>Clay yellow gravel</i>	<i>68</i>	<i>106</i>
<i>Clay blue gravel</i>	<i>15</i>	<i>121</i>
<i>Clay yellow gravel</i>	<i>6</i>	<i>127</i>
<i>Gravel w/ some sand</i>	<i>7</i>	<i>134</i>

6 USE: Domestic Type I Public Type III Public
 Irrigation Type IIa Public Heat pump
 Test Well Type IIb Public

7 CASING: Diameter Steel Threaded Plastic Welded
4 in. to *130* ft. depth
_____ in. to _____ ft. depth
Grouted Drill Hole Diameter
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth

Height: Above/Below Surface *1* ft. Weight *11* lbs./ft.
Drive Shoe Yes No

8 SCREEN: Not Installed
Type *Johnson S.S.* Diameter *4"*
Slot/Groove *30* Length *4 ft.*
Set between *130* ft. and *134* ft.
FITTINGS: K-Packer Lead Packer Bremer Check
 Blank above screen *1* ft. Other _____

9 STATIC WATER LEVEL: *98 1/2* ft. below land surface Flow

10 PUMPING LEVEL: below land surface
_____ ft. after _____ hrs. pumping at _____ G.P.M.
_____ ft. after _____ hrs. pumping at _____ G.P.M.

11 WELL HEAD COMPLETION: Pitless adapter 12" above grade
 Basement offset Approved pit

12 WELL GROUTED? No Yes From _____ to _____ ft.
 Neat cement Bentonite Other _____
No. of bags of cement _____ Additives _____

13 Nearest source of possible contamination
Type _____ Distance _____ ft. Direction _____
Well disinfected upon completion? Yes No

14 PUMP: Not installed Pump Installation Only
Manufacturer's name *Houlihan*
Model number *13EM10412* HP *1* Volts *230*
Length of Drop Pipe *120 1/2* ft. capacity *20* G.P.M.
TYPE: Submersible Jet
PRESSURE TANK: *Galvanized*
Manufacturer's name _____ Capacity *82* Gallons

15. Remarks, elevation, source of data, etc.

16. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Brindley Well Drilling 80-0353
REGISTERED BUSINESS NAME _____ REGISTRATION NO. _____
Address *37897 C.R. 390 Hobbs Mich 49055*
Signed *Bruce Brindley* Date *10-14-86*
AUTHORIZED REPRESENTATIVE

WATER WELL AND PUMP RECORD

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PERMIT NUMBER

1 LOCATION OF WELL					
County <i>Allegan</i>	Township Name <i>Monterey</i>	Fraction <i>NE 1/4 NE 1/4 NE 1/4</i>	Section Number <i>21</i>	Town Number <i>3 N/S</i>	Range Number <i>13 W/W</i>

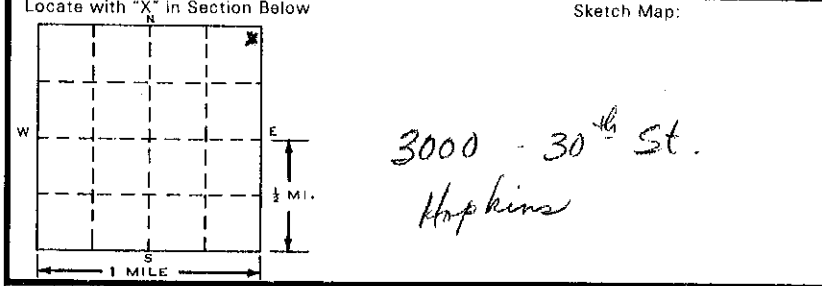
Distance And Direction From Road Intersection
SW corner of intersection of 30th St and 130th Ave

Street Address & City of Well Location
3000 - 30th St. Hopkins

3 OWNER OF WELL: *Dave Meyers*

Address *3417. 26th Hopkins, MI 49328*

Address Same As Well Location? Yes No



4 WELL DEPTH: *157 FT.* Date Completed *11-21-89*

New Well Replacement Well

5 Cable tool Rotary Driven Dug

Hollow rod Auger Jetted

6 USE: Domestic Type I Public Type III Public

Irrigation Type IIa Public Heat pump

Test Well Type IIb Public

7 CASING: Diameter Steel Threaded Plastic Welded

Height: Above/Below Surface *1* ft. Weight *11* lbs./ft.

4 in. to *152* ft. depth

Grouted Drill Hole Diameter _____ in. to _____ ft. depth

Drive Shoe Yes No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
<i>Clay - yellow</i>	<i>26</i>	<i>26</i>
<i>Clay - gray</i>	<i>7</i>	<i>33</i>
<i>Clay w/ gravel - yellow</i>	<i>82</i>	<i>115</i>
<i>Clay w/ gravel & large stones</i>	<i>6</i>	<i>121</i>
<i>Clay - sandy</i>	<i>21</i>	<i>142</i>
<i>Clay - stoney</i>	<i>7</i>	<i>149</i>
<i>Sand & gravel</i>	<i>8</i>	<i>157</i>

8 SCREEN: Not Installed

Type *Stainless Steel* Diameter *4" telescope*

Slot/Gauge *20* Length *5 ft*

Set between *152* ft. and *157* ft.

FITTINGS: K-Packer Lead Packer Bremer Check

Blank above screen *1* ft. Other _____

9 STATIC WATER LEVEL: *93* ft. below land surface Flow

10 PUMPING LEVEL: below land surface

_____ ft. after _____ hrs. pumping at _____ G.P.M.

_____ ft. after _____ hrs. pumping at _____ G.P.M.

11 WELL HEAD COMPLETION: Pitless adapter 12" above grade

Basement offset Approved pit

12 WELL GROUTED? No Yes From _____ to _____ ft.

Neat cement Bentonite Other _____

No. of bags of cement _____ Additives _____

13 Nearest source of possible contamination

Type _____ Distance _____ ft. Direction _____

Well disinfected upon completion? Yes No

Was old well plugged? Yes No

14 PUMP: Not Installed Pump Installation Only

Manufacturer's name *Burke*

Model number *7SNB12B* HP *3/4* Volts *230*

Length of Drop Pipe *126* ft. capacity *15* G.P.M.

TYPE: Submersible Jet

PRESSURE TANK: Manufacturer's name *Structural Fibers*

Model number *WM-12WB* capacity *12* Gallons

RECEIVED
Mich. Dept. of Public Health

USE A 2ND SHEET IF NEEDED *JAN 3 1990*

15. Remarks, elevation, source of data, etc.

BUREAU OF ENVIRONMENTAL AND OCCUPATIONAL HEALTH-SWOS

17. Rig Operator's Name: *Dean Brindley*

16. WATER WELL CONTRACTOR'S CERTIFICATION:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Brindley Well Drilling *80-0353*

REGISTERED BUSINESS NAME REGISTRATION NO.

Address *30897 CR 390, Appleton, MI 49055*

Signed *Bruce Brindley* Date *11-21-89*

AUTHORIZED REPRESENTATIVE

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

WATER WELL RECORD

ACT 294 PA 1965

MICHIGAN DEPARTMENT
OF
PUBLIC HEALTH

1 LOCATION OF WELL												
County <i>Allegan</i>	Twp. <i>Monterey</i>	Fraction <i>NE 1/4 NE 1/4 NE 1/4</i>	Section No. <i>21</i>	Town <i>3 N N/S.</i>	Range <i>13 W E/W.</i>							
Distance And Direction from Road Intersections <i>South side of 130th ave to me west of 30th st.</i>			OWNER No. _____			3 OWNER OF WELL: Address <i>Methodist Church Monterey Center</i>						
Street address & City of Well Location			4 WELL DEPTH: (completed) <i>140</i> ft.			Date of Completion <i>11-17-71</i>						
2 FORMATION <i>yellow clay-sand & gravel</i> <i>blue clay-sandy gravel</i> <i>dirty red sand</i> <i>gravel - hard</i> <i>coarse sand & gravel</i> <i>stones & yellow clay</i>			THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM	5 <input type="checkbox"/> Cable tool <input type="checkbox"/> Rotary <input type="checkbox"/> Driven <input type="checkbox"/> Dug <input type="checkbox"/> Hollow rod <input checked="" type="checkbox"/> Jetted <input type="checkbox"/> Bored <input type="checkbox"/> _____							
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						7 CASING: Threading <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Diam. <i>2</i> in. to <i>137</i> ft. Depth			Height: Above/Below surface <i>1</i> ft. Weight <i>3.75</i> lbs/ft. Drive Shoe? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
						8 SCREEN: Type: <i>Johnson</i> Dia.: <i>1 1/4</i> Slot/Gauze <i>20 slot</i> Length <i>3 ft</i> Set between <i>137</i> ft. and <i>140</i> ft. Fittings: <i>1 1/4 coupling & bremer check</i>						
						9 STATIC WATER LEVEL <i>103</i> ft. below land surface						
						10 PUMPING LEVEL below land surface _____ ft. after _____ hrs. pumping <i>Pumps good</i> g.p.m. _____ ft. after _____ hrs. pumping _____ g.p.m.						
			11 WATER QUALITY in Parts Per Million: Iron (Fe) _____ Chlorides (Cl) _____ Hardness _____									
			12 WELL HEAD COMPLETION: <input type="checkbox"/> In Approved Pit <input checked="" type="checkbox"/> Pitless Adapter <input type="checkbox"/> 12" Above Grade									
			13 GROUTING: Well Grouted? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Material: <input type="checkbox"/> Neat Cement <input type="checkbox"/> _____ Depth: From _____ ft. to _____ ft.									
			14 SANITARY: Nearest Source of possible contamination _____ feet _____ Direction _____ Type _____ Well disinfected upon completion <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									
			15 PUMP: Manufacturer's Name <i>Permaton Pump</i> Model Number <i>M#2-100-R HP-1</i> Length of Drop Pipe <i>115</i> ft. capacity <i>5</i> G.P.M. Type: <input type="checkbox"/> Submersible <input type="checkbox"/> _____ <input checked="" type="checkbox"/> Jet <input type="checkbox"/> Reciprocating									
16 Remarks, elevation, source of data, etc. <i>130th ave</i> <i>30th st</i> <i>Monterey Center</i>			17 WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. <i>Chas Binsley</i> <i>353</i> REGISTERED BUSINESS NAME REGISTRATION NO. Address <i>R#1 Habers Mi. 49055</i> Signed <i>Chas Binsley</i> Date <i>11-17-71</i> AUTHORIZED REPRESENTATIVE									

21-3N-13W
Monterey Twp., (Alleghen County)

TD 1815 in Traverse
(Dry)

Harold W. Smith

Harry Freeman #1

Permit #11289

Drilling Contractor: Own tools (Cable)

Location: SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ section 21, T.3N., R.13W.
990' from north and 990' from east line of quarter section.

Elevation: 914.0 feet above sea level.

Record by: D. Myers from driller's log.

PREHISTORIC:

Drift:

	Thickness (feet)	Depth (feet)
Clay, sand and gravel	87	87
Rock beds, sand and gravel	63	150
Sand, gravel and rocks	140	290

MISSISSIPPIAN:

Coldwater:

Mud, blue and shale	58	348
Shale	15	363
Lime	2	365
Shale	10	375
Shale, gray	185	560
Lime and shale	44	604
Shale, gray	46	650
Coldwater lime	46	696
Lime and shale	11	707
Shale, gray, muddy	266	973
Shale, gray	22	995
Shale, green	44	1039
Red Rock	15	1054

Ellsworth:

Shale, green	486	1540
Shale, light brown	110	1650

MISSISSIPPIAN-DEVONIAN:

Antrim:

Shale, dark brown	90	1740
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DEVONIAN:

Traverse Formation:

Shale, gray	18	1758
Lime shell	1	1759
Shale, gray and shells	41	1500 SIM

Traverse Lime:

Traverse Limestone (show oil 1802-03; much water 1812-15)	15	1815 SIM
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1799 = 1801 SL

TOTAL DEPTH 1815

Casing record:

8 $\frac{1}{4}$ " 295'

6-5/8" 721' RH

5-3/16" 1762 $\frac{1}{2}$ ' RH

Commenced: 12-5-44

Completed: 2-19-45

Initial Production: Dry hole.

21-3N-13W
Monterey Twp., (Allegan County)

TD 1940 in Traverse
(Dry)

Frank Seifert

Maud Wilcox #1

Permit #11611

Drilling Contractor: Company Tools (Cable)

Location: NW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ section 21, T.3N., R.13W.
990' from south and 330' from west line of quarter section

Elevation: 976.4 feet above sea level

Record by: D. Myers from driller's log

	Thickness (Feet)	Depth (Feet)
PLEISTOCENE:		
Drift:		
Sand and gravel	334	334
MISSISSIPPIAN:		
Coldwater:		
Shale, blue	84	418
Lime shell	4	422
Shale, blue	207	629
Lime shell	5	634
Shale, gray	15	649
Shale, gray and lime shell	59	708
Lime, very hard	67	775
Shale, blue	285	1060
Red Rock, light	8	1068
Shale, gray	22	1090
Red Rock	80	1170
Ellsworth:		
Shale, green	385	1555
Shale, light brown	125	1680
MISSISSIPPIAN-DEVONIAN:		
Antrim:		
Shale, brown, turning dark	35	1715
Lime shale, hard	3	1718
Shale, black	108	1826
DEVONIAN:		
Traverse Formation:		
Lime shale, gray	49	1875
Shale, gray, soft	10	1885
Traverse Limestone:		
Traverse lime, hard	6	1891
Traverse lime, soft (Water 1891-96')	5	1896
Traverse lime	44	1940
	TOTAL DEPTH	1940
Casing Record:		
8 $\frac{1}{4}$ " 260'	Commenced: 6/23/45	
6-5/8" 351'	Completed: 9/15/45	
5-3/16" 600'	Initial Production: Dry Hole	

21-3N-13W
 Monterey Twp., (Alleghen Co.)

Field
 TD 1861 in Traverse
 Dry

Universal Drilling Company

Well No. 1

Permit No. 15747

Drilling Contractor: Universal Drilling Company (Rotary O-400;
 Cable 400-1861)

Location: SW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ section 21, T 3N, R 13W
 990' from north and 330' from west line of quarter section

Elevation: 938.0 feet above sea level

Record by: Ann N. Davis from driller's log

	Thickness (Feet)	Depth (Feet)
PLEISTOCENE:		
Drift:		
Drift	240	240
MISSISSIPPIAN:		
Coldwater:		
Shale	442	682
Lime	56	738
Shale	96	834
Lime	6	840
Shale	242	1082
Red rock	15	1097
	(857)	
Ellsworth:		
Shale, green	11	1108
(Shale), light brown	549	1657
	(560)	
MISSISSIPPIAN-DEVONIAN:		
Antrim:		
"Antrim"	110	1767
DEVONIAN:		
Traverse formation:		
Shale, "Traverse"	63	1830 SLM
Traverse lime:		
Lime, "Traverse" (rainbow of oil at 1832)	31	1861
	(31+)	
	TOTAL DEPTH	1861

Casing Record:
 8 5/8" 119'
 7" 400'
 5 3/16" 1794' RH

Commenced: 1-27-50
 Completed: 4-1-50
 Initial Production: Dry hole

21-3N-13W
 Monterey Twp., (Alleghen Co.)

Field
 TD 1829 in Traverse
 Dry

Norocco Oil Company

Weldon Wuis No. 1

Permit No. 18783

Drilling Contractors: Grand Valley Drilling Company (Cable)

Location: SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ section 21, T 3N, R 13W
 330' from south and 350' from west line of quarter section

Elevation: 923.3 feet above sea level

Record by: B. L. Champion from driller's log

	Thickness (Feet)	Depth (Feet)
PLEISTOCENE:		
Drift:		
Drift	275	275
MISSISSIPPIAN:		
Coldwater:		
Shale, gray	70	345
"Marshall" (??) (Pre. Report-Marshall 345-81)	29	374
Shale, gray	281	655
Lime, "Coldwater"	67	722
Shale, gray	290	1012
Shale, red	2	1014
Shale, gray	53	1067
Red rock (Pre. Report-red rock 1067-85)	28	1095
	(820)	
Ellsworth:		
Shale, green	400	1495
Shale, light brown	115	1610
	(515)	
MISSISSIPPIAN-DEVONIAN:		
Antrim:		
Shale, dark brown	162	1763
DEVONIAN:		
Traverse formations:		
Shale, gray	15	1777
Lime shell	8	1785
Shale, gray	30	1815 SIM
	(53)	
Traverse lime:		
Lime, "Traverse" (oil noun 1815-18; 200' brine in 6 hours at 1820-29)	14	1829
	(14+)	
	TOTAL DEPTH	1829
Casing Record:	Commenced: 11-25-53	
6 5/8" 397'	Completed: 12-27-53	
5 3/16" 1779' RH	Initial Production: Dry hole	

21-3N-13W
 Monterey Twp., (Alleghen County)

(C) TD 1939 in Traverse
 (Dry)

Voorhees Drilling Company

G. Wuis #1

Permit #4878

Drilling Contractor: Voorhees Drilling Company

Location: SE₁ NE₁ NE₁ section 21, T.3N., R.13W.
 1022' from north and 400' from east line of quarter section.

Elevation: 917.1 feet above sea level.

Record by: L. Hale from driller's log and incomplete samples below 330 feet.

	Thickness (feet)	Depth (feet)
PLEISTOCENE:		
Drift:		
Drift	280	280
Sand & gravel (Water)	50	330
MISSISSIPPIAN:		
Coldwater:		
Shale, light gray, soft, muddy; hard brown shale with occasional dolomite	80	410
Shale, hard, brown; brown fossiliferous dolomite & some gray, muddy shale	30	440
Shale, light gray, muddy; and hard brown shale; occasional dolomite	264	704
Dolomite, light gray, shaly; a little chert	8	712
Dolomite, light gray, shaly; some gray chert; a little gray shale with small pebbles of glauconite	8	720
Dolomite, gray, very shaly; some shale; some light gray dolomite	30	750
Shale, light gray, soft & muddy; some flaky shale; a little dolomite & hard brown shale	235	1045
Shale, gray & red, soft, flaky	50	1095
Dolomite, red, fossiliferous; a little red shale	17	1112
No samples: Driller's log - Red rock	6	1118
	(768)	
Ellsworth:		
Shale; soft, muddy; some red dolomite	7	1125
Shale, grayish-green, soft, muddy	195	1320
Shale, greenish-gray, flaky; a little gray dolomite	30	1350
Shale, grayish-green, flaky; hard gray dolomite; some dolomite, red; a few fossils	50	1400
Shale, grayish-green, flaky & muddy; a little hard dolomite	125	1525
Shale, grayish-green; & some dark gray shale	20	1545
Shale, light gray, soft, muddy	10	1555
	(437)	

COMPLETED
 4-13-38
 CASING
 RECORD

8 1/4" 352'
 Reduced Hole 1105'
 Reduced Hole 1823'

21-3N-13W
 Monterey Twp., (Alleghen Co.)

Discovery
 TD 1827 in Traverse
 Oil

Universal Drilling Company

Edna Berry No. 1

Permit No. 15498

Drilling Contractor: Lee Flory (Cable)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ section 21, T 3N, R 13W
 330' from north and 330' from east line of quarter section

Elevation: 924.6 feet above sea level

Record by: Ann H. Davis from driller's log

	Thickness (Feet)	Depth (Feet)
PLEISTOCENE:		
Drift:		
Drift	250	250
MISSISSIPPIAN:		
Marshall:		
"Marshall" (water)	50	300
Coldwater:		
Shale, gray	58	358
Lime	4	362
Shale	21	383
Lime	6	389
Shale, blue	61	450
Shale, gray	30	480
Shale & lime	88	568
Shale, soft	100	668
Lime, "Coldwater"	37	705
Shale	4	709
Lime, "Coldwater"	10	719
Shale	111	830
Lime	1	831
Shale	176	1007
Shale	61	1068
"Red rock"	49	1117
Lime	8	1125
	(825)	
Elsworth:		
Shale, green	345	1470
Shale, gray	42	1512
Shale, green & brown	43	1555
Shale, light brown	77	1632
	(507)	
MISSISSIPPIAN-DEVONIAN:		
Antrim:		
Shale, dark brown	124	1756

COMPLETED
 12-7-49

CASING

RECORD

2 1/4" 250'
 5 5/8" 395'
 5 3/16" 1827'