

O.I.L. ENERGY CORPORATION
ATTACHMENTS TO EPA PERMIT APPLICATION
HUBBELL B1-9 SWD
Class I, Type I, Non-Hazardous Industrial Disposal Well

ATTACHMENT D: MAPS AND CROSS SECTIONS OF USDWs

Glacial Drift is the underground source of drinking water (USDW) in the vicinity of the Hubbell B1-9 SWD. Glacial Drift was logged to a depth of 385 feet below ground level (bgl) during drilling of the Hubbell B1-9 SWD. The bottom of the USDW is approximately 1,528 feet above the top of the injection zone (Dundee Limestone formation top 1,913 bgl).

As determined from available water well records viewed from the MDEQ Wellogig Database, Scanned Water Well Record Retrieval System, and MDEQ Water Well Viewer application for Section 9 of Whitewater Township, T28N-R9W, the Glacial Drift is characterized by alternating layers, with variable thicknesses, of sand and clay, some of which contain gravel. A water well record with a recorded well depth of 267 feet bgl was the deepest available record in the AOR of the Hubbell B1-9 SWD. The well record depicts sand and gravel from the ground surface to 5 feet bgl; clay from 5 to 130 feet bgl; fine sand from 130 to 150 feet bgl; clay and gravel from 150 to 250 feet bgl; and sand from 250 feet bgl to the terminal depth of 267 feet bgl. Water well records for three (3) wells in the immediate vicinity of the Hubbell B1-9 SWD depict alternating layers with variable thicknesses of sand and clay with screened intervals situated in a sand stratum with total well depths ranging from 148 to 155 feet bgl. The sand stratum was noted to start from 112 to 134 feet bgl and continued to boring termination depths of 148 to 155 feet bgl.

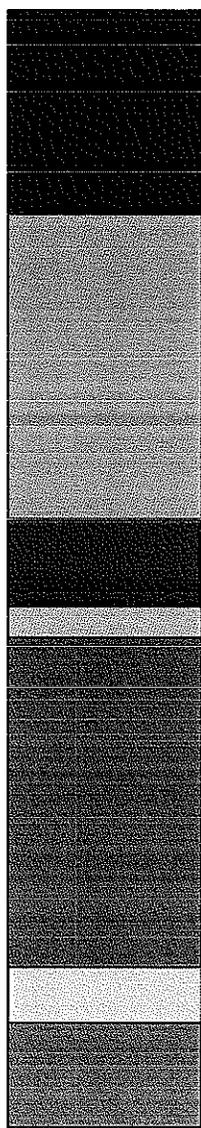
As a result of the absence of lithologic information below 155 feet bgl in the immediate vicinity of the Hubbell B1-9 SWD, and below 267 feet bgl in the general vicinity of the Hubbell B1-9 SWD, to the bottom of the USDW (385 feet), a cross sectional map of the USDW has not been completed. In lieu of the cross section, available water well records in the vicinity of the Hubbell B1-9 SWD from Section 9 of Whitewater Township, T28N-R9W, Grand Traverse County Michigan are attached. Furthermore, the cross section diagram included with Attachment H depicts the vertical extent of the glacial drift relative to underlying formations.

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CROSS SECTION OF SITE-SPECIFIC GEOLOGY

HUBBELL B1-9 SWD

28N - 9W, GRAND TRAVERSE COUNTY, MI.



DRIFT 0' - 385'

COLDWATER SHALE 385' - 961'

LACHINE 961' - 1076'

PAXTON 1076' - 1097'

NORWOOD 1097' - 1126'

TR. FORMATION 1126' - 1185'

TRAVERSE LIME 1185' - 1808'

BELL SHALE 1808' - 1913'

DUNDEE 1913' - 2110'

DET. RIVER ANHYDRITE 2110' - 2118'



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978

Well ID: 28000008692

Failure to comply is a misdemeanor.

Tax No: 281310901900	Permit No: 27497	County: Grand Traverse	Township: Whitewater
Well ID: 28000008692 Elevation: Latitude: 44.83144874 Longitude: -85.41427888	Fraction: SW¼ SW¼ SW¼	Section: 9	Town/Range: 28N 09W
	WSSN:		
	Source ID/Well No:		
	Distance and Direction from Road Intersection: 200' N OF ANGELL RD; 400' E OF MUNRO RD; PLANT WELL		
Well Owner: Williamsburg Recvg & Storage			
Well Address: 10190 MUNRO RD		Owner Address: 10190 MUNRO RD WILLIAMSBURG MI	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation only: No
Well Depth: 148.00 ft.	Well Use: Type III public	Pump Installation date:
Well Type: Replacement	Date Completed: 5/5/2000	Manufacturer: Red Jacket
Casing Type: PVC plastic		Model Number: 500F5CNS10
Casing Joint: Unknown		Length of Drop Pipe: 84.00 ft.
Diameter: 5.00 in. to 128.00 ft. depth		Diameter of Drop Pipe: 2.00 in.
		Draw Down Seal Used: No
Bore Diameter 1: 8.25 in. to 148.00 ft. depth		Pressure Tank Installed: Yes
Bore Diameter 2:		Pressure Tank Type: Unknown
Bore Diameter 3:		Manufacturer: Well-X-Trol
Height: 1.00 ft. above grade		Model Number: (5) WX350
Casing Fitting: Unknown		Tank Capacity: 119 Gallons
		Pressure Relief Valve Installed: No
Static Water Level: 15.00 ft. Below Grade (Not Flowing)		
Yield Test Method: Air		
Measurement Taken During Pump Test:		
1.00 hrs pumping at 80.00 GPM		
Abandoned Well Plugged: Yes		
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: Yes	Well Intake:	
Filter Packed: No		
Screen Diameter: 4.00 in.	Length: 20.00 ft.	
Screen Material Type: Stainless steel-wire wrapped		
Slot: 10.00 in	Set Between: 128.00 ft and 148.00 ft	
Blank: 1.00 ft Above		
Fittings:		
Neoprene packer		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags: 5	Additives: None	
Grouting Materials:		
Bentonite slurry	From: 0.00 ft. to 118.00 ft.	
Well Head Completion:	12 inches above grade, Pitless adapter	
Nearest source of possible contamination:		
Type: Septic tank	Distance: 180.00 ft.	
Direction:		
Drilling Machine Operator Name: DOUGLASS SCHETTEK		
Employment: Employee		
General Remarks: COMPLETED W/ CEMENT BY ELMERS; PLANT WELL; FIVE WX203 PRESSURE TANKS		
OTHER REMARKS		

Formation Description	Thickness	Depth to Bottom
Sand W/Gravel	46.00	46.00
Sand W/Clay	9.00	55.00
Clay	28.00	83.00
Sand	3.00	86.00
Clay	26.00	112.00
Sand	36.00	148.00

Geology Remarks:

Contractor Type: Water well drilling contractor
Registration Number: 481
Business Name: PHILS WELL DRILLING INC
Business Address:

WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my supervision and this report is true to the best of my knowledge and belief.

Signature of Registered Contractor **Date**

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

11/30/2001 13:40



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978

Well ID: 28000008693

Failure to comply is a misdemeanor.

Tax No: 281310901801	Permit No: 27250	County: Grand Traverse	Township: Whitewater
Well ID: 28000008693 Elevation: Latitude: 44.8318389 Longitude: -85.41089002	Fraction: SE¼ SW¼ SW¼	Section: 9	Town/Range: 28N 09W
	WSSN:		
	Source ID/Well No:		
Distance and Direction from Road Intersection: W OFF ELK LAKE RD; N SIDE OF ANGELL RD; HOUSE WELL			
Well Owner: Chris & Jamie Hubbell			
Well Address: 8255 ANGELL RD		Owner Address: 10190 MUNRO RD WILLIAMSBURG MI 49690	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation only: No
Well Depth: 155.00 ft.	Well Use: Household	HP: 1.50
Well Type: New	Date Completed: 5/26/2000	Pump Type: Submersible
Casing Type: PVC plastic	Manufacturer: Red Jacket	Pump Capacity: 18.00 GPM
Casing Joint: Unknown	Model Number: 150F2311CN	Id of Well:
Diameter: 5.00 in to 147.00 ft depth	Length of Drop Pipe: 143.00 ft.	
	Diameter of Drop Pipe: 1.25 in	
	Draw Down Seal Used: No	
Bore Diameter 1: 8.25 in to 155.00 ft depth	Pressure Tank Installed: Yes	
Bore Diameter 2:	Pressure Tank Type: Unknown	
Bore Diameter 3:	Manufacturer: Well-X-Trol	
Height: 1.00 ft. above grade	Model Number: WX350	Tank Capacity: 119 Gallons
Casing Fitting: Unknown	Pressure Relief Valve Installed: No	
Static Water Level: 60.00 ft Below Grade(Not Flowing)	Formation Description	Thickness
Yield Test Method: Air		Depth to Bottom
Measurement Taken During Pump Test:	Sand	20.00
0.50 hrs. pumping at 18.00 GPM	Sand & Clay	22.00
	Clay	16.00
	Sand	7.00
	Clay	69.00
	Sand	21.00
Abandoned Well Plugged: No		
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: Yes	Well Intake:	
Filter Packed: No		
Screen Diameter: 4.00 in.	Length: 8.00 ft	
Screen Material Type: PVC-slotted		
Slot: 10.00 in. Set Between 147.00 ft. and 155.00 ft.		
Blank: 2.00 ft Above		
Fittings:		
Neoprene packer		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags: 6	Additives: None	
Grouting Materials:		
Bentonite slurry	From 0.00 ft. to 137.00 ft	
Well Head Completion:		
12 inches above grade Pitless adapter		
Nearest source of possible contamination:	Contractor Type: Water well drilling contractor	
Type	Registration Number: 481	
Distance	Business Name: PHILS WELL DRILLING INC	
Direction	Business Address:	
Septic tank	50.00 ft	
	WATER WELL CONTRACTOR'S CERTIFICATION:	
	This well was drilled under my supervision and this report is true to the best of my knowledge and belief	
Drilling Machine Operator Name: DOUGLAS SHETTEK	Signature of Registered Contractor	Date
Employment: Employee		
General Remarks: HOUSE WELL		
OTHER REMARKS		

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

11/30/2001 13:49



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 28000008797

Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Grand Traverse	Township: Whitewater
Well ID: 28000008797		Fraction: SW¼ SW¼ SW¼	Section: 9
Elevation:		Town/Range: 28N 09W	WSSN:
Latitude: 44.83145445		Source ID/Well No:	
Longitude: -85.41463955		Distance and Direction from Road Intersection: NE CORNER OF ANGEL AND MONRO ROAD	
Well Owner: Williamsburg Receiving & Storage			
Well Address: 10190 MONRO ROAD WILLIAMSBURG MI 49690		Owner Address: 10190 MONRO ROAD WILLIAMSBURG MI 49690	

Drilling Method: Rotary	Pump Installed: No	Pump Installation only: No	
Well Depth: 120.00 ft	Well Use: Type III public	Pump Installation date:	
Well Type: New	Date Completed: 5/19/2000	Manufacturer:	
Casing Type: Steel - black	Casing Joint: Unknown	Model Number:	
Diameter: 12.00 in. to 100.00 ft. depth		Length of Drop Pipe:	
		Diameter of Drop Pipe:	
		Draw Down Seal Used: No	
Bore Diameter 1: 17.50 in. to 124.00 ft. depth		Pressure Tank Installed: No	
Bore Diameter 2:		Pressure Tank Type:	
Bore Diameter 3:		Manufacturer:	
Height: 2.80 ft. above grade		Model Number:	
Casing Fitting: None		Tank Capacity: Gallons	
		Pressure Relief Valve Installed: No	
Static Water Level: 14.80 ft. Below Grade(Not Flowing)		Formation Description	Thickness
Yield Test Method: Air			Depth to Bottom
Measurement Taken During Pump Test:		Brown Sand Medium W/Gravel	3.00
115.00 ft after 1.00 hrs. pumping at 500.00 GPM		Brown Clay Sandy W/Gravel	8.00
		Brown Sand Medium	9.00
		Brown Sand Medium To Coarse	4.00
Abandoned Well Plugged: No		Brown Sand Medium W/Gravel	5.00
Reason for not plugging Well:		Brown Sand Medium	12.00
Abandoned well ID:		Brown Sand Medium W/Gravel	51.00
Screen Installed: Yes	Well Intake:	Brown Clay Sandy	3.00
Filter Packed: Yes		Brown Sand Medium	4.00
Screen Diameter: 12.00 in.	Length: 20.00 ft.	Brown Sand Medium W/Gravel	28.00
Screen Material Type: Stainless steel-wire wrapped		Brown Clay Sandy Hard	3.00
Slot: 0.03 in. Set Between 100.00 ft. and 120.00 ft		Brown Sand Medium W/Gravel	7.00
Blank: 0.00 ft. Unknown			
Fittings:			
Other			
Well Grouted: Yes	Grouting Method: Unknown	Geology Remarks:	
No. of Bags: 42	Additives: None		
Grouting Materials:			
Bentonite slurry	From 7.00 ft to 100.00 ft		
Well Head Completion:	12 inches above grade		
Nearest source of possible contamination:		Contractor Type: Water well drilling contractor	
Type	Distance Direction	Registration Number: 1095	
Septic tank	100.00 ft. Northwest	Business Name: STREARNS DRILLING COMPANY	
Fuel tank	112.00 ft. North	Business Address:	
Drilling Machine Operator Name: RICHARD HERRON		WATER WELL CONTRACTOR'S CERTIFICATION:	
Employment: Employee		This well was drilled under my supervision and this report is true to the best of my knowledge and belief	
General Remarks: TOTAL DEPTH OF TEST BORING - 137'		Signature of Registered Contractor	
OTHER REMARKS: Screen Fittings: WELD ON		Date	

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

1/24/2002 11:22



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978.

Well ID: 28000008899

Failure to comply is a misdemeanor.

Tax No: 28-013-109-005-00	Permit No: 27917	County: Grand Traverse	Township: Whitewater
Well ID: 28000008899		Fraction: SW¼ NW¼ NE¼	Section: 9
Elevation:		Town/Range: 28N 09W	WSSN:
Latitude: 44 84392446		Source ID/Well No:	
Longitude: -85 40477673		Distance and Direction from Road Intersection:	
Well Owner: Mr. Greg Bratschi			
Well Address: 10880 Elk Lake Rd		Owner Address: P.O. Box 931 Bellare MI 49615	

Drilling Method: Rotary	Pump Installed: Yes	Pump Installation only: No
Well Depth: 137.00 ft	Well Use: Household	HP: 1.00
Well Type: New	Date Completed: 9/15/2000	Pump Type: Submersible
Casing Type: PVC plastic	Manufacturer: Grundfos	Pump Capacity: 15.00 GPM
Casing Joint: Unknown	Model Number: 15SQE10C-	Id of Well:
Diameter: 5.00 in. to 132.00 ft depth	Length of Drop Pipe: 100.00 ft	
	Diameter of Drop Pipe:	
	Draw Down Seal Used: No	
Bore Diameter 1: 8.75 in to 137.00 ft depth	Pressure Tank Installed: Yes	
Bore Diameter 2:	Pressure Tank Type: Unknown	
Bore Diameter 3:	Manufacturer: Well-Rite-Flexcon	
Height: 1.00 ft. above grade	Model Number: JR15	Tank Capacity: 7 Gallons
Casing Fitting: None	Pressure Relief Valve Installed: No	
Static Water Level: 58.00 ft Below Grade(Not Flowing)	Formation Description	Thickness
Yield Test Method: Unknown		Depth to Bottom
Measurement Taken During Pump Test:	Brown Clay	13.00
68.00 ft after 1.00 hrs pumping at 20.00 GPM	Sand & Gravel	62.00
	Brown Clay	11.00
	Gray Clay	5.00
	Sand & Gravel	46.00
Abandoned Well Plugged: No		
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: Yes	Well Intake:	
Filter Packed: Yes		
Screen Diameter: 4.00 in.	Length: 5.00 ft	
Screen Material Type: PVC-wire wrapped		
Slot: 12.00 in	Set Between: 132.00 ft and 137.00 ft	
Blank: 2.00 ft Above		
Fittings:		
Neoprene packer		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags: 14	Additives: None	
Grouting Materials:		
Bentonite slurry	From: 0.00 ft to 130.00 ft	
Well Head Completion:	Pitless adapter	
Nearest source of possible contamination:	Geology Remarks:	
Type:		
Septic tank		
Distance: 50.00 ft	Direction: Southwest	
Drilling Machine Operator Name: AK Schultz	Contractor Type: Water well drilling contractor	
Employment: Unknown	Registration Number: 2226	
	Business Name: SKM Drilling Serv Inc	
	Business Address:	
	WATER WELL CONTRACTOR'S CERTIFICATION:	
	This well was drilled under my supervision and this report is true to the best of my knowledge and belief	
General Remarks:	Signature of Registered Contractor	Date
OTHER REMARKS		

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

6/12/2002 11:44



WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978

Well ID: 28000009107

Failure to comply is a misdemeanor.

Tax No: 28-013-109-023-00	Permit No: 28045	County: Grand Traverse	Township: Whitewater
Well ID: 28000009107		Fraction: SW¼ SE¼ SE¼	Section: 9
		Town/Range: 28N 09W	WSSN:
Elevation:		Source ID/Well No:	
Latitude: 44.83137044		Distance and Direction from Road Intersection: E OF ANGELL RD APPROX 1/2 MILE	
Longitude: -85.39922998		Well Owner: James A Bryant	
Well Address: 8979 ANGELL RD WILLIAMSBURG MI 49690		Owner Address: 8979 ANGELL RD WILLIAMSBURG MI 49690	

Drilling Method: Rotary	Pump Installed: No	Pump Installation only: No
Well Depth: 140.00 ft	Well Use: Household	Pump Installation date:
Well Type: Replacement	Date Completed: 11/9/2000	Manufacturer:
Casing Type: PVC plastic		Model Number:
Casing Joint: Unknown		Length of Drop Pipe:
Diameter: 5.00 in. to 132.00 ft depth		Diameter of Drop Pipe:
		Draw Down Seal Used: No
Bore Diameter 1: 8.25 in. to 140.00 ft depth	Pressure Tank Installed: No	
Bore Diameter 2:	Pressure Tank Type:	
Bore Diameter 3:	Manufacturer:	
Height: 1.00 ft. above grade	Model Number :	Tank Capacity : Gallons
Casing Fitting: None	Pressure Relief Valve Installed : No	
Static Water Level: 90.00 ft. Below Grade(Not Flowing)	Formation Description	Thickness
Yield Test Method: Air		Depth to Bottom
Measurement Taken During Pump Test:	Sand	28.00
0.50 hrs pumping at 10.00 GPM	Clay	55.00
	Sand & Clay	8.00
	Sand	49.00
Abandoned Well Plugged: Yes		
Reason for not plugging Well:		
Abandoned well ID:		
Screen Installed: Yes	Well Intake:	
Filter Packed: Yes		
Screen Diameter: 4.00 in.	Length: 8.00 ft.	
Screen Material Type: PVC -slotted		
Slot: 10.00 in. Set Between 132.00 ft and 140.00 ft		
Blank: 2.00 ft. Above		
Fittings:		
Neoprene packer		
Well Grouted: Yes	Grouting Method: Unknown	
No. of Bags: 6	Additives: None	
Grouting Materials:		
Unknown	From 0.00 ft. to 122.00 ft.	
Well Head Completion:		
12 inches above grade, Pitless adapter	Geology Remarks:	
Nearest source of possible contamination:	Contractor Type: Water well drilling contractor	
Type: Septic tank	Registration Number: 481	
Distance: 50.00 ft.	Business Name: PHILS WELL DRILLING INC	
	Business Address:	
	WATER WELL CONTRACTOR'S CERTIFICATION:	
	This well was drilled under my supervision and this report is true to the best of my knowledge and belief.	
Drilling Machine Operator Name: DOUGLAS SCHETTEK	Signature of Registered Contractor	Date
Employment: Employee		
General Remarks:		
OTHER REMARKS		

EQP 2017C (2/2000)

ATTENTION WELL OWNER: FILE WITH DEED

7/1/2002 11:24

O.I.L. ENERGY CORPORATION
ATTACHMENTS TO EPA PERMIT APPLICATION
HUBBELL B1-9 SWD
Class I, Type I, Non-Hazardous Industrial Disposal Well

ATTACHMENT F: MAPS AND CROSS SECTIONS OF GEOLOGIC STRUCTURE OF AREA

Geologic Description of Confining Zone

The Bell Shale overlies the Dundee Limestone throughout most of the Michigan Basin. The Bell Shale is a dark gray shale including abundant crinoids, ostracods and pyrite near the base. In the area around the Hubbell B1-9 SWD well, well control is sparse. The nearest well is over 6 miles distant, to the south-southeast. The thickness of the Bell Shale to the east of Grand Traverse Bay is around 100 feet. The Bell Shale is 105 feet in the Hubbell B1-9 SWD.

In the central Michigan Basin where the uppermost Dundee Limestone (when dolomitized) can be an oil reservoir, there is no history of the Bell Shale, which represents the seal for these Dundee oil reservoirs, "leaking" hydrocarbons even over geologic time. Insofar as the Bell Shale is a shale, where effective porosity and permeability are miniscule, there should be no concern over the effectiveness of 100 feet of shale acting as a suitable confining zone above the injection zone in the underlying Dundee Limestone. There is no information available on the presence or absence of fractures in the Bell Shale. The effectiveness of the Bell Shale as a hydrocarbon reservoir seal surely suggests that fracturing is not significant.

Geologic Description of Injection Zone

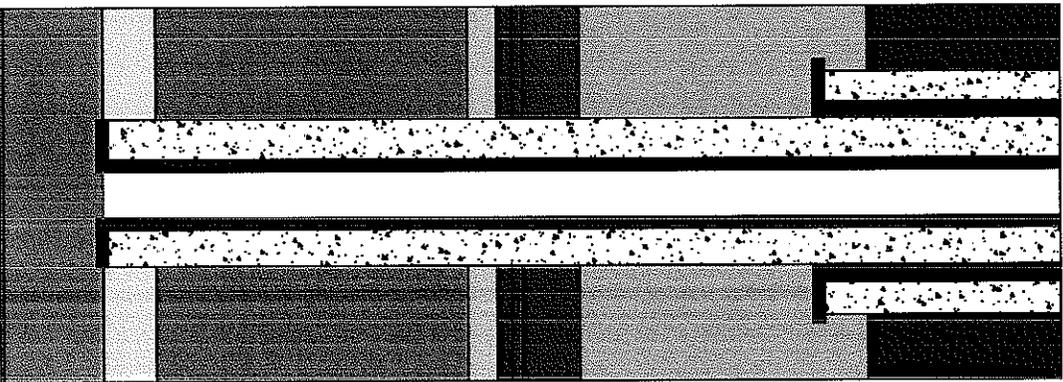
The Dundee Limestone is present across the breadth of the Michigan Basin. In the Hubbell B1-9 SWD well, the Dundee Limestone interval is 194 feet thick. Data from scattered well control in surrounding townships confirms that such a thickness is normal. In the nearest wells closer to the center of the Michigan Basin (yet 6-8 miles away from the Hubbell well), an anhydrite layer (Reed City Anhydrite) is present so as to divide the Dundee into two "halves": an upper limestone with porosities ranging between 6 and 9%, and a lower dolomite with porosities ranging from 4.5 to 6.5%. These porosity measurements come from analysis of electric logs run in the Amoco-State Acme 1-11 well, T27N, R11W (P. 29362). The Reed City Anhydrite is not present in the Hubbell well bore, and no electric logs were run across the Dundee Limestone to ascertain lithology or porosities prevailing in the injection zone. The history of water disposal in the Dundee Limestone in the Hubbell B1-9 SWD well indicates that sufficient porosity and permeability is present for the purpose. There is no information on the presence or absence of fractures in the Dundee Limestone around the Hubbell B1-9 SWD well.

Attached is a cross section of site-specific geology, including well construction features, that was generated from the Formation Record, also attached.

SITE STRATIGRAPHY

HUBBELL B1-9 SWD WELL BORE
28N - 9W, GRAND TRAVERSE COUNTY, MI.

AS DRILLED



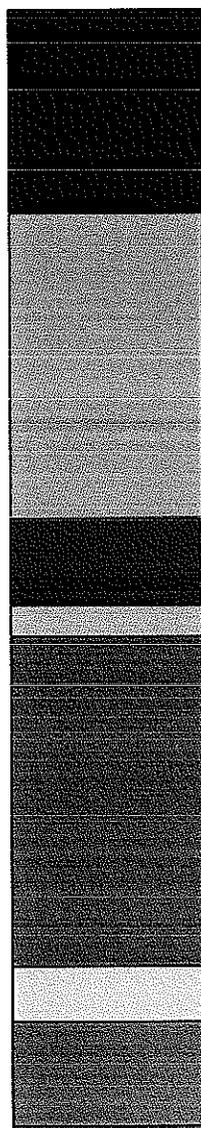
8 5/8" CASING SET @
494' CEMENTED TO
SURFACE

5 1/2" CASING SET @ 1926'
CEMENTED TO
SURFACE

DRIFT 0' - 385'
COLDWATER SHALE 385' - 961'
LACHINE 961' - 1076'
PAXTON 1076' - 1097'
NORWOOD 1097' - 1126'
TR. FORMATION 1126' - 1185'
TRAVERSE LIME 1185' - 1808'
BELL SHALE 1808' - 1915'
DUNDEE 1915' - 2110'
DET. RIVER ANHYDRITE 2110' - 2118'

CROSS SECTION OF SITE-SPECIFIC GEOLOGY

HUBBELL B1-9 SWD
28N - 9W, GRAND TRAVERSE COUNTY, MI.



DRIFT 0' - 385'

COLDWATER SHALE 385' - 961'

LACHINE 961' - 1076'

PAXTON 1076' - 1097'

NORWOOD 1097' - 1126'

TR. FORMATION 1126' - 1185'

TRAVERSE LIME 1185' - 1808'

BELL SHALE 1808' - 1913'

DUNDEE 1913' - 2110'

DET. RIVER ANHYDRITE 2110' - 2118'



RECORD OF WELL COMPLETION

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

(Submit 3 copies within 60 days of well completion)

Part 615 Oil/Gas Well Part 625 Mineral Well

Permit number/deepening permit no 57783
Type of well (after completion) Brine Disposal
Well name & number Hubbell B1-9 SWD

Name and address of permittee O.I.L. ENERGY CORP. 954 BUSINESS PARK DR., SUITE 5 TRAVERSE CITY, MI 49686				
Directionally drilled (check one) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Previous permit numbers N/A		
Surface location SW 1/4 of SW 1/4 of NW 1/4 Section 9 T 28N R 9W		Subsurface location (if directionally drilled) 1/4 of 1/4 of 1/4 Section T R		
Township Whitewater	County Grand Traverse		Township	County
Footages: North/South East/West 2618 Ft. from North line and 506 Ft. from West line of 1/4 Sec.		Footages: North/South East/West Ft. from line and Ft. from line of 1/4 Sec.		
For oil/gas wells		For mineral wells		
Date well completed 08/23/2007	Producing formation(s) N.A.	Date of first injection N/A	Injected formation N/A	Solution formation N/A

PERFORATIONS

Date	Number holes	Interval perforated	Open	
			Yes	No

STIMULATION BY ACID OR FRACTURING

Date	Interval treated	Materials and amount used
08/21/2007	1926' - 2118' Open Hole	3000 Gal. 28% HCl

PRODUCTION TEST DATA

Oil Bbls/day	Gravity °API	Condensate Bbls/day	Gas MCF/day	Water Bbls/day	H ₂ S Grains/100 ft ³	B.H.P and depth
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Certification "I state that I am authorized by said owner This report was prepared under my supervision and direction The facts stated herein are true, accurate and complete to the best of my knowledge."

Name and title (print or type) Ben Croftchik Field Rep.	Signature 	Date 08/23/2007
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Submit to: Geological Survey Division
Michigan Department of Environmental Quality
PO Box 30256
Lansing MI 48909-7756



RECORD OF WELL DRILLING OR DEEPENING

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

Permit number/Deepening number

57783

(Submit 3 copies within 60 days of drilling completion.)

 Part 615 Oil/Gas Well Part 625 Mineral Well

Name and address of permittee O.I.L. ENERGY CORP. 954 BUSINESS PARK DR., SUITE 5 TRAVERSE CITY, MI 49686		API Number 21-055-57783-00-00	
Name and address of drilling contractor ADVANCED ENERGY SERVICES P.O. BOX 1809 TRAVERSE CITY, MI 49685		Well name and number Hubbell B1-9 SWD	
Date drilling began 7/23/2007		Date drilling completed 7/26/2007	
Total depth of well Driller 2118' Log		Formation at total depth Detroit River Anhydrite	
Elevations K.B. 659.3 ft. R.F. ft. R.T. ft. Grd. 653.3 ft		Feet drilled - cable tools from: to:	
		Feet drilled - rotary tools from: Surf. to: 2118'	
Surface location SW ¼ of SW ¼ of NW ¼ Section 9 T 28N R 9W		Township Whitewater	
Township Whitewater		County Grand Traverse	
Footages: North/South 2618 ft. from NORTH line and		East/West 506 ft. from WEST line of sec.	
Directionally drilled (check one) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Previous permit numbers N/A	
Subsurface location (if directionally drilled) ¼ of ¼ of ¼ Section T R		Township Whitewater	
		County Grand Traverse	
Footages: North/South ft. from line and		East/West ft. from line of sec.	

Casing, Casing Liners and Cementing, Operating Strings					Water Fill Up (F.U.) or Lost Circulation (L.C.) (X)				
Size	Where set	Cement	T.O.C.	Ft. pulled	Formation	F.U.	L.C.	Depth	Amount
13 3/8"	37'	Driven	None	None	None				
8 5/8"	494'	275 sx	Surf.	None					
5 1/2"	1926'	390 sx	Surf.	None					

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	Fill Up
N.A.												

Depth Correction		Deviation Survey				
Depth	Correction	Run at	Degrees	Yes	No	Depth

Geophysical / Mechanical Logs (list each type run)		
Brand	Log types	Logged intervals
Baker Hughes	Dual Induction Focused Log/Gamma Ray	500' - 1914'

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

Certification "I state that I am authorized by said owner. This report was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to

Date 8/23/2007	Name and title (print) Ben Croftchik Field Representative	Signature
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Submit to: OFFICE OF GEOLOGICAL SURVEY
MICHIGAN DEPT OF ENVIRONMENTAL QUALITY
PO BOX 30256, LANSING MI 48909-7756

FORMATION RECORD

Attach additional sheets if necessary

API Number 21-055-57783-00-00	Permit number/Deepening number 57783
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Elevation used 659.3 KB	Geologist name N/A (B.O.D. Only)	Tops taken from <input type="checkbox"/> Drillers log <input type="checkbox"/> Sample log <input checked="" type="checkbox"/> Electric log
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	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							
Surface	385'	385'	DRIFT				
	385'	961'	COLD WATER SHALE				
	961'	1076'	LACHINE				
	1076'	1097'	PAXTON				
	1097'	1126'	NORWOOD				
	1126'	1185'	TRAVERSE FORMATION				
	1185'	1808'	TRAVERSE LIME				
	1808'	1913'	BELL SHALE				
	1913'	2110'	DUNDEE				
	2110'	2118' (TD)	DETROIT RIVER ANHYDRITE				
If well was cored, attach core description							
DRILL STEM TEST DATA							
LIST ATTACHMENTS							
OFFICE OF GEOLOGICAL SURVEY USE ONLY							
Reviewed by							
Date of review							