Memo



SUBJECT RACER Lansing Water Well Survey

DATE

February 24, 2023

DEPARTMENT Environment

COPIES TO

Mr. Dave Favero, RACER Trust

TO
Ms. Christine Matlock
Michigan Department of Environment,
Great Lakes, and Energy

OUR REFRACER Lansing

PROJECT NUMBER 30171056

NAME Tiffany Linder

Tiffany.Linder@arcadis.com

Arcadis of Michigan, LLC (Arcadis) on behalf of Revitalizing Auto Communities Environmental Response (RACER) Trust has completed a water well survey within a one-mile radius from the property boundaries of RACER Trust Plants 2, 3, and 6, located in Lansing, Michigan (Site). The water well survey identifies all water wells and nearby Well Head Protection Areas (WHPA) within one mile of the Site and locations are shown on **Figure 1**.

EGLE Water Well Viewer Summary

A review of the Michigan Department of Environment, Great Lakes, and Energy's (EGLE's) water well viewer database, Wellogic (https://www.mcgi.state.mi.us/waterwellviewer/), was completed for the area within one mile of Site boundaries. The locations and type of water supply wells are shown on **Figure 1** and **Table 1**, respectively. Well logs for wells obtained from the EGLE Water Well Viewer are included in **Attachment 1**.

Based on the database search, a total of 35 wells are within one mile of the Site (**Table 1**). At the Site, groundwater monitoring wells have been installed in three separate hydrologic zones to evaluate impacts and groundwater flow: the perched zone, deep overburden zone and weathered bedrock/bedrock zone. After review of historical and current groundwater contour mapping at the Site, groundwater flows differently in each of these zones across the three Plants.

- Perched Zone: Encompasses monitoring wells screened within the shallow sediments (typically 10-40 feet below ground surface (feet bgs). The perched zone is located above a clay till aquitard and consists of primarily clay and silt with intermittent saturated sand units.
- Deep Overburden Zone: Present below the clay till where saturated overburden is present above the weathered bedrock. Saturated deep overburden is only observed above a bedrock low observed at Plant 3 and includes monitoring wells screened between 52 and 90 feet bgs. This zone is hydraulically connected to the weathered bedrock and bedrock zones. Where observed, the hydraulic gradient is to the northwest on the north central portion of Plant 3 and to the southeast in the southwest portion of Plant 3.
- Weathered Bedrock/Bedrock Zone: Encompasses monitoring wells screened within the weathered zone
 and deeper consolidated bedrock with well screens installed at depths ranging from 77 and 195 feet bgs.
 Hydraulic gradient in bedrock is variable with groundwater generally flowing from northwest to southeast.

Twenty-seven (27) of the thirty-five (35) wells identified within one mile of the Site are either owned by Lansing Township or by the Lansing Board of Water and Light (LBWL). These 27 wells are all Type I Public, which is a

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community well that provides year-round service to not less than 25 residents or not less than 15 living units. These wells are associated with two Type I Traditional WHPAs within one mile of the site boundaries. The WHPAs include Water System Serial Numbers (WSSN) 3760 (LBWL), and 3770 (Lansing Township). The total depths of the public water supply wells range between 225 feet bgs and 500 feet bgs and are open borehole construction within the Saginaw and Grand River Formation sandstone, shale and limestone units. The wells are typically cased to 25 to 50 feet into the bedrock to assure stability of the open hole below the casing. Groundwater is extracted from the open borehole with line shaft pumps that can produce up to four hundred gallons per minute. Based on previous communication with LBWL, two of the wells (BWL-10-15 and BWL-10-12) were taken offline and abandoned during the 1980's due to vinyl chloride impacts from non-Site sources located to the northeast of Plant 3.

No residential drinking water wells were identified within a mile of the Site during the Wellogic database search.

The remaining eight (8) wells within one mile of Site boundaries are as follows:

- Four (4) wells are RACER Trust/Arcadis monitoring wells, MW-12-01, MW-12-02, MW-12-03, MW-12-04, (Wellogic ID 33000015171, 33000015172, 33000015170, 33000015169).
- Two (2) wells (one test well and one irrigation well) are approximately one mile south of the Site, on the south side of the Grand River at 2200 Moores River Drive and owned by the Country Club of Lansing. These wells 33000010342 and 33000010343 were drilled to 370 feet bgs. No well screens were installed at either of these wells since the well intakes are listed as bedrock wells. Well 33000010342 well casing extends down to 370 feet bgs into sandstone and the well casing is grouted from ground surface to 45 feet bgs. Well 33000010343 well casing extends down to 370 feet bgs into a shale bedrock unit and the well casing is grouted from ground surface to 55 feet bgs.
- One (1) irrigation well southwest of Site (Well 33000006278), located at 514 Stoner was drilled to 225 feet bgs into sandstone and the well casing is grouted from ground surface to 129 feet bgs.
- One (1) well west of the Site is owned by Grace Brethren Church. The log for Well 23000000122 does not
 provide much information on the installation of this well. The remarks section indicates no log exists as of
 9/14/98 and the well use/status is closed.

Nine wells were identified within a 0.25-mile radius of the Site (**Figure 1**): MW-12-01, MW-12-02, MW-12-03, MW-12-04, BWL-10-06; BWL-10-10; BWL-10-15; Lansing Township Well #4; Lansing Township Well #5.

- MW-12-01 (110 feet bgs bedrock), MW-12-02 (110 feet bgs bedrock), MW-12-03 (80 feet bgs bedrock) and MW-12-04 (100 feet bgs bedrock) are bedrock groundwater monitoring wells owned by RACER Trust that were installed as part of the RCRA Facility Investigation (RFI) activities.
- BWL-10-06 (total depth 427 feet bgs bedrock), BWL-10-10 (total depth 410 feet bgs bedrock) and BWL-10-15 (total depth 440 feet bgs – bedrock) are Type I Water Wells owned by LBWL. As noted above, Well BWL-10-15 is off-line and was abandoned in the 1980s.
- Lansing Township Well #4 (total depth 404 feet bgs bedrock) and Lansing Township Well #5 (total depth 400 feet bgs – bedrock) are Type I Water Wells owned by Lansing Township located west of Plants 2 and 3.

In summary, groundwater impacts observed at RACER Trust Plants 2, 3, and 6 are well characterized and delineated by monitoring wells, including an extensive bedrock monitoring well network, installed at the Site as

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part of site investigations. The data collected to date suggest a limited risk to municipal water supply wells located within one mile of the RACER Site. The municipal wells located nearest the Site extend several hundred feet into the bedrock with intake zones below any known impact associated with the Site. The active Lansing Township wells located west of Plants 2 and 3 are monitored annually by RACER to verify groundwater impacts (i.e., 1,4-dioxane) noted in weathered bedrock at the Site is not migrating to these wells. The other bedrock water supply wells closest to the Site are noted as closed or are irrigation and not used for potable/residential use. Finally, there are no residential drinking water wells noted within one mile of the Site.

Please let us know if you have any questions regarding this information.

Enc. Figure 1 - Water Well Survey Well and Wellhead Protection Area Locations

Table 1 - Well Logic Well Summary

Attachment 1 - Well Logic Records

www.arcadis.com 3/3

FIGURE

TABLE

Table 1
Well Logic Well Summary
RACER Trust
RACER Lansing
Lansing, MI



TY1PU E			. ср	Address	City	Zip Code	Well Depth (feet)	Completion Depth Date	Well Record
11110 1	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-01	LANSING		500		Wellogic - 3300006170
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-02	LANSING		402		Wellogic - 33000006168
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-03	LANSING		418	7/10/1929	Wellogic - 33000006171
	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-05	LANSING		417	7/31/1929	Wellogic - 33000006172
		Ū							
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-06	LANSING	48915	427	4/4/1946	Wellogic - 33000006183
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-07	LANSING		443	10/16/1946	Wellogic - 33000006184
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-08	LANSING		422	6/6/1945	Wellogic - 33000006185
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-09	LANSING	48915	435	11/3/1952	Wellogic - 33000006186
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-10	LANSING		410	3/22/1945	Wellogic - 33000006187
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-11	LANSING		451	3/22/1945	Wellogic - 33000006188
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-12	LANSING		436	4/12/1945	Wellogic - 3300006180
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-13	LANSING		388	12/15/1945	Wellogic - 33000006173
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-14	LANSING		423	6/7/1945	Wellogic - 33000006174
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 10-15	LANSING		440	5/19/1961	Wellogic - 33000006175
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 15-04	LANSING		437	Not Reported	Wellogic - 33000006199
TY1PU E	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 15-05	LANSING		425	Not Reported	Wellogic - 33000006200
	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 15-06	LANSING		445	Not Reported	Wellogic - 33000006189
	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 15-07	LANSING		430	Not Reported	Wellogic - 33000006190
	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 15-08	LANSING		430	7/26/1945	Wellogic - 33000006191
	BOARD OF WATER & LIGHT	Ingham	Lansing	BWL WELL 15-06	LANSING		430	9/28/1959	Wellogic - 33000006191

Table 1
Well Logic Well Summary
RACER Trust
RACER Lansing
Lansing, MI



Well Use	Owner	County	Township	Address	City	Zip Code	Well Depth (feet)	Completion Depth Date	Well Record
TY1PU	LANSING TOWNSHIP	Ingham	Lansing	LANSING TWP WELL #1	LANSING		404	9/17/1945	Wellogic - 3300006279
TY1PU	LANSING TOWNSHIP	Ingham	Lansing	LANSING TWP WELL #2	LANSING		417	10/8/1945	Wellogic - 3300006280
TY1PU	LANSING TOWNSHIP	Ingham	Lansing	LANSING TWP WELL #3	LANSING		399	9/6/1945	Wellogic - 33000006281
TY1PU	LANSING TOWNSHIP	Ingham	Lansing	LANSING TWP WELL #4	LANSING		404	6/17/1952	Wellogic - 33000006177
TY1PU	LANSING TOWNSHIP	Ingham	Lansing	LANSING TWP WELL #5	LANSING		400	1/7/1988	Wellogic - 33000006176
TY1PU	LANSING TOWNSHIP	Ingham	Lansing	LANSING TWP WELL #6	LANSING		441	6/18/1966	Wellogic - 33000006178
TY1PU	LANSING TOWNSHIP	Ingham	Lansing	LANSING TWP WELL #7	LANSING		405	3/7/1967	Wellogic - 33000006179
TESTW	COUNTRY CLUB OF LANSING		Lansing	2200 MOORES RIVER DR	LANSING	48910	370	2/2/1995	Wellogic - 33000010342
TESTW	Racer Trust/Arcadis	Ingham	Lansing	GM Plant # 2, North side	Lansing	48912	110	3/19/2012	Wellogic - 33000015172
TESTW	Racer Trust/Arcadis	Ingham	Lansing	GM Plant #6	Lansing	48912	80	3/22/2012	Wellogic - 33000015170
TESTW	Racer Trust/Arcadis	Ingham	Lansing	Rosemany and GM Plant #2	Lansing	48912	110	3/19/2012	Wellogic - 33000015171
TESTW	Racer Trust/Arcadis	Ingham	Lansing	Timber Drive	Lansing	48917	100	3/22/2012	Wellogic - 33000015169
OTH	GRACE BRETHREN CHURCH	Eaton	Delta		-		0	Not Reported	Wellogic - 23000000122
IRRI	COUNTRY CLUB OF LANSING	Ingham	Lansing	2200 MOORES RIVER DR.	LANSING	48910	370	2/8/1995	Wellogic - 33000010343
IRRI	JOHN EATON	Ingham	Lansing	514 STONER	LANSING		225	2/18/1990	Wellogic - 33000006278

Table Notes:

TY1PU Type I Public Well

TESTW Test Well
OTH Other Well
IRRI Irrigation Well

-- No information available

Attachment 1

Well Logic Records



Water Well And Pump Record



Township: Delta

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Eaton

Permit No:

<u> </u>	Tow	n/Range:	Section:	Well Status:			Source	ID/Well No:
Well ID: 2300000122		4N 03W	12	Other		26123		001
Well ID. 23000000122	Distance and Direction from Road Intersection: 2026123 GRACE BRETHREN CHURCH							
Elevation: 836 ft.	2020	123 GRACI	E DKETHKE	N CHURCH				
Latitude: 42.748448	Well	Owner: G	RACE BRE	THREN CHU	RCH			
Longitude: -84.603855	Well	Address:			Owner Ad			
Method of Collection: GPS Differential (DGPS)	I мі				3904 W. LANSINO			
	1711				LANOING	J, IVII 40	317	
Orilling Method: Unknown		Pump Insta						
Well Depth: 0.00 ft. Well Use: Other Well Type: Replacement Date Completed:			ank Installe Relief Valve		No			
Casing Type: Unknown Height:		i iessuie i	Celler Valve	ilistalicu.	NO			
Casing Joint: Unknown								
Casing Fitting: None								
Namatori								
Diameter:								
Borehole:								
Static Water Level: 999.99 ft. Below Grade						Т		Depth to
Well Yield Test: Yield Test Method: Unknown			Formation	Description		Thi	ckness	Bottom
		No Litholog	y Information	1		0.00		0.00
						+		
Screen Installed: No Intake: Unknown						+		
ocieen instaneu. No intake. Sikkiowii								
						+		
						+		
						1		
						_		
Well Grouted: Yes Grouting Method: Unknown		Geology R	emarks:					
Grouting Material Bags Additives Depth		Occiogy it	omanto.					
Jnknown 0.00 None 0.00 ft. to 0.00 ft.								
Wellhead Completion: Unknown	-							
Weinieau Completion. Onknown		Drilling Ma	chine Opera	ator Name:				
Nearest Source of Possible Contamination:		_	nt: Unknov					
Type Distance Direction								
Jnknown 0 ft.		Contractor	Type : Unk	nown		D	eg No:	
Abandoned Well Plugged: No		Business I		HOWH		IX.	eg No.	
Reason Not Plugged:		Business /						
				Nell Contr				
			as drilled und dge and belie		ision and t	his repo	rt is true	to the best of
		THY KITOWIEC	age and belle	···				
		Signatura	of Pagisters	d Contractor			Date	
General Remarks: NO LOG EXISTS AS OF 9/14/98		oignature (or ivedistele	a contractor			Date	
Other Remarks: Well Use:Closed Type 2, Well Status:Closed Public St	ylqqu							



Water Well And Pump Record

County: Ingham



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Tax No: Permit No:	Col	unty: ingnar	n		rownsnip:	Lansing	
W. II ID 0000000400		wn/Range: 04N 02W	Section: 5	Well Status: Inactive	WSSN 37		WELL 10-02
Well ID: 33000006168		Distance and Direction from Road Intersection:					
11011 151 00000000100				SKEGON AVE		E CI ENDOSE	
Elevation: 841 ft.	"	OIV 007 00, 4	o IV OI IVIO	OKEOON AVE	, 100 W OI	OLLIVINOOL	
Latitude: 42.7556375388	We	II Owner: B	OARD OF	WATER & LIGI	HT		
Longitude: -84.5715243284	We	II Address:			Owner Add	ress:	
· ·	B	WL WELL 10	-02		123 W. OT	TAWA ST.	
Method of Collection: Interpolation-Map	L/	ANSING, MI			LANSING,	MI 48933	
Drilling Method: Unknown		Pump Insta	alled: No	<u> </u>			
Well Depth: 402.00 ft. Well Use: Type I public		Pressure T					
Well Type: Replacement Date Completed:		Pressure R			No		
Casing Type: Steel - black Height:		۱ ، ۱ ، ۱ ، ۱ ، ۱ ، ۱ ، ۱ ، ۱ ، ۱ ، ۱ ،	tonor varro	motanou.	110		
Casing Joint: Threaded & coupled							
Casing Fitting: None							
outgg.							
Diameter: 12.00 in. to 55.80 ft. depth							
•							
Borehole:							
							1
Static Water Level: 113.00 ft. Below Grade			Formatio	n Description		Thickness	Depth to
Well Yield Test Method: Unk	known	Canal 8 Cra			45.00	Bottom	
		Sand & Gra				45.00 20.00	45.00
		Gray Sands Shale Sand				15.00	65.00 80.00
Screen Installed: No Intake: Unknown		Sandstone	,			10.00	90.00
Screen Installed: No Intake: Unknown		Blue Shale	& Shale			130.00	220.00
		Gray Sands	etono			15.00	235.00
		White Sand				35.00	270.00
			Istone Medi	ıım		45.00	315.00
		Sandstone		um		15.00	330.00
		Sandstone				20.00	350.00
				Coarse Gray		35.00	385.00
		Gray Sands				5.00	390.00
		White Sand				12.00	402.00
Well Grouted: Yes Grouting Method: Unknown		Geology R	emarks:			•	•
Grouting Material Bags Additives Depth							
Unknown 0.00 None 0.00 ft. to 0.	.00 ft.						
Wellhead Completion: Other, 12 inches above grade							
		_	-	rator Name:			
Nearest Source of Possible Contamination:		Employme	nt: Unkno	wn			
Type Distance Direction	on						
Unknown 0 ft.		Contractor	Tune. II.			D N -	00.0700
AL		Contractor Business N		known		Reg No:	33-0729
Abandoned Well Plugged: No		Business A					
Reason Not Plugged:		Duailleas /		Well Contr	actorio C	artification	
		This wall					
		my knowled		ider my superv ef.	เอเบเา สเาน เทเ	s report is true	io the best of
		,		# · · ·			
				10 :			
Compared Remortes - ORIGINAL MELLID // MAG 05000 MELL 40	00.0541.5			ed Contractor		Date OF CON	DETE
General Remarks: ORIGINAL WELLID# WAS 05002; WELL 10-0 GROUT FROM 0' TO 227' ON 3-10-83. (CAS			D PEASTO	NE 227' TO 40	2 AND 6.6	rus of con(CKETE
Other Remarks: Wellhead Completion:12 inch Above Grade	vo LLLV	. 070.10)					
Tomicad Completion 12 mon 7,0000 Crade							



Water Well And Pump Record

County: Ingham



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Tax No: Permit No:	County: Ingnam	ownsnip: Lansing							
	Town/Range: Section: Well Status:	WSSN: Source ID/Well No:							
Well ID: 3300006170	04N 02W 5 3760 BWL WELL 10-01 Distance and Direction from Road Intersection: WSSN 03760; 350' N OF MUSKEGON AVE. 400' W OF LOGAN ST.								
Elevation: 811 ft.									
	Well Courses DOADD OF WATER & LIGHT	Well Owner: BOARD OF WATER & LIGHT							
Latitude: 42.7562579618		Owner Address:							
Longitude: -84.569270313		123 W. OTTAWA ST.							
Method of Collection: Interpolation-Map		LANSING, MI 48933							
Drilling Method: Unknown	Pump Installed: Yes	Pump Installation Only: No							
Well Depth: 500.00 ft. Well Use: Type I public	Pump Installation Date:	HP:							
Well Type: Replacement Date Completed:	Manufacturer: Other	Pump Type: Unknown							
Casing Type: Unknown Height: 0.00 ft. below grade	Model Number:	Pump Capacity:							
Casing Joint: Unknown	Drop Pipe Length: 0.00 ft.	Pump Voltage:							
Casing Fitting: None	Drop Pipe Diameter:	Drilling Record ID:							
	Draw Down Seal Used: No								
Diameter:	Pressure Tank Installed: No								
	Pressure Relief Valve Installed: N	No							
Borehole:									
Static Water Level: 999.99 ft. Below Grade Well Yield Test: Yield Test Method: Unknown	Formation Description	Thickness Depth to Bottom							
	Brown Peat	4.00 4.00							
	Gray Gravel Silty	4.00 8.00							
	Brown Gravel	2.00 10.00							
Screen Installed: No Intake: Unknown	Yellow Gravel Silty	9.00 19.00							
	Gray Sand & Gravel	11.00 30.00							
	Light Gray Sandstone Medium	25.00 55.00							
	Gray Shale Sandy	5.00 60.00							
	Gray Sandstone Fine	10.00 70.00							
	Light Gray Shale Sandy	5.00 75.00							
	White Sandstone Medium W/Sand	100.00 175.00							
	Shale	20.00 195.00							
	Gray Sandstone Coarse	25.00 220.00							
	White Sandstone Fine	15.00 235.00							
	(Continued	On Page 2)							
Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Unknown 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Unknown	Geology Remarks:								
Tromicus Compicuon. Cindiowii	Drilling Machine Operator Name:								
Nearest Source of Possible Contamination:	Employment: Unknown								
Type Distance Direction									
Unknown 0 ft.									
	(Continued	l on page 2)							
Abandoned Well Plugged: No Reason Not Plugged:									
General Remarks: ORIGINAL WELLID# WAS 05004; RECORDED BY LIGHT AND WATER COMMISSIONERS, AND SUF Other Remarks: Pump Manufacturer:Pump Manufacturer unknown EOR-2017 (4/2010) Page 1 of 2		IISHED BY THE BOARD OF ELECTRI							





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Inghar	n	Township: Lansing					
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:			
Well ID: 3300006170		04N 02W	5		3760	BWL WELL 10-01			
77611 ID. 330000	Distance and Direction from Road Intersection:								
Elevation: 811 ft.		WSSN 03760; 350' N OF MUSKEGON AVE. 400' W OF LOGAN ST.							
Latitude: 42.7562579618		Well Owner: B	OARD OF V	VATER & LIGHT					
Longitude: -84.569270313		Well Address:		_	ner Address:				
Method of Collection: Interpolation	п-Мар	BWL WELL 10 LANSING, MI)-01		23 W. OTTAW. ANSING, MI 48	-			

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	OTHER REMARKS: Pump Manufacturer:Pump Manufacturer unknown
Light Gray Sandstone Fine W/Silt	15.00	250.00	
Light Gray Sandstone Medium To Coarse	60.00	310.00	
Light Gray Sandstone Medium To Coarse	90.00	400.00	
Dark Gray Gypsum W/Shale	5.00	405.00	
Light Gray Gypsum W/Shale	15.00	420.00	
Light Gray Sandstone W/Shale Gray	10.00	430.00	
Light Gray Gypsum W/Shale	10.00	440.00	
Light Gray Sandstone W/Shale Gray	5.00	445.00	
Light Gray Gypsum W/Shale	5.00	450.00	
Light Gray Sandstone	10.00	460.00	
Black Shale W/Sandstone	5.00	465.00	
Light Gray Sandstone Fine	5.00	470.00	
Gray Sandstone W/Shale Gray	3.00	473.00	
Gypsum W/Sandstone W/Shale	16.00	489.00	
Gray Shale Soft	2.00	491.00	
Sandstone Fine	4.00	495.00	
Light Gray Shale Soft	5.00	500.00	
			1
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			1
			1
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	İ		1
			1
			1
			1
			1
			1
			1
			1
			1
			1
			1
			1
			1
			Contractor Type: Unknown Reg No: 33-0729
			Business Name:
			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.
			1 ′
			Signature of Registered Contractor Date



Water Well And Pump Record



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Import ID: 33040205305	T		,			
Tax No: Permit No:	County: Ingha			Township:		- IDA4/ !! \!
	Town/Range:	Section:	Well Status:			e ID/Well No:
Well ID: 3300006171	04N 02W	5	Active	376	0 BAAL	WELL 10-03
WCII 1D. 0000000017 1	Distance and D WSSN 03760; 1				CLENDOSE	_
Elevation: 840 ft.	WSSIN 03760, 1	150 IN OF IVI	USKEGON AV	/E. 260 W OF	GLENKUSE	3
Latitude: 42.7556331317	Well Owner:	ROARD OF I	MATER & LIG	LIT		
	Well Owner: BOARD OF WATER & LIGHT Well Address: Owner Address:					
Longitude: -84.5724518081	BWL WELL 10) -03		123 W. OT		
Method of Collection: Interpolation-Map	LANSING, MI	J-03		LANSING, I		
Drilling Method: Unknown	Pump Inst	t alled: Ye	s		stallation Onl	l y: No
Well Depth: 418.00 ft. Well Use: Type I public	Pump Inst	tallation Dat	e:	HP:		
Well Type: Replacement Date Completed: 7/10/1929		urer: Othe	er		pe: Unknow	/n
Casing Type:UnknownHeight:0.00 ft. below grade	Model Nur			Pump Ca		
Casing Joint: Unknown		Length: (0.00 ft.	Pump Vo	-	
Casing Fitting: None		Diameter:		Drilling R	ecord ID:	
	Draw Dow	n Seal Used	d: No			
Diameter: 12.00 in. to 63.30 ft. depth	Pressure 7	Tank Install	ed: No			
	Pressure F	Relief Valve	Installed:	No		
Borehole:						
Static Water Level: 999.99 ft. Below Grade		Formatio	n Description	1	Thickness	Depth to
Well Yield Test: Yield Test Method: Unknown					Bottom	
	Sand & Gra				65.00	65.00
		dstone W/Gr	avel		5.00	70.00
	Gray Shale				70.00	140.00
Screen Installed: No Intake: Unknown	Gray Shale				30.00	170.00
		dstone Fine			130.00	300.00
		dstone Coar		15.00	315.00	
		dstone Fine		85.00	400.00	
	Green Sha	ıle		18.00	418.00	
					<u> </u>	
					<u> </u>	
					<u> </u>	
Well Grouted: Yes Grouting Method: Unknown	Geology R	Remarks:				
Grouting Material Bags Additives Depth						
Unknown 0.00 None 0.00 ft. to 0.00 ft.						
Wellhead Completion: Unknown						
		_	rator Name:			
Nearest Source of Possible Contamination:	Employme	ent: Unkno	wn			
Type Distance Direction						
Unknown 0 ft.						
		r Type: Unl	known		Reg No:	33-0729
Abandoned Well Plugged: No	Business					
Reason Not Plugged:	Business					
			Well Contr			
			der my superv	ision and this	report is true	to the best o
	my knowle	dge and beli	et.			
	Signature	of Register	ed Contractor	r	Date	
General Remarks: ORIGINAL WELLID# WAS 05005; RECORDED BY						
Other Remarks: Pump Manufacturer:Pump Manufacturer unknown						
EOD 2017 (4/2010) Page 1 of 1					UD 2/17/	2000 10:25 1

EQP-2017 (4/2010) 2/17/2000 10:25 AM Page 1 of 1 LHD



Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

Tax No:	Permit No:	County: Inghai	111		rownsnip.				
			Section:	Well Status:	WSSN:		e ID/Well No:		
Well ID: 330	00006172	04N 02W 5 Active 3760 BWL WELL 10-05							
Well ID. 330	00000172	Distance and Direction from Road Intersection: WSSN 03760; 500' W OF GLENROSE AVE. 1100' S OF THE GRAN							
Elevation: 825 ft.		WSSN 03760; 5	00' W OF G	LENROSE AVI	E. 1100' S OI	F THE GRAN			
Latitude: 42.7568809903		Well Owner: BOARD OF WATER & LIGHT							
Longitude: -84.57276007	97	Well Address: Owner Address:							
•		BWL WELL 10	-05		123 W. OT				
Method of Collection: Int	erpolation-iviap	LANSING, MI			LANSING, I	MI 48933			
Drilling Method: Unknown		Pump Inst	alled: Ye	S	Pump Ins	tallation Onl	v: No		
Well Depth: 417.00 ft.	Well Use: Type I public	Pump Inst	allation Dat	e:	HP:		•		
Well Type: Replacement	Date Completed: 7/31/1929	Manufactu	rer: Othe	r	Pump Ty	pe: Unknow	'n		
Casing Type: Unknown	Height: 0.00 ft. below grade	Model Nun	nber:		Pump Ca	pacity:			
Casing Joint: Unknown		Drop Pipe	Length: (0.00 ft.	Pump Vo	ltage:			
Casing Fitting: None		Drop Pipe			Drilling R	ecord ID:			
			n Seal Used						
Diameter: 12.00 in. to 57.10 ft.	depth		Tank Install						
		Pressure F	Relief Valve	Installed:	No				
Barrata da									
Borehole:									
Static Water Level: 999.99 ft.			Formatio	n Description		Thickness	Depth to		
Well Yield Test:	Yield Test Method: Unknown	Clay Can d					Bottom		
		Clay Sand Red Clay V				15.00 30.00	15.00 45.00		
		Sand & Gra				5.00	50.00		
Same and the state of the state	Intake: Unknown	Iron Forma				10.00	60.00		
Screen Installed: No	intake. Offkriowif		stone Coars	o W/Graval		10.00	70.00		
			dstone Fine			10.00	80.00		
		Gray Sand		10 Mediairi		20.00	100.00		
		Gray Shale				60.00	160.00		
		Interval No				5.00	165.00		
			stone W/Sha	ale		5.00	170.00		
		Gray Shale				15.00	185.00		
		Gray Sand			-	5.00	190.00		
		Dark Gray				25.00	215.00		
				(Continued	On Page 2)		•		
Well Grouted: Yes Gro	uting Method: Unknown	Geology R	emarks:	•					
Grouting Material Bags	Additives Depth								
Unknown 0.00	None 0.00 ft. to 0.00 ft.								
Wellhead Completion: Unkr	nown	<u> </u>							
N			-	rator Name:					
Nearest Source of Possible Co		Employme	ent: Unkno	wn					
Туре	Distance Direction								
Unknown	0 ft.			(Continue	d on now-	2)			
Abandanad Wall Bluesad				(Continue	u on page	<i>2</i>)			
Abandoned Well Plugged: N Reason Not Plugged:	lo								
iveason Not Flugged.									
One and Demand Opinion	MELLID!! MAG OFFICE DECORDED DE	0.5.000000000	TED EDO::	OAMBI 50					
	WELLID# WAS 05006; RECORDED BY:	O,F, POINDEX	IER FROM	SAMPLES					
Other Remarks: Pump Manuta	cturer:Pump Manufacturer unknown					LID 0/47/	2000 40-05 A		



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.



Tax No: Permit No: County: Ingham Township: Lansing Section: Well Status: WSSN: Town/Range: Source ID/Well No: 04N 02W 5 Active 3760 **BWL WELL 10-05** Well ID: 33000006172 **Distance and Direction from Road Intersection:** WSSN 03760; 500' W OF GLENROSE AVE. 1100' S OF THE GRAN Elevation: 825 ft. Well Owner: BOARD OF WATER & LIGHT Latitude: 42.7568809903 Well Address: **Owner Address:** Longitude: -84.5727600797 **BWL WELL 10-05** 123 W. OTTAWA ST. Method of Collection: Interpolation-Map LANSING, MI LANSING, MI 48933

			ANSING, WI	LANSING, IVII 40933
		(Continued	I from Page 1)	
		Depth to	OTHER REMARKS:	
Formation Description	Thickness	Bottom	Pump Manufacturer:Pump Manufactur	er unknown
Gray Sandstone	5.00	220.00		
Vhite Sandstone Fine To Medium	15.00	235.00		
Vhite Sandstone Coarse	10.00	245.00		
Vhite Sandstone Fine	15.00	260.00		
White Sandstone Medium To Coarse	50.00	310.00		
Gray Conglomerate W/Sandstone	5.00	315.00		
Vhite Sandstone Medium	5.00	320.00		
Vhite Sandstone Fine	15.00	335.00	1	
Gray Sandstone Coarse	15.00	350.00		
Vhite Sandstone Fine To Medium	55.00	405.00	1	
Gray Conglomerate W/Sandstone W/Shale	5.00	410.00	1	
Dark Gray Shale W/Stones	7.00	417.00	1	
·			1	
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			1	
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	ļ			
	ļ		Contractor Type: Unknown	Reg No: 33-0729
	ļ		Business Name:	
			Business Address:	
			-	actor's Certification
			This well was drilled under my supervi	sion and this report is true to the best of
			my knowledge and belief.	
			Signature of Registered Contractor	Date



Water Well And Pump Record

County: Ingham



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

	Town/Range:	Section:	Well Status:		ource ID/Well No:				
Well ID: 3300006173	04N 02W	5		3760	BWL WELL 10-13				
Elevation: 811 ft.			m Road Intersed VILLOW ST. 300	ction: ' W of Sunset A	VE.				
Latitude: 42.756204	Well Owner:	Well Owner: BOARD OF WATER & LIGHT							
	Well Address:	BOAIND OI		wner Address:					
Longitude: -84.58068	BWL WELL 10	0-13	_	123 W. OTTAWA S	ST.				
Method of Collection: Interpolation-Map	LANSING, MI			ANSING, MI 4893					
	, 		•						
Drilling Method: Unknown	Pump Inst	talled: No Tank Install							
Well Depth: 388.00 ft. Well Use: Type I public Well Type: Replacement Date Completed: 12/15/1945		rank install Relief Valve		,					
Casing Type: Unknown Height: 0.00 ft. below grade		iteliei valve	mstaneu.	,					
Casing Joint: Unknown									
Casing Fitting: Drive shoe									
Diameter:									
Borehole:									
0 1 W 1 1 1 000 00 % D 1 0 1					<u> </u>				
Static Water Level: 999.99 ft. Below Grade Well Yield Test: Yield Test Method: Unknow.	_	Formatio	n Description	Thick	ness Depth to				
Well Yield Test: Yield Test Method: Unknown	n Topsoil		-	1.00	1.00				
	Yellow Cla	v Hard		11.00	12.00				
	Red Sand	ly i laiu		2.00	14.00				
Screen Installed: No Intake: Unknown		Sandy Wet/M	loist	11.00	25.00				
Screen instance. No make. Shidlewin	Blue Clay	Janay Ween	10101	10.00	35.00				
	Blue Sand	stone		4.00	39.00				
	Blue Sand			47.00	86.00				
	Blue Sand			4.00	90.00				
	Blue Sand			10.00	100.00				
	Gray & Wh	nite Sandstor	ne Fine Hard	20.00	120.00				
	Light Gray	Sandstone \	N/Shale	25.00	145.00				
	White San	dstone Fine	To Medium	1.00	146.00				
	White San	dstone Fine		4.00	150.00				
			(Continued C	n Page 2)					
Well Grouted: Yes Grouting Method: Unknown	Geology F	Remarks:							
Grouting Material Bags Additives Depth									
Unknown 0.00 None 0.00 ft. to 0.00 ft									
Wellhead Completion: Unknown									
Wellhead Completion: Unknown	Drilling M	achine One	rator Name:						
Nearest Source of Possible Contamination:		ent: Unkno							
Type Distance Direction		• • • • • • • • • • • • • • • • • • • •							
Unknown 0 ft.									
			(Continued	on page 2)					
Abandoned Well Plugged: No			•	,					
Reason Not Plugged:									
==									
General Remarks: ORIGINAL WELLID# WAS 05007; 14" O.D. DRIVE	E PIPE WITH CAS	ST STEEL SI	HOE DRIVEN TO	39'. BOTTOM PIE	CE INCLUDING				
SHOE 21'11" TOP PIECE 18'7" LONG. JOINT MA									
(BY CITY_ LAST DRIVE 1" TO 15 STROK									
Other Remarks: EQP-2017 (4/2010) Page 1 of 2				1115	0/47/0000 40 05 11				
EUP-2017 (4/2010) Page 1 of 2				LHD	2/17/2000 10:25 AV				





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:	County: Inghar	n	Township: Lansing							
	Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:					
Wall ID: 2200006472		5		3760	BWL WELL 10-13					
Well ID: 33000006173			Distance and Direction from Road Intersection:							
Elevation: 811 ft.			WSSN 03760; 2900' N OF WILLOW ST. 300' W OF SUNSET AVE.							
	Well Owner: B	OARD OF V	VATER & LIGHT							
	Well Address:			Owner Address:						
n-Мар)-13		-	-					
	06173	Town/Range: 04N 02W Distance and Di WSSN 03760; 29 Well Owner: B Well Address: BWL WELL 10	Town/Range: Section: 04N 02W 5 Distance and Direction from WSSN 03760; 2900' N OF W Well Owner: BOARD OF W Well Address: BWL WELL 10-13	Town/Range: Section: Well Status: 04N 02W 5 Distance and Direction from Road Intersecti WSSN 03760; 2900' N OF WILLOW ST. 300' V Well Owner: BOARD OF WATER & LIGHT Well Address: BWL WELL 10-13	Town/Range: Section: Well Status: WSSN: 3760 Distance and Direction from Road Intersection: WSSN 03760; 2900' N OF WILLOW ST. 300' W OF SUNSET Well Owner: BOARD OF WATER & LIGHT Well Address: Owner Address: 123 W. OTTAW.					

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	
White Sandstone Fine To Medium	50.00	200.00	1
White Sandstone Fine To Medium	28.00	228.00	
Gray & White Sandstone Fine Hard	3.00	231.00	
White Sandstone Hard	19.00	250.00	1
White Sandstone Hard	20.00	270.00	1
White Sandstone Hard	18.00	288.00	1
Blue Shale Hard	2.00	290.00	1
White Sandstone Medium	4.00	294.00	1
Gray & White Sandstone W/Shale	10.00	304.00	1
Gray & White Sandstone W/Shale	10.00	314.00	1
White Sandstone Fine To Medium	28.00	342.00	1
White Sandstone Fine To Medium White Sandstone Fine To Medium	35.00	377.00	1
Shale Hard	3.00	380.00	1
Blue Shale	6.00	386.00	1
Shale Hard	2.00	388.00	1
onaio nara	2.00	000.00	
			1
			_
			•
			1
			1
			Contractor Type: Unknown Reg No: 91-0550
			Business Name:
			Business Address:
			Water Well Contractor's Certification
			This well was drilled under my supervision and this report is true to the be
			my knowledge and belief.
			1
	•		Signature of Registered Contractor Date



Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

Tax No: Permit No:	County: Inghai	<u>(II</u>		rownship:	Lansing	
		Section:	Well Status:			e ID/Well No
Well ID: 3300006174	04N 02W	5	Inactive		0 BWL	WELL 10-14
Well ID. 3300000174	Distance and D				NOET AVE	
Elevation: 831 ft.	WSSN 03760; 3	000' N OF V	VILLOW S1.5	OU'E OF SUR	NSET AVE.	
Latitude: 42.7564760693	Well Owner: E	BOARD OF '	WATER & LIG	HT		
	Well Address:	2071112 01	WATER & EIG	Owner Addr	ess:	
Longitude : -84.5775152136	BWL WELL 10)-14		123 W. OT		
Method of Collection: Interpolation-Map	LANSING, MI			LANSING, I	MI 48933	
Drilling Method: Coble Tool	Pump Inst	alladı Va	•	Dumn Inc	stallation Onl	w. No
Drilling Method: Cable Tool Well Depth: 423.00 ft. Well Use: Type I public		alled: Ye allation Dat		Pump ins HP:	taliation Oni	y: NO
Well Type: Replacement Date Completed: 6/7/1945		irer: Othe			pe: Unknow	m
Casing Type: Unknown Height: 0.00 ft. below grade	Model Nur			Pump Ca	•	
Casing Joint: Unknown		Length: (0.00 ft.	Pump Vo		
Casing Fitting: None	Drop Pipe	_		-	ecord ID:	
	Draw Dow	n Seal Used	d: No			
Diameter: 13.00 in. to 0.00 ft. depth	Pressure 7	Tank Install	ed: No			
	Pressure F	Relief Valve	Installed:	No		
Borehole:						
Static Water Level: 80.00 ft. Below Grade						Depth to
Well Yield Test: Yield Test Method: Unknown	1	Formatio	n Description		Thickness	Bottom
	Topsoil W/0	Clay			5.00	5.00
	Gravel Wet	t/Moist			15.00	20.00
	Clay Sandy	/			10.00	30.00
Screen Installed: No Intake: Unknown	Sand & Gra	avel			25.00	55.00
	Sand Coars	se			5.00	60.00
	Sand & Gra				15.00	75.00
	Blue Clay S				5.00	80.00
		avel Wet/Mo	ist		10.00	90.00
	Blue Shale				13.00	103.00
		dstone Fine dstone Coar	20		73.00 24.00	176.00
		dstone Fine	se	-	115.00	200.00 315.00
	White Sand				3.00	318.00
	THIS Care		(Continued	d On Page 2)		3.0.00
Well Grouted: Yes Grouting Method: Unknown	Geology R	emarks:	,			
Grouting Material Bags Additives Depth						
Unknown 0.00 None 0.00 ft. to 0.00 ft.						
Wellhead Completion: Unknown	Drilling 14	ohine Oz =	rotor Name:			
Nearest Source of Possible Contamination:		ent: Unkno	rator Name:			
Type Direction	Employine	int. UHKHO	vvíl			
Unknown 0 ft.						
O II.			(Continue	d on page	2)	
Abandoned Well Plugged: No	\neg		,	J pago	- ,	
Reason Not Plugged:						
General Remarks: ORIGINAL WELLID# WAS 05008; 12" SIZER RUN	FREE TO 423' 6	-7-45. SAMF	PLES DELIVER	RED TO MR.	WRIGHT 6-8	-45.
Other Remarks: Pump Manufacturer:Pump Manufacturer unknown						
EQP-2017 (4/2010) Page 1 of 2				L	HD 2/17/2	2000 10:25 /



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

Failure to comply is a misdemeanor.



Import ID: Tax No: Permit No: County: Ingham Township: Lansing Section: Town/Range: Well Status: WSSN: Source ID/Well No: 04N 02W 5 Inactive 3760 **BWL WELL 10-14** Well ID: 33000006174 **Distance and Direction from Road Intersection:** WSSN 03760; 3000' N OF WILLOW ST. 500' E OF SUNSET AVE. Elevation: 831 ft. Well Owner: BOARD OF WATER & LIGHT Latitude: 42.7564760693 Well Address: **Owner Address:** Longitude: -84.5775152136 **BWL WELL 10-14** 123 W. OTTAWA ST. Method of Collection: Interpolation-Map LANSING, MI LANSING, MI 48933

			from Page 1)		
Formation Description	Thickness	Depth to Bottom	OTHER REMARKS:		
			Pump Manufacturer:Pump Manufacturer unkno	wn	
White Sand	3.00	321.00			
Shale Broken	24.00	345.00			
White Sand Hard	50.00	395.00			
Sand	10.00	405.00	1		
Sand W/Limestone	13.00	418.00	1		
Gray Limestone Coarse	5.00	423.00	1		
			4		
			4		
			4		
			4		
			1		
			4		
			4		
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			4		
			Contractor Type: Unknown	Reg No: 91-0550	
			Business Name:		
			Business Address:	0 444	
			Water Well Contractor's		
			This well was drilled under my supervision and this report is true my knowledge and belief.		
			Signature of Registered Contractor	Date	



Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

M-II ID. 0000	0000475	Town/Range: 04N 02W	Section:	Well Status:	WSSN : 3760		WELL 10-15
Well ID: 3300	10006175	Distance and D	irection fro	n Road Interse	ction:		
Elevation: 851 ft.		WSSN 03760; 70	00' W OF SU	JNSET AVE. 10	0' N OF WILLO	W ST.	
Latitude: 42.7485651279		Well Owner: B	BOARD OF V	VATER & LIGH	Т		
Lengitude: 04.502020044		Well Address:			wner Address:		
Longitude: -84.5823838811		BWL WELL 10-	-15		123 W. OTTAW	A ST.	
Method of Collection: Interp	polation-Map	LANSING, MI			LANSING, MI 4	3933	
Orilling Method: Unknown		Pump Insta	alled: Yes	3	Pump Installa	tion Only	y: No
Vell Depth: 440.00 ft.	Well Use: Type I public	Pump Insta	allation Date	e:	HP:		
Vell Type: Replacement	Date Completed: 5/19/1961	Manufactu	rer: Other	·	Pump Type:	Unknow	n
Casing Type: Unknown	Height: 0.00 ft. below grade	Model Nun	nber:		Pump Capaci	ty:	
Casing Joint: Unknown		Drop Pipe	Length: 7	7.00 ft.	Pump Voltage	: :	
Casing Fitting: None		Drop Pipe	Diameter:		Drilling Reco	rd ID:	
		Draw Dowi	n Seal Used	: No			
Diameter:		Pressure T	ank Installe	ed: No			
		Pressure R	Relief Valve	Installed: N	0		
Borehole:							
Static Water Level: 123.00 ft. Be Vell Yield Test:	elow Grade Yield Test Method: Unknown		Formation	Description	Th	ickness	Depth to Bottom
		Clay			50.0	0	50.00
		Hardpan W	//Clay		10.0	0	60.00
		Hardpan Sa	andy W/Clay		16.0	0	76.00
Screen Installed: No	Intake: Unknown	Sandstone			6.00)	82.00
		Shale			8.00)	90.00
		Sandstone	Fine		15.0	0	105.00
		Sandstone	W/Shale		10.0	0	115.00
		Shale			25.0	0	140.00
		Sandstone	Fine		5.00)	145.00
		Sandstone	Medium		65.0	0	210.00
		Sandstone	Fine		20.0	0	230.00
		Sandstone	Coarse		5.00		235.00
		Sandstone	Fine		10.0	0	245.00
				(Continued C	On Page 2)		
Grouting Material Bags A Jnknown 0.00 N	ing Method: Unknown dditives Depth one 0.00 ft. to 0.00 ft.	Geology R	emarks:				
Vellhead Completion: Unknow	WN	Drilling Ma	chine Oper	ator Name:			
learest Source of Possible Cont	amination:		nt: Unknov				
- уре	Distance Direction	' '					
Jnknown	0 ft.						
				(Continued	on page 2)		
Abandoned Well Plugged: No Reason Not Plugged:							
General Remarks: ORIGINAL WI							
Other Remarks: Pump Manufactu	rer:Pump Manufacturer unknown						





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:	County: Ingham Township: Lansing				ng		
	Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
06175	04N 02W	7		3760	BWL WELL 10-15		
06175	Distance and Di	rection fro	n Road Intersecti	ion:			
	WSSN 03760; 700' W OF SUNSET AVE. 100' N OF WILLOW ST.						
	Well Owner: B	OARD OF V	VATER & LIGHT				
	Well Address:		Owr	Owner Address:			
n-Мар	BWL WELL 10 LANSING, MI)-15		-	-		
		Town/Range: 04N 02W Distance and Di WSSN 03760; 70 Well Owner: B Well Address: BWL WELL 10	Town/Range: Section: 04N 02W 7 Distance and Direction from WSSN 03760; 700' W OF SU Well Owner: BOARD OF V Well Address: BWL WELL 10-15	Town/Range: Section: Well Status: 04N 02W 7 Distance and Direction from Road Intersection WSSN 03760; 700' W OF SUNSET AVE. 100' Well Owner: BOARD OF WATER & LIGHT Well Address: Own BWL WELL 10-15	Town/Range: Section: Well Status: WSSN: 3760 Distance and Direction from Road Intersection: WSSN 03760; 700' W OF SUNSET AVE. 100' N OF WILLOW Well Owner: BOARD OF WATER & LIGHT Well Address: Owner Address: 123 W. OTTAW.		

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	OTHER REMARKS: Pump Manufacturer:Pump Manufacturer unknown
Limestone	3.00	248.00	
Limestone Hard	17.00	265.00	1
Sandstone Medium	10.00	275.00	1
Sandstone Coarse	15.00	290.00	1
Sandstone W/Shale	5.00	295.00	1
Sandstone Fine W/Shale	10.00	305.00	1
Shale	15.00	320.00	1
Sandstone Fine W/Shale	15.00	335.00	1
Sandstone Medium W/Shale	10.00	345.00	1
Sandstone Medium	15.00	360.00	1
Sandstone Medium W/Shale	35.00	395.00	1
Sandstone Coarse W/Shale	10.00	405.00	†
Sandstone Fine W/Shale	10.00	415.00	1
Sandstone Coarse W/Shale	15.00	430.00	1
Shale	10.00	440.00	1
	10.00	110.00	1
			1
			-
			1
			1
			-
			1
			1
			-
			-
			-
			-
			4
			-
			_
			1
			Contractor Type: Unknown Reg No: 33-0729
			Business Name:
			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



Water Well And Pump Record

County: Ingham

Town/Range: Section: Well Status:



Source ID/Well No:

Township: Lansing

WSSN:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Well ID: 3300006176	04N 0		7		377	0 LAN	SING TWP
Well ID. 3300000170				m Road Inter			
Elevation: 874 ft.	WSSN 03	3770;600	S OF WE	ST WILLOW S	ST. 2700' EAS	ST OF WAVER	₹
	Wall Own	1 ^	NICINIO TO	NAMICI IID			
Latitude: 42.746524	Well Add		NSING TO	WINSHIP	Owner Addr		
Longitude : -84.593218			WELL #5		Owner Addr	ess.	
Method of Collection: Interpolation-Map	LANSIN	_	WELL #3		LANSING,	MI 48933	
		-,			,		
Drilling Method: Unknown		np Insta					
Well Use: Type I public	1		ınk Installe				
Nell Type: Replacement Date Completed: 1/7/1988	Pres	ssure Re	elief Valve	Installed:	No		
Casing Type: Unknown Height: 0.00 ft. below grade							
Casing Joint: Unknown							
Casing Fitting: None							
.							
Diameter:							
Borehole:							
Statis Metan Lavely 000 00 # Dalam Conds					-		
Static Water Level: 999.99 ft. Below Grade Well Yield Test: Yield Test Method: Unknown			Formation	n Description	1	Thickness	Depth to Bottom
Well Held Test Method. OffKhowh		ow Clay				12.00	12.00
		Clay W	/Stones			38.00	50.00
		d & Clay				10.00	60.00
Screen Installed: No Intake: Unknown	Sand		1 1110			15.00	75.00
ocieen installed. No indice. Officiowii		dpan Cla	VeV			5.00	80.00
		e Soft	усу			15.00	95.00
		dstone E	Iroken			7.00	102.00
		/ Sandst				18.00	120.00
		e Sands				15.00	135.00
		dstone &				10.00	145.00
		e Sands				10.00	155.00
		/ Sandst				38.00	193.00
	Sand	dstone &	Shale			3.00	196.00
				(Continue	d On Page 2)		
Nell Grouted: Yes Grouting Method: Unknown	Geo	logy Re	marks:				
Grouting Material Bags Additives Depth							
Jnknown 0.00 None 0.00 ft. to 0.00 ft.							
Wellhead Completion: Unknown							
		_	-	ator Name:			
Nearest Source of Possible Contamination:	Emp	oloymen	t: Unknow	wn			
Type Distance Direction							
Jnknown 0 ft.							
				(Continue	d on page	2)	
Abandoned Well Plugged: No							
Reason Not Plugged:							
General Remarks: ORIGINAL WELLID# WAS 07002; 1800' NORTH O	F WELL #4	4. LANS	ING MUNI	CIPAL WELL	#5. HOLE 14"	DIAMETER.	DRILLER;
OHIO ,DRILLING							
Other Remarks:							





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Ingham Township: Lansing						
	•	Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
Well ID: 33000006176		04N 02W	7		3770	LANSING TWP		
Well ID. 330000	00176	Distance and Di	rection fro	n Road Intersect	ion:			
Elevation: 874 ft.		WSSN 03770;600'S OF WEST WILLOW ST. 2700' EAST OF WAVER						
Latitude: 42.746524		Well Owner: L	ANSING TO	WNSHIP				
Longitude: -84.593218		Well Address: Owner Address:						
Method of Collection: Interpolation	n-Мар	LANSING TW LANSING, MI	P WELL #5	L	ANSING, MI 48	3933		

		(Continued
Formation Description	Thickness	Depth to
		Bottom
Shale	7.00	203.00
Sandstone & Shale	7.00	210.00
Shale	10.00	220.00
Sandstone & Shale Sandstone	15.00	235.00
	25.00	260.00
Limestone	8.00	268.00
Sandstone Schole	12.00	280.00
Sandstone & Shale	15.00	295.00
Black Shale	10.00	305.00
Sandstone & Shale	25.00	330.00
Sandstone	70.00	400.00
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	+ +	
	+	
		<u> </u>



Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

	Town/Range:	Section:	Well Status:	WSSN:	Source	ID/Well No:
Well ID: 3300006177	04N 02W	7		3770	LAN	SING TWP
Well ID. 33000000177	Distance and D					
Elevation: 863 ft.	WSSN 03770; 90	0' N OF W S	AGINAW ST. 1	1050' E OF MOF	RRIS AV	
Latitude: 42.741357	Well Owner: L	ANSING TO	WNSHIP			
Longitude: -84.592179	Well Address:		(Owner Address	:	
Method of Collection: Interpolation-Map	LANSING TWF	WELL #4		LANGING MI	0000	
metriod of conection.	LANSING, MI			LANSING, MI 4	8933	
Orilling Method: Unknown	Pump Insta	alled: No				
Well Use: Type I public	Pressure T	ank Installe	ed: No			
Well Type: Replacement Date Completed: 6/17/1952	Pressure R	Relief Valve	Installed:	No		
Casing Type: Unknown Height: 0.00 ft. below grade						
Casing Joint: Unknown						
Casing Fitting: Drive shoe						
Diameter.						
Diameter:						
Borehole:						
350 500 500						
Static Water Level: 89.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown		Formation	Description	TI	nickness	Depth to Bottom
Well Yield Test: Yield Test Method: Unknown	Yellow Clay	, & Sand	-	12.	20	12.00
	Blue Clay 8			13.		25.00
	Yellow San			10.		35.00
Screen Installed: No Intake: Unknown	Blue Sand			12.		47.00
	Blue Clay 8			38.0	00	85.00
	Red Sand 8	& Clay		29.	00	114.00
	Sandstone	Broken		3.0	0	117.00
	Sandstone			30.	00	147.00
	Shale			4.0	0	151.00
	Sandstone	& Shale Bro	ken	9.0	0	160.00
	Sandstone			25.		185.00
	Sandstone	& Shale		4.0		189.00
	Shale			21.	00	210.00
			(Continued	On Page 2)		
Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Jnknown 0.00 None 0.00 ft. to 0.00 ft.	Geology R	emarks:				
Nellhead Completion: Unknown	Drilling Ma	ohino Once	otor Name:			
Nearest Source of Possible Contamination:		chine Opera nt: Unknov				
Type Direction	Employme	III. OTKITOV	VII			
Jnknown 0 ft.						
o it.			(Continued	d on page 2)		
Abandoned Well Plugged: No			(
Reason Not Plugged:						
General Remarks: ORIGINAL WELLID# WAS 07003; WELL CASED V LENGHTS, FITTED WITH STEEL DRIVE SHOE. L.						IDOM
Other Remarks:		VVLLL #		. LEIVIEI VVEIN	<u></u> \	





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham Township: Lansing				ing		
Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
04N 02W	7		3770	LANSING TWP		
Distance and D	rection fro	n Road Intersect	ion:			
WSSN 03770; 90' N OF W SAGINAW ST. 1050' E OF MORRIS AV						
Well Owner: L	ANSING TO	WNSHIP				
Well Address: Owner Address:						
	P WELL #4	L	ANSING, MI 48	8933		
	Town/Range: 04N 02W Distance and Di WSSN 03770; 90 Well Owner: L Well Address:	Town/Range: Section: 04N 02W 7 Distance and Direction from WSSN 03770; 90' N OF W S Well Owner: LANSING TO Well Address: LANSING TWP WELL #4	Town/Range: Section: Well Status: 04N 02W 7 Distance and Direction from Road Intersect: WSSN 03770; 90' N OF W SAGINAW ST. 105 Well Owner: LANSING TOWNSHIP Well Address: Own LANSING TWP WELL #4	Town/Range: Section: Well Status: WSSN: 3770 Distance and Direction from Road Intersection: WSSN 03770; 90' N OF W SAGINAW ST. 1050' E OF MORF Well Owner: LANSING TOWNSHIP Well Address: Owner Address: LANSING TWP WELL #4		

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	
Sandstone	10.00	220.00	
Unidentified Consolidated Fm W/Shale	20.00	240.00	
Sandstone & Shale	10.00	250.00	
Sandstone	33.00	283.00	
Shale	14.00	297.00	
Shale	11.00	308.00	
Sandstone & Shale	12.00	320.00	
Sandstone	15.00	335.00	
Sandstone W/Shale	15.00	350.00	
Sandstone	30.00	380.00	
Sandstone & Shale	24.00	404.00	
			1
			Contractor Type: Unknown Reg No: 33-0729
			Business Name:
			Business Address:
			Water Well Contractor's Certification
			This well was drilled under my supervision and this report is true to the best
			my knowledge and belief.
			Signature of Registered Contractor Date



Water Well And Pump Record

County: Ingham



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

		rownsnip: Lansing	
ין ווייי	Town/Range: Section: Well Status:		ID/Well No
Well ID: 3300006178	04N 02W 7		SING TWP
	Distance and Direction from Road Inters WSSN 03770;100' N OF SNOWGLEN LN.		
Elevation: 840 ft.	WSSIN 05770,100 IN OF SINOWGLEIN EIN.	100 L OF BOTHTON DIX.	
Latitude: 42.751083	Well Owner: LANSING TOWNSHIP		
Longitude: -84.593004	Well Address:	Owner Address:	
	LANSING TWP WELL #6		
Method of Collection: Interpolation-Map	LANSING, MI	LANSING, MI 48933	
Orilling Method: Other	Pump Installed: Yes	Pump Installation Only	: No
Vell Depth: 441.00 ft. Well Use: Type I public	Pump Installation Date:	HP:	
Vell Type: Replacement Date Completed: 6/18/1966	Manufacturer: Other	Pump Type: Unknowr	
Casing Type: Unknown Height: 3.00 ft. above grade	Model Number:	Pump Capacity: 525	GPM
Casing Joint: Unknown	Drop Pipe Length: 0.00 ft.	Pump Voltage:	
Casing Fitting: None	Drop Pipe Diameter: Draw Down Seal Used: No	Drilling Record ID:	
Diameter: 16.00 in. to 63.80 ft. depth	Pressure Tank Installed: No		
Name to 10.00 km to 00.00 km dopki		No	
Borehole:			
static Water Level: 999.99 ft. Below Grade	_	1 1	Depth to
Vell Yield Test: Yield Test Method: Unknown	Formation Description	Thickness	Bottom
Pumping level 197.00 ft. after 24.00 hrs. at 700 GPM	Topsoil	1.00	1.00
	Blue Clay	4.00	5.00
	Blue Clay Gravely	29.00	34.00
creen Installed: No Intake: Unknown	Sand & Gravel W/Clay	6.00	40.00
	Sand & Gravel W/Stones		46.00
	Sandstone Broken		50.00
	Sandstone White Sandstone		65.00 73.00
	Sandstone Hard		77.00
	Shale		82.00
	Sandstone	41.00	123.00
	Shale	3.00	126.00
	Sandstone	105.00	231.00
		On Page 2)	
Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Neat cement 0.00 None 0.00 ft. to 0.00 ft.	Geology Remarks:		
Vellhead Completion: Unknown	Drilling Machine Operator Name:	COONRAD	
Nearest Source of Possible Contamination:	Employment: Unknown	SSORTIND	
Type Distance Direction			
Jnknown 0 ft.			
	(Continue	d on page 2)	
Abandoned Well Plugged: No			
Reason Not Plugged:			
General Remarks: ORIGINAL WELLID# WAS 07004; LANSING MUNIC DIAMETER. REVERSE CIRC. DRILLING. Other Remarks: Drilling Method:Drilling Method unknown, Pump Manufa		ESTSIDE WATER. HOLE 2	0 & 15"
QP-2017 (4/2010) Page 1 of 2	Ciaron, unip manufacturer unknown	LHD 2/17/2	000 10:25
a		2,10 2,11/2	



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.



Import ID: 33040207304 Tax No: Permit No: County: Ingham Township: Lansing Section: Well Status: Town/Range: WSSN: Source ID/Well No: 04N 02W 3770 LANSING TWP Well ID: 33000006178 **Distance and Direction from Road Intersection:** WSSN 03770;100' N OF SNOWGLEN LN. 100' E OF BOYNTON DR. Elevation: 840 ft. Well Owner: LANSING TOWNSHIP Latitude: 42.751083 Well Address: **Owner Address:** Longitude: -84.593004 LANSING TWP WELL #6 Method of Collection: Interpolation-Map LANSING, MI LANSING, MI 48933

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	OTHER REMARKS: Drilling Method:Drilling Method unknown, Pump Manufacturer:Pump
Shale	1.00	232.00	Manufacturer unknown
Limestone & Sandstone Brown	2.00	234.00	
Sandstone	33.00	267.00	
Limestone	3.00	270.00	
Sandstone	10.00	280.00	
Shale	9.00	289.00	
Sandstone & Shale	2.00	291.00	
Limestone	2.00	293.00	
Shale	19.00	312.00	
Sandstone	1.00	313.00	
Shale	3.00	316.00	
Sandstone	2.00	318.00	
Shale	2.00	320.00	
Sandstone	1.00	321.00	
Shale	2.00	323.00	
Sandstone	1.00	324.00	
Shale	4.00	328.00	
Sandstone	84.00	412.00	
Sandstone & Shale	3.00	415.00	
Gray Sandstone	5.00	420.00	
Sandstone	21.00	441.00	
			Contractor Type: Unknown Reg No: 91-0550
			Business Name:
			Business Address:
			Water Well Contractor's Certification
			This well was drilled under my supervision and this report is true to the best
			my knowledge and belief.
			 Signature of Registered Contractor

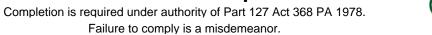




Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Tax No: Permit No:	County: Ingha			Township: La		
	Town/Range:	Section:	Well Status:	WSSN:		ID/Well No
Well ID: 3300006179	04N 02W	7	<u> </u>	3770	LAN	SING TWP
VVCII 1D. 33000000173	Distance and D				/EDLV DD	
Elevation: 808 ft.	WSSN 03770; 1	35 N OF BC	TINTON DR. 1	150 E OF WAV	EKLY KD.	
Latitude: 42.75398	Well Owner: L	ANSING TO	OWNSHIP			
Longitude: -84.598694	Well Address:			Owner Addres	s:	
_	LANSING TWI	P WELL #7				
Method of Collection: Interpolation-Map	LANSING, MI			LANSING, MI	48933	
Orilling Method: Other	Pump Inst	alled: Ye	<u> </u>	Pump Insta	llation Onl	v. No
Well Depth: 405.00 ft. Well Use: Type I public		allation Dat		HP:	nation om	y. 140
Vell Type: Replacement Date Completed: 3/7/1967		rer: Othe		Pump Type	: Unknow	n
Casing Type: Unknown Height:	Model Nur	nber:		Pump Capa		
Casing Joint: Unknown		Length:	0.00 ft.	Pump Volta	ge:	
Casing Fitting: None		Diameter:		Drilling Rec	ord ID:	
		n Seal Use				
Diameter: 16.00 in. to 54.00 ft. depth		Tank Install		\1.		
	Pressure I	Relief Valve	installed:	No		
Develople.						
Borehole:						
Static Water Level: 999.99 ft. Below Grade		F	- D	Τ,		Depth to
Vell Yield Test: Yield Test Method: Unknown		Formatio	n Description		hickness	Botton
Pumping level 118.00 ft. after 24.00 hrs. at 754 GPM	Topsoil			1.0		1.00
	Clay			5.0		6.00
	Sand & Gr	avel			3.00	34.00
creen Installed: No Intake: Unknown	Shale			6.0		40.00
	Sandstone			2.0		42.00
	Shale Sandstone				00 3.00	43.00 56.00
	Sandstone			6.0		62.00
	Shale	vv/OrialC		3.0		65.00
	Sandstone			4.0		69.00
	Shale			2.0		71.00
	Sandstone				3.00	89.00
	Shale			3.0	00	92.00
			(Continued	On Page 2)		•
Well Grouted: Yes Grouting Method: Unknown	Geology R	Remarks:				
Grouting Material Bags Additives Depth						
Jnknown 0.00 None 0.00 ft. to 0.00 ft.						
Vellhead Completion: Unknown						
Vellhead Completion: Unknown	Drilling Ma	achine One	rator Name:			
learest Source of Possible Contamination:		ent: Unkno				
Type Distance Direction						
Inknown 0 ft.						
			(Continued	d on page 2)	
Abandoned Well Plugged: No			-	. •	-	
Reason Not Plugged:						
				E I ANIOINIO DI		
	CIPAL WELL #7.	CHARTER	TOWNSHIP OF	F LANSING. DI	RILLER: L.I	J.
COONROD. REVERSE CIRC. DRILLING.				F LANSING. DI	RILLER: L.I	J.
General Remarks: ORIGINAL WELLID# WAS 07005; LANSING MUNICOONROD. REVERSE CIRC. DRILLING. Other Remarks: Drilling Method: Drilling Method unknown, Pump ManufeqP-2017 (4/2010) Page 1 of 2				LHI		2000 10:25







Tax No:	Permit No:	County: Inghar	County: Ingham			ng	
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:	
WALLIDESS	000006470	04N 02W	7		3770	LANSING TWP	
Well ID: 33	Distance and Di	rection fro	n Road Intersecti	on:			
Elevation: 808 ft.	WSSN 03770; 1:	WSSN 03770; 135'N OF BOYNTON DR. 1150' E OF WAVERLY RD.					
Latitude: 42.75398		Well Owner: L	ANSING TO	WNSHIP			
Longitude: -84.59869	4	Well Address: LANSING TW	D WELL #7	Owi	ner Address:		
Method of Collection:	Interpolation-Map	LANSING, MI	- VVLLL #1	L	ANSING, MI 48	3933	

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	OTHER REMARKS: Drilling Method: Drilling Method unknown, Pump Manufacturer: Pump
Sandstone	111.00	203.00	Manufacturer unknown
Sandstone	25.00	228.00	1
Limestone	12.00	240.00]
Sandstone	18.00	258.00	1
Limestone	1.00	259.00	1
Shale	5.00	264.00	
Sandstone	3.00	267.00]
Shale	3.00	270.00	
Sandstone	3.00	273.00	
Shale	52.00	325.00	1
Sandstone	1.00	326.00	1
Shale	1.00	327.00	
Sandstone	46.00	373.00	
Sandstone W/Shale	18.00	391.00	
Limestone	1.00	392.00	1
Sandstone	11.00	403.00	1
Green Limestone	2.00	405.00	1
			1
			1
			1
			1
			†
			1
			†
			†
			1
			1
			1
	+		1
			1
			1
			1
	-		1
			-
			-
			Contractor Type: Unknown Reg No: 91-0550
			Contractor Type: Unknown Reg No: 91-0550 Business Name:
			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.
			inny knowieuge and bellei.
			.
			Signature of Registered Contractor Date



Water Well And Pump Record

County: Ingham



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

	Town/Range:	Section:	Well Status:	WSSN:	Source	ID/Well No:
Wall ID: 22000006490	04N 02W	8	Inactive	3760		
Well ID: 3300006180	Distance and D	irection fro	m Road Intersect	ion:		
Elevation: 830 ft.	350' E OF SUNS	SET AVE. 20	50' N OF WILLOV	V ST.		
Latitude: 42.7536640898	Well Owner: E	OARD OF \	VATER & LIGHT			
Longitude: -84.5780108849	Well Address:			ner Address:		
	10-12			3 W. OTTAWA	-	
Method of Collection: Interpolation-Map	LANSING, MI		LA	NSING, MI 48	933	
Drilling Method: Cable Tool	Pump Inst	alled: No				
Well Depth: 436.00 ft. Well Use: Type I public		ank Installe	ed: No			
Well Type: Replacement Date Completed: 4/12/1945	Pressure F	Relief Valve	Installed: No			
Casing Type: Unknown Height: 0.00 ft. below grade						
Casing Joint: Unknown						
Casing Fitting: None						
Discourt on AO OF in the O OO () should						
Diameter: 13.25 in. to 0.00 ft. depth						
Borehole:						
Borenoie.						
Static Water Level: 55.58 ft. Below Grade		F	. D			Depth to
Well Yield Test: Yield Test Method: Unknown		Formation	n Description	Ini	ckness	Bottom
	Topsoil W/0			20.00		20.00
	Sand Fine			15.00		35.00
	Sand Media			10.00)	45.00
Screen Installed: No Intake: Unknown	Sand Media			5.00		50.00
	Sand & Gra	avel Medium		15.00 31.00		65.00 96.00
		avel Wet/Mo	et	2.00	,	98.00
	Sandstone	AVCI VVCUIVIO	<u> </u>	17.00)	115.00
		& Sandston	e	15.00		130.00
	Sandstone			30.00)	160.00
	Sandstone			60.00)	220.00
	Gray Shale			10.00)	230.00
	Sandstone			185.0	00	415.00
			(Continued On	Page 2)		
Well Grouted: Yes Grouting Method: Unknown	Geology R	emarks:				
Grouting Material Bags Additives Depth						
Unknown 0.00 None 0.00 ft. to 0.00 ft.						
Wellhead Completion: Unknown						
- Children	Drilling Ma	chine Oper	ator Name:			
Nearest Source of Possible Contamination:		nt: Unknov				
Type Distance Direction						
Unknown 0 ft.						
			(Continued o	n page 2)		
Abandoned Well Plugged: No						
Reason Not Plugged:						
General Remarks: CITY OF LANSING. STOPPED DRILLING IN LIME		DEPTH OF I	DRILLING 436'. ST	TATIC MEASU	RED WH	HEN
DRILLING STOPPED. DRILLERS: BARRETT & PF Other Remarks:	ANVIEK.					
EQP-2017 (4/2010) Page 1 of 2				LHD	2/17/2	2000 10:25 AM
1 ago 1 012				LIID	£, 11/2	.000 TO.20 AW





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

1111 POIL ID. 33040200001									
Tax No:	Permit No:	County: Inghar	m	Tov	/nship: Lans	ing			
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:			
Wall ID: 220000	06490	04N 02W 8 Inactive 3760							
Well ID: 33000006180		Distance and D	irection fro	m Road Intersect	ion:				
Elevation: 830 ft.		350' E OF SUNS	SET AVE. 20	50' N OF WILLOV	V ST.				
Latitude: 42.7536640898		Well Owner: E	BOARD OF V	VATER & LIGHT					
Longitude: -84.5780108849		Well Address:			ner Address:	IA CT			
Method of Collection: Interpolation	п-Мар	10-12 LANSING, MI			23 W. OTTAW ANSING, MI 48				
·	•		•		•				

		(Continued
Formation Description	Thickness	Depth to Bottom
Black Shale	5.00	420.00
Limestone	16.00	436.00
	-	
<u> </u>		



Water Well And Pump Record

County: Ingham



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Well ID: 3300006183	Town/Range: 04N 02W	Section: 8	Well Status:	WSSN : 3760		WELL 10-06		
Elevation: 862.35 ft.	Distance and Direction from Road Intersection: WSSN 03760; 150' W OF COMFORT ST., 100' N OF E BOUND SA							
Latitude: 42.7413606887		BOARD OF V	VATER & LIGHT					
Longitude: -84.5750431662	Well Address:		_	vner Address:				
Method of Collection: Interpolation-Map	BWL WELL 10			23 W. OTTAWA	-			
metriod of Contection.	LANSING, MI	48915		ANSING, MI 48	933			
Orilling Method: Unknown	Pump Inst	alled: No						
Vell Depth: 427.00 ft. Well Use: Type I public		Tank Installe	ed: No					
Vell Type: Replacement Date Completed: 4/4/1946	Pressure F	Relief Valve	Installed: No)				
Casing Type: Unknown Height: 0.00 ft. below grade								
Casing Joint: Unknown								
Casing Fitting: None								
Diameter: 14.00 in. to 0.00 ft. depth								
Borehole:								
Static Water Level: 999.99 ft. Below Grade				1		Donth to		
Vell Yield Test: Yield Test Method: Unknown		Formation	n Description	Thi	ckness	Depth to Bottom		
Total Total	Topsoil W/0	Clav		45.00)	45.00		
	Sandstone			45.00		90.00		
	Sandstone			55.00		145.00		
Screen Installed: No Intake: Unknown	Shale	,		30.00)	175.00		
	Sandstone	Fine To Med	dium	110.0	00	285.00		
	Shale			15.00)	300.00		
	Sandstone	Fine		15.00)	315.00		
	Shale			30.00)	345.00		
	Sandstone	Fine		65.00		410.00		
	Shale			17.00)	427.00		
Vell Grouted: Yes Grouting Method: Unknown	Caalaau							
Vell Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Jnknown 0.00 None 0.00 ft. to 0.00 ft.	Geology R	emarks.						
Vellhead Completion: Unknown								
			ator Name:					
learest Source of Possible Contamination:	Employme	ent: Unknow	vn					
Type Distance Direction								
Jnknown 0 ft.	Contractor	Type: Hal			an Nai 1	22.0720		
Shandanad Wall Diseased. No	Business	r Type: Unk Name:	known	K	eg No: 3	33-0729		
Abandoned Well Plugged: No	Business							
Reason Not Plugged:	Business /		Well Contrac	tor's Cartifia	ration			
			der my supervisio			to the best of		
	Cianatura	of Dogistes	nd Contractor		Doto			
General Remarks: ORIGINAL WELLID# WAS 08001; CASING IS 14"			ed Contractor	ANED OUT 4.4	Date 5-46 T∩	5-2-46		
REMOVED 12 YD. MATERIAL.	U.D. 13.23 I.D. V	VELL DINA	WILL AND CLE	ANED OUT 4-1	J-40 IU	J-2-40.		



Water Well And Pump Record

County: Ingham
Town/Range: Section:



Source ID/Well No:

Township: Lansing

WSSN:

Well Status:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Mall ID: 22000006494	04N 02W	8		3760	BWL	WELL 10-07
Well ID: 3300006184	Distance and D					
Elevation: 860 ft.	WSSN 03760; 1	50' E OF CO	MFORT ST., 1	00' S OF HYLA	ND ST.	
Latitude: 42.7446905406	Well Owner: B	OARD OF W	VATED & LICH	ı T		
	Well Address:	DOAND OF V		Owner Address	<u>. </u>	
Longitude: -84.5738525758	BWL WELL 10	-07)`	123 W. OTTAV		
Method of Collection: Interpolation-Map	LANSING, MI	0.		LANSING, MI		
	<u> </u>		•			
Orilling Method: Unknown Well Use: Type I public Well Use: Type I public	Pump Insta	alled: No ank Installe	al. No			
Well Depth:443.00 ft.Well Use: Type I publicWell Type:ReplacementDate Completed: 10/16/1946		ank installe Relief Valve		No		
Casing Type: Unknown Height: 0.00 ft. below grade	Fiessule	Cellel Valve	ilistalleu.	NO		
Casing Joint: Unknown						
Casing Fitting: None						
Diameter:						
Borehole:						
Static Water Level: 999.99 ft. Below Grade						Depth to
Well Yield Test: Yield Test Method: Unknown	,	Formation	Description	T	hickness	Bottom
	Clay			5.0	0	5.00
	Gravel Fine)		30.	00	35.00
	Shale			45.	00	80.00
Screen Installed: No Intake: Unknown	Sandstone	Fine		20.		100.00
	Shale			70.		170.00
	Sandstone			90.		260.00
	Sand Sandstone			5.0		265.00 290.00
	Shale			25. 10.		300.00
	Sandstone			5.0		305.00
	Shale			10.		315.00
	Sandstone	W/Shale		15.		330.00
	Shale			20.	00	350.00
			(Continued	On Page 2)		
Well Grouted: Yes Grouting Method: Unknown	Geology R	emarks:				
Grouting Material Bags Additives Depth						
Jnknown 0.00 None 0.00 ft. to 0.00 ft.						
Wellhead Completion: Unknown						
Weilinead Completion. Offknown	Drilling Ma	chine Opera	ator Name:			
Nearest Source of Possible Contamination:		nt: Unknov				
Type Distance Direction	' '					
Jnknown 0 ft.						
			(Continued	d on page 2)		
Abandoned Well Plugged: No						
Reason Not Plugged:						
General Remarks: ORIGINAL WELLID# WAS 08002; WELL DYNAMIT	TED & CLEANED	OUT 10-2-4	6 TO 10-16-46	. TOTAL MATE	RIAL REM	IOVED 8 YD.
Other Remarks:				. ,	64	2000 40 07 4:
EQP-2017 (4/2010) Page 1 of 2				LHD	2/17/2	2000 10:25 AM



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

Failure to comply is a misdemeanor.

Wellogic

import ib. 33040206302								
Tax No:	Permit No:	County: Inghar	n	То	wnship: Lansi	ing		
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
Well ID: 33000006184		04N 02W	8		3760	BWL WELL 10-07		
Well ID. 330000	06164	Distance and Direction from Road Intersection:						
		WSSN 03760; 150' E OF COMFORT ST., 100' S OF HYLAND ST.						
Latitude: 42.7446905406		Well Owner: B	OARD OF V	VATER & LIGHT				
Longitude: -84.5738525758		Well Address:	. 07	_	ner Address:	A O.T.		
Method of Collection: Interpolation	п-Мар	BWL WELL 10 LANSING, MI	-		I23 W. OTTAW. ₋ANSING, MI 48			
			•		•			

	· · - · -	L	ANOINO, IVII	ANOING, WII 40933
		from Page 1)		
			1	
Formation Description	Thickness	Depth to Bottom		
Sandstone W/Shale	30.00	380.00	1	
Shale	10.00	390.00	1	
Sandstone W/Shale	25.00	415.00	1	
Shale	28.00	443.00	1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
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			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			4	
			-	
			-	
			1	
			1	
			Contractor Type: Unknown	Reg No: 33-0729
			Business Name:	
			Business Address:	
			Water Well Contract	or's Certification
			This well was drilled under my supervision	
			my knowledge and belief.	
			1	
	L		Signature of Registered Contractor	Date
			1 3 aran o or reognotion ou oblitication	Date



Water Well And Pump Record



Source ID/Well No:

Township: Lansing

WSSN:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Town/Range: Section: Well Status:

Permit No:

Well ID: 3300006185	04N 02W	8		3760	BWL	WELL 10-08
Well ID. 33000000103	Distance and D					
Elevation: 857.63 ft.	WSSN 03760; 4	100' W OF CO	DMFORT ST.,	500' N OF WIL	LOW ST.	
	Well Owner: BOARD OF WATER & LIGHT					
Latitude : 42.7497888576	Well Address:			Owner Address:		
Longitude: -84.5763053441	BWL WELL 10-08			123 W. OTTAWA ST.		
Method of Collection: Interpolation-Map	LANSING, MI			LANSING, MI 48933		
Orilling Method: Cable Tool	Pump Inst					
Well Depth: 422.00 ft. Well Use: Type I public		Tank Installe				
Well Type: Replacement Date Completed: 6/6/1945	Pressure Relief Valve Installed: No					
Casing Type: Unknown Height: 0.00 ft. below grade Casing Joint: Unknown						
Casing Fitting: None						
asing Fitting. None						
Diameter:						
Borehole:						
Static Water Level: 104.00 ft. Below Grade Vell Yield Test: Yield Test Method: Unknown		Formation	Description	-	Thickness	Depth to Bottom
veil field fest Method. Offkilowit	Sand & Gr	avel		10	0.00	10.00
	Gravel We				5.00	35.00
	Sand & Gr				0.00	75.00
Screen Installed: No Intake: Unknown	White San				.00	79.00
	Blue Sand	& Silt Wet/Me	oist	34	4.00	113.00
	White San	d		22	2.00	135.00
	Blue Shale)		25	5.00	160.00
	White San	d		5.	.00	165.00
	Blue Shale	!		5.	.00	170.00
	White San				00.00	270.00
	Blue Shale				5.00	285.00
	White San				15.00	400.00
	Blue Shale	}		22	2.00	422.00
Vell Grouted: Yes Grouting Method: Unknown	Geology F) omorko:				
Vell Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth	Geology P	telliaiks.				
Jnknown 0.00 None 0.00 ft. to 0.00 ft.						
THORIC STOCK IN THE STOCK IN TH						
Vellhead Completion: Unknown						
	Drilling Ma	achine Opera	ator Name:	JOHN JOHNS	ON	
learest Source of Possible Contamination:	Employme	ent: Unknov	vn			
ype Distance Direction						
Jnknown 0 ft.						
	Business	r Type: Unk	nown		Reg No: 9	91-0550
Abandoned Well Plugged: No						
Reason Not Plugged:	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.					
Constal Remarks, ODICINAL MELLIDA MAC 00000, CITY OF LANCE	Signature of Registered Contractor Date					
General Remarks: ORIGINAL WELLID# WAS 08003; CITY OF LANSII OVER TO MR. WRIGHT. PIPE LEFT IN HOLE 123		IO ROLLON	ı - IVIK. WRIGF	11 WIINESSE	ט. IUKNEL	SAMPLES
Other Remarks:	<u>. </u>					



Water Well And Pump Record

County: Ingham Town/Range: \$



Source ID/Well No:

Township: Lansing

WSSN:

Well Status:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Wall ID: 22000006406	04N 02W	8		3760	BWL	WELL 10-09
Well ID: 3300006186	Distance and D					
Elevation: 846 ft.	WSSN 03760; 1	800' N OF W	ILLOW ST. 20	00' W OF COM	MFORT ST.	
	Well Owner:		/ATED 9 LICI	IT		
Latitude: 42.7529703739	Well Address:	DOARD OF V	-	Owner Addre	.ee.	
Longitude: -84.575454385	BWL WELL 10)-09		123 W. OTT		
Method of Collection: Interpolation-Map	LANSING, MI			LANSING, M	/II 48933	
Suitting Matheads Laborator	D In at	allada Na	•			
Orilling Method: Unknown Well Use: Type I public Well Use: Type I public	Pump Inst	alled: No Fank Installe	d: No			
Well Type: Replacement Date Completed: 11/3/1952	I	Relief Valve		No		
Casing Type: Unknown Height: 0.00 ft. below grade						
Casing Joint: Unknown						
Casing Fitting: None						
Diameter:						
Borehole:						
sorenoie.						
Static Water Level: 999.99 ft. Below Grade		Formation	Description		Thickness	Depth to
Well Yield Test Method: Unknown		Formation	Description			Bottom
	Clay				35.00	35.00
	Gravel Sandstone				20.00 45.00	55.00 100.00
Screen Installed: No Intake: Unknown	Sandstone				15.00 15.00	115.00
Screen Installed: No Intake: Unknown	Sandstone				10.00	125.00
	Shale				35.00	160.00
	Sandstone				55.00	215.00
	Sandstone	W/Shale			30.00	245.00
	Shale			1	10.00	255.00
	Sandstone			2	20.00	275.00
	Shale			2	20.00	295.00
	Sandstone				125.00	420.00
	Shale				15.00	435.00
Mall Occupted - Mary - Occuption Mathed - Halanan	Caslanus	\				
Well Grouted: Yes Grouting Method: Unknown	Geology R	temarks:				
Grouting MaterialBagsAdditivesDepthJnknown0.00None0.00 ft. to 0.00 ft.						
7.00 Note 5.00 It. to 5.00 It.						
Wellhead Completion: Unknown						
	Drilling Ma	achine Opera	ator Name:			
Nearest Source of Possible Contamination:	Employme	ent: Unknow	/n			
Type Distance Direction						
Jnknown 0 ft.	Countrio	- T				00.0700
	Business	r Type: Unk	nown		Reg No:	33-0729
Abandoned Well Plugged: No Reason Not Plugged:	Business					
Reason Not Flugged.	Dusiness		Nell Contr	actor's Cer	rtification	
			ler my superv			to the best of
	Signature	of Registere	d Contractor		Date	
General Remarks: ORIGINAL WELLID# WAS 08004; Other Remarks:						

EQP-2017 (4/2010) Page 1 of 1 LHD 2/17/2000 10:25 AM



Water Well And Pump Record

County: Ingham

Town/Range: Section: Well Status:



Source ID/Well No:

Township: Lansing

WSSN:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Wall ID: 2200006407	04N 02W	8		3760	BWL	WELL 10-10
Well ID: 3300006187	Distance and I					
Elevation: 855 ft.	WSSN 03760;2	50' N OF WIL	LOW ST. 100	0' W OF COMF	ORT ST.	
	Well Owner:		VATED 8 LICI	ıT		
Latitude: 42.7487958876	Well Address:	BOARD OF V		Owner Address	·-	
Longitude: -84.57832713	BWL WELL 10	n_10		123 W. OTTAV		
Method of Collection: Interpolation-Map	LANSING, MI	5-10		LANSING, MI	_	
	· · · · · · · · · · · · · · · · · · ·		I	•		
Orilling Method: Unknown	Pump Ins					
Well Depth: 410.00 ft. Well Use: Type I public		Tank Installe				
Well Type: Replacement Date Completed: 3/22/1945	Pressure	Relief Valve	Installed:	No		
Casing Type: Unknown Height: 0.00 ft. below grade						
Casing Joint: Unknown						
Casing Fitting: None						
Non-stan						
Diameter:						
Name to de						
Borehole:						
Static Water Level: 73.00 ft. Below Grade						Donth to
Well Yield Test: Yield Test Method: Unknown	,	Formation	Description	T	hickness	Depth to Bottom
Tield Test Metricu. Cirkilowii	Topsoil			1.0	0	1.00
	Yellow Cla	ıv		35.		36.00
	Blue Clay	,		9.0		45.00
Screen Installed: No Intake: Unknown	Brown Cla			15.		60.00
	Gray Clay	Soft W/Stone	·S	5.0	0	65.00
	Blue Clay			12.	00	77.00
	Blue Shale			21.	00	98.00
	Black Sha	le		6.0	0	104.00
	Brown Sha	ale Hard		2.0	0	106.00
	Gray Sand	Istone Soft		7.0	0	113.00
	Shale W/S			48.		161.00
	Shale & Sa			14.		175.00
	Sandstone)			5.00	280.00
			(Continued	On Page 2)		
Nell Grouted: Yes Grouting Method: Unknown	Geology F	Remarks:				
Grouting Material Bags Additives Depth						
Jnknown 0.00 None 0.00 ft. to 0.00 ft.						
Mallhand Carrelladian Halmann						
Nellhead Completion: Unknown	Drilling M	achine Opera	ator Namo:	RONALD HAN	SEN & LIA	DDV WERS
Nearest Source of Possible Contamination:		ent: Unknow		RONALD HAIN	JLIN OLIA	KKI WEBS
Type Direction	Employin	ent. Onknow	VIII			
Jnknown 0 ft.						
STIKITOWIT U.E.			(Continue	d on page 2)		
Abandoned Well Plugged: No			(Oommac	a on page 2)		
Reason Not Plugged:						
Conoral Pomorko, ODICINAL WELLIDS WAS 00005, CITY OF LANCE	NC					
General Remarks: ORIGINAL WELLID# WAS 08005; CITY OF LANSI Other Remarks:	ING.					
Julior Remarks.						

EQP-2017 (4/2010) Page 1 of 2 LHD 2/17/2000 10:25 AM



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.



Гах No:	Permit No:	County: Ingham Township: Lansing							
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:			
Well ID: 3300006187		04N 02W	8		3760	BWL WELL 10-10			
Well ID. 330000	Distance and Direction from Road Intersection:								
Elevation: 855 ft.		WSSN 03760;250' N OF WILLOW ST. 1000' W OF COMFORT ST.							
Latitude: 42.7487958876		Well Owner: B	OARD OF V	VATER & LIGHT					
Longitude: -84.57832713 Method of Collection: Interpolation	п-Мар	Well Address: BWL WELL 10 LANSING, MI)-10	1	ner Address: 23 W. OTTAW. ANSING, MI 48	-			

		(Continued	from Page 1)
Formation Description	Thickness	Daniel ta	
Shale & Sandstone	15.00	295.00	
Black Shale W/Sand Wet/Moist	5.00	300.00	
Sandstone W/Shale	50.00	350.00	1
Sandstone & Shale	45.00	395.00	1
Shale & Sandstone	15.00	410.00	
	1		1
			Contractor Type: Unknown Reg No: 91-0550 Business Name:
			Business Address:
			Water Well Contractor's Certification
			This well was drilled under my supervision and this report is true to the best my knowledge and belief.
			Signature of Registered Contractor Date

EQP-2017 (4/2010) Page 2 of 2 LHD 2/17/2000 10:25 AM



Water Well And Pump Record

County: Ingham Town/Range: \$

Section:



Source ID/Well No:

Township: Lansing

WSSN:

Well Status:

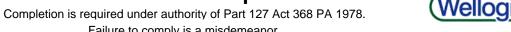
Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Wall ID. 22000000400	04N 02W	8		3760	BWL	WELL 10-11
Well ID: 3300006188	Distance and D	irection fron	n Road Interse	ection:		
Floretiens 045 ft	WSSN 03760; 2	50' E OF SU	NSET AVE. 10	50' N OF WILLC	W ST.	
Elevation: 845 ft.						
Latitude: 42.7511851773	Well Owner: B	OARD OF W				
Longitude: -84.57865638	Well Address:		_	Owner Address:		
Method of Collection: Interpolation-Map	BWL WELL 10- LANSING, MI	-11		123 W. OTTAW LANSING, MI 4	_	
moniou di Concononi interpolation map	LANSING, IVII			LANSING, IVII 4	0933	
Orilling Method: Unknown	Pump Insta	alled: No				
Well Depth: 451.00 ft. Well Use: Type I public	Pressure T	ank Installe	d: No			
Well Type:ReplacementDate Completed:3/22/1945	Pressure R	Relief Valve I	Installed: N	lo		
Casing Type: Unknown Height: 0.00 ft. below grade						
Casing Joint: Unknown						
Casing Fitting: None						
Diameter:						
Borehole:						
Static Water Level: 79.00 ft. Below Grade						Donth to
Well Yield Test: Yield Test Method: Unknown		Formation	Description	Th	ickness	Depth to Bottom
The results of the re	Yellow Clay	/ Hard		8.00)	8.00
	Clay Sandy			2.00		10.00
	Sand Fine \			10.0		20.00
Screen Installed: No Intake: Unknown	Clay Sandy	,		19.0	00	39.00
	Gravel Wet			3.00)	42.00
	Gravel & Sa	and Fine To I	Medium	17.0	00	59.00
	Clay Hard			7.00)	66.00
	Sandstone	Soft		12.0	00	78.00
	Sandstone	Medium Har	d	13.0	00	91.00
	Sandstone	W/Shale		98.0	00	189.00
	Shale Soft			1.00		190.00
		Istone W/Sha	ale	71.0		261.00
	Blue Shale	Soft		5.00)	266.00
			(Continued	On Page 2)		
Well Grouted: Yes Grouting Method: Unknown	Geology R	emarks:				
Grouting Material Bags Additives Depth Unknown 0.00 None 0.00 ft. to 0.00 ft.						
Jnknown 0.00 None 0.00 ft. to 0.00 ft.						
Wellhead Completion: Unknown						
Wellnead Completion: Onknown	Drilling Ma	chine Onera	ator Name:	RONALD HANS	OI. & IO	HN
Nearest Source of Possible Contamination:		nt: Unknow		NON LED III II II	014 000	
Type Distance Direction	p.o,o					
Jnknown 0 ft.						
5 · · ·			(Continued	on page 2)		
Abandoned Well Plugged: No			, , , , , , , , , , , , , , , , , , , ,			
Reason Not Plugged:						
General Remarks: ORIGINAL WELLID# WAS 08006; CITY OF LANSII	NG.					
Other Remarks:						

EQP-2017 (4/2010) Page 1 of 2 LHD 2/17/2000 10:25 AM





Failure to comply is a misdemeanor.

Гах No:	Permit No:	County: Ingham Township: Lansing				ing		
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
Wall ID: 220000	06400	04N 02W	8		3760	BWL WELL 10-11		
Well ID: 33000006188		Distance and Direction from Road Intersection:						
Elevation: 845 ft.		WSSN 03760; 250' E OF SUNSET AVE. 1050' N OF WILLOW ST.						
Latitude: 42.7511851773		Well Owner: B	OARD OF V	VATER & LIGHT				
Longitude: -84.57865638		Well Address: BWL WELL 10	. 11	_	ner Address: 23 W. OTTAW	A CT		
Method of Collection: Interpolation	n-Мар	LANSING, MI)-11		ANSING, MI 48	-		

			27.110	
		(Continued	from Page 1)	
Formation Description	Thickness	Depth to Bottom		
Blue Shale Hard Black	5.00	271.00	1	
Black Shale Hard	5.00	276.00	1	
White Sandstone W/Shale	65.00	341.00		
Blue Shale Soft	2.00	343.00		
White Sandstone Soft	88.00	431.00		
Blue Shale	20.00	451.00		
			_	
			1	
			1	
			-	
			-	
			-	
			-	
			-	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			1	
			Contractor Type: Unknown	Reg No: 91-0550
			Business Name:	3
			Business Address:	
			Water Well Contractor's	s Certification
			This well was drilled under my supervision an	
			my knowledge and belief.	,
			1	
	•		Signature of Registered Contractor	Date

EQP-2017 (4/2010) Page 2 of 2 LHD 2/17/2000 10:25 AM



Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

Tax No:	Permit No:	County: Ingha	<u>m</u>		Township:		
		Town/Range:	Section:	Well Status:			e ID/Well No:
Well ID: 33	000006189	04N 02W Distance and D	8 Piraction fro	m Pood Inter	370	bU BWL	WELL 15-06
Elevation: 850 ft.		WSSN 03760; 4				OF W BND	
Latitude: 42.746403062	22	Well Owner:	BOARD OF V	NATER & LIG	HT		
		Well Address:	- J, (D OI		Owner Add	ress:	
Longitude : -84.564816		BWL WELL 15	5-06		123 W. OT		
Method of Collection:	Interpolation-Map	LANSING, MI			LANSING,		
Drilling Method: Unknown		Pump Inst	alled: No				
Well Depth: 445.00 ft.	Well Use: Type I public	_ <u></u>	Tank Install				
Well Type: Replacement	Date Completed:	Pressure I	Relief Valve	Installed:	No		
Casing Type: Unknown	Height: 0.00 ft. below grade						
Casing Joint: Unknown							
Casing Fitting: None							
Diameter:							
Borehole:							
Static Water Level: 60.67 ft	t Below Grade						Donth 4-
Well Yield Test:	Yield Test Method: Unknown		Formation	n Description		Thickness	Depth to Bottom
Pumping level 126.00 ft. after		Light Brow	n Clay			50.00	50.00
, J : : ===== and.		Gray Shale				15.00	65.00
			Sandstone I	Medium		5.00	70.00
Screen Installed: No	Intake: Unknown		Sandy Soft			20.00	90.00
			stone Fine S			45.00	135.00
				Fine Wet/Mois	i	65.00	200.00
			Wet/Moist			5.00	205.00
				ine To Coars	e W/Silt	45.00	250.00
			dstone Wet/			15.00	265.00
		Light Gray	Sandstone I	ine Wet/Mois		105.00	370.00
		Gray Shale	Wet/Moist			15.00	385.00
		Sandstone				10.00	395.00
				ine To Mediu	m Wet/Moist		430.00
			Shale Wet/N	loist		15.00	445.00
Well Grouted: Yes Grouting Material Unknown Bags 0.00	Frouting Method: Unknown From Additives Depth None 0.00 ft. to 0.00 ft.	Geology R	emarks:				
Wellhead Completion: U	nknown	Drilling Ma	chine Onc	ator Name:			
Nearest Source of Possible	Contamination:		ent: Unkno				
Type	Distance Direction	Linbioyille	JIII. OHRHO	**:1			
Unknown	0 ft.						
OTHER DWIT	o it.	Contracto	r Type: Unl	nown		Reg No:	33-0729
Abandoned Well Plugged:	No	Business					55 5. <u>E</u> 0
Reason Not Plugged:		Business					
				Well Contr	actor's Co	ertification	
				der my superv		s report is true	
		Signature	of Register	ed Contracto		Date	
General Remarks: ORIGINA	AL WELLID# WAS 08008:	Joighalaic	o. r.ogiotei			Date	
Other Remarks:	,						
EOD 2017 (4/2010)	Dogo 1 of 1					1110 0/47/	2000 10:25 11

EQP-2017 (4/2010) 2/17/2000 10:25 AM Page 1 of 1 LHD



EQP-2017 (4/2010)

Page 1 of 2

Water Well And Pump Record

County: Ingham

Town/Range: Section: Well Status:



Source ID/Well No:

2/17/2000 10:25 AM

LHD

Township: Lansing

WSSN:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Mall ID: 22000006400	041	N 02W	8			3	760 BWL	WELL 15-07
Well ID: 3300006190					Road Inters			
Elevation: 859 ft.	WSSN	03760; 10	00' N OF	MAF	PLE ST. 100'	W OF LOG	GAN ST.	
Latitude: 42.7461631203	Well O	wner: B	OARD C)F W	ATER & LIGH	-IT		
Longitudo: 94 5679242940	Well A	ddress:			(Owner Ad	dress:	
Longitude : -84.5678343849	BWL WELL 15-07 123 W. OTTAWA ST.							
Method of Collection: Interpolation-Map	LANS	SING, MI				LANSING	i, MI 48933	
Netter Made at Halance	I.			NI-				
Orilling Method: Unknown Vell Depth: 430.00 ft. Well Use: Type I public	_	ump Insta ressure T		No	l: No			
Vell Type: Replacement Date Completed:		ressure i ressure R				No		
Casing Type: Unknown Height: 0.00 ft. below grade		ressure iv	ciici va	IVE II	istalieu.	INO		
Casing Joint: Unknown								
Casing Fitting: None								
rung. Hone								
Diameter: Borehole:								
Static Water Level: 47.01 ft. Below Grade Vell Yield Test: Yield Test Method: Unknown	n		Forma	tion	Description		Thickness	Depth to Bottom
Pumping level 107.00 ft. after 0.00 hrs. at 585 GPM	G	ray Clay					40.00	40.00
	G	ray Sands	tone Fin	е То	Medium Wet	:/Moist	30.00	70.00
	G	ray Sands	tone Co	arse	W/Limestone)	4.00	74.00
Screen Installed: No Intake: Unknown		oal					1.00	75.00
	G	ray Sands	tone Fin	e We	et/Moist		5.00	80.00
		ray Shale			oft		20.00	100.00
		hale Sand	-				35.00	135.00
	_	ray Shale					30.00	165.00
	_	ight Gray S			et/Moist		30.00	195.00
		ray Shale					30.00	225.00
		ight Gray S			et/Moist		70.00	295.00
		ray Shale					5.00	300.00
	S	andstone '	w/Shale		(01	O D	5.00	305.00
Vell Grouted: Yes Grouting Method: Unknown		eology R			(Continued	On Page	2)	
Grouting Material Bags Additives Depth Unknown 0.00 None 0.00 ft. to 0.00 ft.		eology K	emarks.					
Vellhead Completion: Unknown	卢	rilling Ma	chine O	nors	tor Name:			
learest Source of Possible Contamination:		mployme		-				
Type Direction	-	IIIpioyilic	iii. Oili	CI IO VVI	•			
Jnknown 0 ft.								
Thursday, and the second secon	—				Continue	d on pag	ie 2)	
Abandoned Well Plugged: No				`	Jonanao	a on pag	,	
Reason Not Plugged:								
General Remarks: ORIGINAL WELLID# WAS 08009;								
Other Remarks:								



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

Failure to comply is a misdemeanor.



Γax No:	Permit No:	County: Inghar	wnship: Lans	Lansing				
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
Well ID: 3300006190		04N 02W	8		3760	BWL WELL 15-07		
		Distance and Direction from Road Intersection:						
Elevation: 859 ft.		WSSN 03760; 100' N OF MAPLE ST. 100' W OF LOGAN ST.						
Latitude: 42.7461631203		Well Owner: B	OARD OF V	VATER & LIGHT				
Longitude: -84.5678343849	ngitude: -84.5678343849		Well Address: Owner Address:					
Method of Collection: Interpolation	п-Мар	BWL WELL 15 LANSING, MI	5-07		123 W. OTTAW LANSING, MI 4	-		

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	
Light Gray Sandstone Fine	60.00	365.00	
Sandstone Fine To Medium	25.00	390.00	
Light Gray Sandstone Fine To Medium	30.00	420.00	
Dark Gray Shale Wet/Moist	5.00	425.00	
Light Gray Shale Wet/Moist	5.00	430.00	
	+		
	+		
	_		
			Contractor Type: Unknown Reg No: 33-0729
			Business Name:
			Business Address:
			Water Well Contractor's Certification
			This well was drilled under my supervision and this report is true to the best
			my knowledge and belief.
			.
			Signature of Registered Contractor Date

EQP-2017 (4/2010) Page 2 of 2 LHD 2/17/2000 10:25 AM



Water Well And Pump Record

County: Ingham

Town/Range: Section: Well Status:



Source ID/Well No:

Township: Lansing

WSSN:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Well ID: 3300	20006404	04N 02W	8		3760) BWL	WELL 15-08
Well ID. 3300	J0006191	Distance and D					
Elevation: 857 ft.		WSSN 03760; 1	00' N OF MA	PLE ST. 200'	W OF JENNIS	SON ST.	
		Well Owner: B		ATED 8 LICE	UT		
Latitude: 42.7462443079		Well Address:	DOARD OF V	VATER & LIGI	Owner Addre		
Longitude: -84.573529127	'8	BWL WELL 15	-08		123 W. OTT		
Method of Collection: Inte	erpolation-Map	LANSING, MI			LANSING, M	_	
willing Methods Coble Tool		Dumm In ot	alladı No	•			
Orilling Method: Cable Tool Vell Depth: 430.00 ft.	Well Use: Type I public	Pump Insta	alled: No ank Installe	d: No			
Vell Type: Replacement	Date Completed: 7/26/1945		Relief Valve		No		
Casing Type: Unknown	Height: 0.00 ft. below grade						
Casing Joint: Unknown	•						
Casing Fitting: None							
Diameter: 13.25 in. to 0.00 ft. de	epth						
Borehole:							
orenoie.							
Static Water Level: 80.00 ft. Be			Formation	Description		Thickness	Depth to
Vell Yield Test:	Yield Test Method: Unknown						Bottom
		Clay & Gravel & Cl				10.00 15.00	10.00 25.00
		Gravel	iay			10.00	35.00
Screen Installed: No	Intake: Unknown	White Sand	1			5.00	40.00
ocieen instaneu. No	make. Stikilowii	Gravel	•			5.00	45.00
		Blue Shale				25.00	70.00
		Coal				1.00	71.00
		Gray Shale			1	19.00	90.00
		Sand Broke	en		5	50.00	140.00
		Blue Shale			5	5.00	145.00
		Sandstone				260.00	405.00
		Shale			2	25.00	430.00
Vell Grouted: Yes Grou	ting Method: Unknown	Geology R	emarks:				
	Additives Depth	Occology it	ciliai ks.				
	None 0.00 ft. to 0.00 ft.						
Vellhead Completion: Unkn	own						
			chine Opera				
learest Source of Possible Co		Employme	nt: Unknow	/n			
ype	Distance Direction						
Jnknown	0 ft.	Contractor	Type: Unk	nown		Reg No:	91-0550
Abandoned Well Plugged: No		Business		HOWIT		iteg ito.	91-0330
Reason Not Plugged:	,	Business /					
			Water \	Well Contra	actor's Cer	tification	
			as drilled und dge and belie		ision and this	report is true	to the best of
				d Contractor		Date	
	VELLID# WAS 08010; 430' FROM CAS	SING TOP. PIPE L	EFT IN HOL	E 97'6". DRIL	LER: JOHN A	. JOHNSON	
Other Remarks:							

EQP-2017 (4/2010) Page 1 of 1 LHD 2/17/2000 10:25 AM



Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

Tax No:	Permit No:	County: Ingha	n		rownsnip:	Lansing				
		Town/Range:	Section:	Well Status:			e ID/Well No:			
Well ID: 330	00006192	04N 02W 8 3760 BWL WELL 20-03								
Well ID. 330	00000132	Distance and Direction from Road Intersection: WSSN 03760: 400' E OF LOGAN ST. 3600' N OF W BOUND OAKL								
Elevation: 850 ft.		WSSN 03760; 4	00' E OF LC	OGAN ST. 360	0' N OF W B	OUND OAKL				
Latitude: 42.7524775688		Well Owner: E	BOARD OF	WATER & LIG	HT					
Longitude: -84.56634439	955	Well Address: Owner Address:								
Method of Collection: In		BWL WELL 20-03 123 W. OTTAWA ST.								
Method of Collection.	тегрогацоп-тиар	LANSING, MI			LANSING,	MI 48933				
Drilling Method: Unknown		Pump Inst	alled: Ye	S	Pump Ins	stallation Onl	ly: No			
Well Depth: 430.00 ft.	Well Use: Type I public		allation Dat	e:	HP:		•			
Well Type: Replacement	Date Completed: 9/28/1959	Manufactu	rer: Othe	r	Pump Ty	pe: Unknow	vn			
Casing Type: Unknown	Height: 0.00 ft. below grade	Model Nur	nber:		Pump Ca	pacity:				
Casing Joint: Unknown		Drop Pipe	Length:	78.00 ft.	Pump Vo	ltage:				
Casing Fitting: None		Drop Pipe	Diameter:		Drilling R	Record ID:				
		Draw Dow	n Seal Used	d: No						
Diameter:		Pressure 1	Tank Install	ed: No						
		Pressure F	Relief Valve	Installed:	No					
Borehole:										
Static Water Level: 75.00 ft. I	Dalaw Crada									
Well Yield Test: 75.00 ft. f	Yield Test Method: Unknown		Formatio	n Description		Thickness	Depth to Bottom			
	THE TOOL MOUNTAIN CHIMICANT	Sand				15.00	15.00			
		Gravel Med	dium			5.00	20.00			
		Clay & Gra				8.00	28.00			
Screen Installed: No	Intake: Unknown	Hardpan W				2.00	30.00			
		Gravel Med				15.00	45.00			
		Gravel Coa	irse			5.00	50.00			
		Clay Sandy	/			10.00	60.00			
		Boulders				2.00	62.00			
		Coal				8.00	70.00			
		Shale				4.00	74.00			
		Sandstone	W/Shale			11.00	85.00			
		Shale				8.00	93.00			
		Sandstone	Coarse			7.00	100.00			
				(Continued	d On Page 2)	<u> </u>				
Well Grouted: Yes Grouting Material Bags Unknown 0.00	Additives Depth None 0.00 ft. to 0.00 ft.	Geology R	emarks:							
Wellhead Completion: Unk	nown	D		NI	0001511					
Name of Courses of B				rator Name:	COGLEY					
Nearest Source of Possible C		Employme	ent: Unkno	wn						
Type	Distance Direction									
Unknown	0 ft.			(Continue	d on noor	. 2\				
Abandonad Well Blumped				(Continue	u on page	; 4)				
Abandoned Well Plugged: Neason Not Plugged:	No									
Neason Not Flugged.										
General Remarks: ORIGINAL										
	acturer:Pump Manufacturer unknown									
EOD 2017 (4/2010)	Dogo 1 of 0					LID 2/47/	2000 10.25 1			

EQP-2017 (4/2010) Page 1 of 2 LHD 2/17/2000 10:25 AM





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Tax No:	Permit No:	County: Ingham Township: Lansing				
	•	Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:
Well ID: 33000006192		04N 02W	8		3760	BWL WELL 20-03
77611 ID. 330000	Distance and D	irection fro	m Road Intersect	ion:		
Elevation: 850 ft.		WSSN 03760; 400' E OF LOGAN ST. 3600' N OF W BOUND OAKL				
Latitude: 42.7524775688		Well Owner: B	OARD OF V	VATER & LIGHT		
Longitude: -84.5663443955		Well Address:		_	ner Address:	A 0.T
Method of Collection: Interpolation	п-Мар	BWL WELL 20 LANSING, MI)-03		23 W. OTTAW. ANSING, MI 48	-

		(Continued	I from Page 1)
Formation Description	Thickness	Depth to Bottom	OTHER REMARKS: Pump Manufacturer:Pump Manufacturer unknown
Sandstone Medium	1.00	101.00	1
Sandstone Coarse	19.00	120.00	1
Sandstone Coarse W/Shale	5.00	125.00	1
Shale	37.00	162.00	1
Limestone	3.00	165.00	1
Shale	45.00	210.00	1
Sandstone Medium	10.00	220.00	1
Sandstone Coarse	10.00	230.00	1
Sandstone Medium	5.00	235.00	
Sandstone Fine	5.00	240.00	1
Sandstone Fine W/Shale	5.00	245.00	1
Sandstone Medium W/Shale	10.00	255.00]
Sandstone Fine	15.00	270.00]
Shale	10.00	280.00	
Sandstone Hard Medium	10.00	290.00	1
Sandstone Coarse W/Shale	5.00	295.00	1
Sandstone Medium W/Shale	5.00	300.00	1
Sandstone Coarse	25.00	325.00	1
Sandstone Medium W/Shale	5.00	330.00	1
Sandstone Coarse	25.00	355.00	1
Shale W/Sandstone Coarse	25.00	380.00	1
Sandstone Medium W/Shale	15.00	395.00	1
Sandstone Fine W/Shale	5.00	400.00	1
Sandstone Hard Medium	10.00	410.00	
Sandstone Fine	5.00	415.00	
Sandstone Coarse Hard	5.00	420.00	
Shale	10.00	430.00	-
			1
			_
			-
			1
			<u> </u>
			Contractor Type: Unknown Reg No: 33-0729
			Business Name:
			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-2017 (4/2010) Page 2 of 2 LHD 2/17/2000 10:25 AM



Water Well And Pump Record

County: Ingham



Township: Lansing

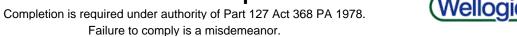
Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

	Town/Range:		Well Status:	WSSN:	1	ID/Well No:		
Well ID: 3300006199	04N 02W	9	. D I I - 1	3760	BWL	WELL 15-04		
WCII 1D. 33000000133	Distance and Direction from Road Intersection: WSSN 03760; 4000' W OF S BND CEDAR ST. 1100' N OF W BND							
Elevation: 851.84 ft.	WSSN 03760; 4	000 W OF S	BND CEDAR S	51. 1100 N OF V	A RIND			
Latitude: 42.7464196001	Well Owner: B	BOARD OF V	VATER & LIGHT	Г				
Longitude: -84.561369159	Well Address:		O	wner Address:				
_	BWL WELL 15	-04		123 W. OTTAWA	-			
Method of Collection: Interpolation-Map	LANSING, MI		L	_ANSING, MI 48	933			
Orilling Method: Unknown	Pump Insta	alled: No						
Vell Depth: 437.00 ft. Well Use: Type I public	Pressure T	ank Installe	ed: No					
Vell Type: Replacement Date Completed:	Pressure F	Relief Valve	Installed: No	o				
Casing Type: Unknown Height: 0.00 ft. below grade								
Casing Joint: Unknown								
Casing Fitting: None								
Diameter:								
Borehole:								
Static Water Level: 47.33 ft. Below Grade Vell Yield Test: Yield Test Method: Unknown		Formation	Description	Thi	ckness	Depth to Bottom		
Pumping level 51.00 ft. after 0.00 hrs. at 842 GPM	Sand W/Sil	t Gravely		20.00)	20.00		
	Sand & Cla			5.00		25.00		
	Gravel & C			5.00		30.00		
Screen Installed: No Intake: Unknown	Gravel & Cl			5.00		35.00		
		y Very Fine	Silty	5.00		40.00		
	Sandstone	Very Fine Si	Ity	5.00		45.00		
	Gray Shale			10.00)	55.00		
	Coal			5.00		60.00		
	Shale Fine	Sandy		25.00)	85.00		
	Sandstone	Fine W/Shal	е	15.00)	100.00		
	Gray Sands	stone Fine		20.00		120.00		
		Fine W/Shal	е	35.00		155.00		
	Sandstone	Fine		20.00)	175.00		
			(Continued C	n Page 2)				
Vell Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Jnknown 0.00 None 0.00 ft. to 0.00 ft.	Geology R	emarks:						
Vellhead Completion: Unknown								
		chine Oper						
learest Source of Possible Contamination:	Employme	nt: Unknov	vn					
ype Distance Direction								
Jnknown 0 ft.			<u> </u>					
the state of Well Bloomed			(Continued	on page 2)				
Abandoned Well Plugged: No								
Reason Not Plugged:								
General Remarks: ORIGINAL WELLID# WAS 09007;	'							
Other Remarks:								

EQP-2017 (4/2010) Page 1 of 2 LHD 2/17/2000 10:25 AM





Гах No:	Permit No:	County: Inghar	n	То	Township: Lansing		
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:	
Well ID: 3300006199		04N 02W	9		3760	BWL WELL 15-04	
Well ID. 330000	Distance and Direction from Road Intersection:						
Elevation: 851.84 ft.		WSSN 03760; 4000' W OF S BND CEDAR ST. 1100' N OF W BND					
Latitude: 42.7464196001		Well Owner: B	OARD OF V	VATER & LIGHT			
Longitude: -84.561369159		Well Address: BWL WELL 15	5.04	_	vner Address: 123 W. OTTAW	A CT	
Method of Collection: Interpolation	п-Мар	LANSING, MI)-U 4		LANSING, MI 48	-	

		(Continued
Formation Description	Thickness	Depth to Bottom
Sandstone Medium	30.00	205.00
Sandstone Fine	65.00	270.00
White Sandstone Fine	20.00	290.00
Gray Sandstone Medium	25.00	315.00
Gray Sandstone Medium To Coarse	5.00	320.00
Gray Sandstone Medium	5.00	325.00
Gray Sandstone Fine	5.00	330.00
Gray Sandstone Medium	5.00	335.00
Gray Sandstone Fine	15.00	350.00
Gray Sandstone Medium To Coarse	15.00	365.00
Gray Sandstone Medium	5.00	370.00
Gray Sandstone Medium	15.00	385.00
Gray Sandstone Fine	30.00	415.00
Limestone	1.00	416.00
Gray Limestone	5.00	421.00
Gray Shale	16.00	437.00

EQP-2017 (4/2010) Page 2 of 2 LHD 2/17/2000 10:25 AM



EQP-2017 (4/2010)

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Water Well And Pump Record



Source ID/Well No:

2/17/2000 10:25 AM

LHD

Township: Lansing

WSSN:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Town/Range: Section: Well Status:

Permit No:

Well ID: 3300006200	0	04N 02W	9				3760		
Well ID. 33000000200		ance and Di							
Elevation: 847.14 ft.	4300)' W OF S BI	ND CED	AR S	ST. 1000' N (OF W BN	ID OAKLAND AVE		
	W/ell	L Owner D	OARD () F \A	MTED 9 LIC	NIT			
Latitude: 42.7462946669		Well Owner: BOARD OF WATER & LIGHT Well Address: Owner Address:							
Longitude : -84.5623705131		/L WELL 15	05			-	. OTTAWA ST.		
Method of Collection: Interpolation-Map		NSING, MI	-03			_	NG, MI 48933		
		,					•		
Orilling Method: Unknown		Pump Insta		No					
Vell Depth: 425.00 ft. Well Use: Type I public		Pressure T							
Vell Type: Replacement Date Completed:		Pressure R	Relief Va	lve I	nstalled:	No			
Casing Type: Unknown Height: 0.00 ft. below grade									
Casing Joint: Unknown									
Casing Fitting: None									
Diameter:									
Borehole:									
Static Water Level: 46.00 ft. Below Grade	-						<u> </u>	Daniel La	
Vell Yield Test: Yield Test Method: Unknown	_		Forma	tion	Description	1	Thickness	Depth to Bottom	
Pumping level 69.00 ft. after 0.00 hrs. at 780 GPM	.1	Sand Fine					15.00	15.00	
amping level 65.56 ft. after 6.56 files. at 700 Gr W		Sand & Gra	vel Fine				10.00	25.00	
		Gravel Coa					5.00	30.00	
Screen Installed: No Intake: Unknown		Clay W/Gra		<u></u>			5.00	35.00	
Wilder Mistalica. 110		Gray Shale		ist			5.00	40.00	
		Light Gray			oist Sandv		20.00	60.00	
		Light Gray					25.00	85.00	
		Light Gray					15.00	100.00	
		Light Gray S	Sandsto	ne Fi	ne		25.00	125.00	
		Light Gray S	Sandsto	ne C	emented		5.00	130.00	
					ery Fine W/S		55.00	185.00	
					oarse W/Silt		5.00	190.00	
		Sandstone	Fine To	Coar	se		5.00	195.00	
					(Continue	d On Pag	ge 2)		
Vell Grouted: Yes Grouting Method: Unknown		Geology R	emarks:						
Grouting Material Bags Additives Depth									
Jnknown 0.00 None 0.00 ft. to 0.00 ft.									
Vellhead Completion: Unknown		Drilling Mo	ahina O		tor Nome:				
Ingress Course of Describle Conteminations		Drilling Ma Employme		-					
learest Source of Possible Contamination: Type Direction		Employme	nt: On	KIIOW	TI .				
Type Distance Direction Unknown 0 ft.									
DIKHOWH UIL.					(Continue	ad on n	200 2)		
Nbandoned Well Plugged: No					Continue	su on p	ay c 2)		
Reason Not Plugged: NO									
		1							
Constal Demostra, ODICINAL MELLIDA MAG 00000									
General Remarks: ORIGINAL WELLID# WAS 09008; Other Remarks:									
ALITO I NOTICE RO.									



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

Failure to comply is a misdemeanor.



Гах No:	Permit No:	County: Ingham			Township: Lansing			
Well ID: 3300006200		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
		04N 02W	9		3760			
Well ID. 330000	Distance and Di	rection fro	n Road Intersed	tion:				
Elevation: 847.14 ft.		4300' W OF S BND CEDAR ST. 1000' N OF W BND OAKLAND AVE						
Latitude: 42.7462946669		Well Owner: B	OARD OF V	VATER & LIGHT				
Longitude: -84.5623705131		Well Address: BWL WELL 15-05 Owner Address: 123 W. OTTAWA ST.						
Method of Collection: Interpolation	n-Мар	LANSING, MI)-UO		LANSING, MI 4	-		

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	
Gray Sandstone Fine Silty	180.00	375.00	
Gray Shale Wet/Moist	10.00	385.00	
ight Gray Sandstone Very Fine W/Silt	30.00	415.00	
Black Shale Soft	10.00	425.00	
	1		
	1		
	1		
	1		
	+		
	+		
	+		
	+		
	_		
	+		
	+		
	+		
	1		
	1		
	1		
	1		
	1		
	1		
			Contractor Type: Unknown Reg No: 33-0729
			Business Name:
			Business Address:
			Water Well Contractor's Certification
			This well was drilled under my supervision and this report is true to the best
	1		my knowledge and belief.
	•		Signature of Registered Contractor Date

EQP-2017 (4/2010) Page 2 of 2 LHD 2/17/2000 10:25 AM





Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No:

Tax No: 330118352028 County: Ingham Township: Lansing WSSN: Town/Range: Section: Well Status: Source ID/Well No: 04N 02W 18 Active Well ID: 33000006278 Distance and Direction from Road Intersection: 110FT W OF STONER, 480FT S OF KALAMAZOO Elevation: 880 ft. Latitude: 42.728521 Well Owner: JOHN EATON Well Address: Owner Address: Longitude: -84.598403 514 STONER 514 STONER Method of Collection: Interpolation-Map LANSING, MI LANSING, MI Drilling Method: Rotary Pump Installed: No Well Depth: 225.00 ft. Well Use: Irrigation Pressure Tank Installed: Nο Well Type: New Date Completed: 2/18/1990 Pressure Relief Valve Installed: No Casing Type: PVC plastic Height: 1.50 ft. above grade Casing Joint: Welded Casing Fitting: None Diameter: 5.00 in. to 129.00 ft. depth Borehole: 8.00 in. to 129.00 ft. depth Static Water Level: 85.00 ft. Below Grade Depth to **Thickness Formation Description** Well Yield Test: Bottom Yield Test Method: Unknown Pumping level 120.00 ft. after 0.00 hrs. at 60 GPM Brown Clay 5.00 5.00 Black Topsoil 4.00 9.00 19.00 Gray Clay 10.00 Screen Installed: No Intake: Bedrock Well Black & Gray Clay 30.00 49.00 Clay & Stones Sandy 16.00 65.00 Red Clay Soft 95.00 30.00 Red Shale 10.00 105.00 Red Sandstone Soft 20.00 125.00 White Sandstone 15.00 140.00 Gray Sandstone 22.00 162.00 White Sandstone 23.00 185.00 Gray Shale 15.00 200.00 Gray Sandstone White 25.00 225.00 Well Grouted: Yes Grouting Method: Unknown Geology Remarks: **Grouting Material Bags** Additives Depth Bentonite slurry 0.00 0.00 ft. to 129.00 ft. None Wellhead Completion: Pitless adapter Drilling Machine Operator Name: PETES WELL DRILLING **Nearest Source of Possible Contamination:** Employment: Unknown Direction Type Distance Sewer line 80 ft. East Contractor Type: Unknown Reg No: 18-2003 **Business Name: 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 General Remarks: Other Remarks:

EQP-2017 (4/2010) LHD 2/17/2000 10:27 AM Page 1 of 1



Water Well And Pump Record



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Γax No:	Permit No:	County: Inc	ham		Township:	Lansing	
	<u> </u>		e: Section:	Well Status			e ID/Well No:
\\\ 00000	0000070	04N 02W			37		ISING TWP
Well ID: 3300	0006279			om Road Inter	rsection:		
				MICHIGAN AVE		GRACE ST	
Elevation: 880 ft.			o, ooo o o			0.0.020.	
Latitude: 42.732887		Well Owner	: LANSING	TOWNSHIP			
		Well Addres			Owner Add	ress:	
Longitude: -84.593458		LANSING -	TWP WELL #1	I			
Method of Collection: Interp	oolation-Map	LANSING,			LANSING,	MI 48933	
Orilling Method: Cable Tool				10			
Well Depth: 404.00 ft.	Well Use: Type I public	1	re Tank Insta				
Well Type: Replacement	Date Completed: 9/17/1945	Pressu	re Relief Valv	e Installed:	No		
Casing Type: Unknown	Height: 0.00 ft. below grade						
Casing Joint: Unknown							
Casing Fitting: None							
Diameter:							
3orehole: 13.25 in. to 0.00 ft. dep	th						
Static Water Level: 80.00 ft. Belo			Formati	on Description	า	Thickness	Depth to
Well Yield Test:	Yield Test Method: Unknown				•		Bottom
		Black L				4.00	4.00
		Blue Cl				38.00	42.00
		Shale S	•			13.00	55.00
Screen Installed: No	Intake: Unknown	Sand &				20.00	75.00
		Blue Sh				36.00	111.00
			and Coarse			59.00	170.00
		Sand W				50.00	220.00
		White S				70.00	290.00
		Blue Sh	ale			12.00	302.00
		Sand				4.00	306.00
		Gray SI				17.00	323.00
		White S				80.00	403.00
		Gray Li	mestone			1.00	404.00
Well Grouted: Yes Grouting	ng Method: Unknown	Geolog	y Remarks:				
	dditives Depth						
Jnknown 0.00 No	one 0.00 ft. to 0.00 ft.						
Wellhead Completion: Unknow	vn						
			_	erator Name:			
Nearest Source of Possible Cont		Employ	ment: Unkn	iown			
Гуре	Distance Direction						
Jnknown	0 ft.						
			ctor Type: U	nknown		Reg No:	91-0550
Abandoned Well Plugged: No			ss Name:				
Reason Not Plugged:		Busine	ss Address:				
				r Well Cont			
		This we	ll was drilled ι	under my super	vision and thi	s report is true	to the best of
		my kno	wledge and be	elief.			
		Signati	ire of Registe	ered Contracto	r	Date	
General Remarks: ORIGINAL WE	ELLID# WAS 18001:	J.gatt	,g.o.				
Other Remarks:	;						

EQP-2017 (4/2010) LHD 2/17/2000 10:27 AM Page 1 of 1



Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

	Town/Range: 04N 02W	Section: 18	Well Status:	WSSN : 3770		ID/Well No:		
Well ID: 3300006280	04N 02W 18 3770 LANSING TWP Distance and Direction from Road Intersection:							
Elevation: 880 ft.	WSSN 03770; 850' S OF MICHIGAN AVE. 1300' W OF GRACE ST							
Latitude: 42.731139	Well Owner.	ANICINIC TO	NA/NICL IID					
Latitude: 42.731139	Well Owner: L Well Address:	ANSING TO		Owner Address:				
Longitude : -84.595502	LANSING TWF	D WELL #2		Owner Address.				
Method of Collection: Interpolation-Map	LANSING, MI	VVLLL #2		LANSING, MI 4	8933			
Drilling Method: Cable Tool	Pump Insta	alled: No						
Well Use: Type I public	<u> </u>	Tank Installe	ed: No					
Well Type: Replacement Date Completed: 10/8/1945	Pressure F	Relief Valve	Installed:	No				
Casing Type: Unknown Height: 0.00 ft. below grade								
Casing Joint: Unknown								
Casing Fitting: None								
Diameter: 0.00 in. to 143.80 ft. depth								
Borehole: 13.25 in. to 0.00 ft. depth								
Notice Water Level 177.00 (c. Dolon, Oceal)								
Static Water Level: 77.00 ft. Below Grade Nell Yield Test: Yield Test Method: Unknown		Formation	n Description	Th	ickness	Depth to Bottom		
Well field fest. Held fest Method. Officiowif	Clay Sandy	<u> </u>		5.00)	5.00		
	Sand W/Sh			60.0		65.00		
	Sand & Gra			15.0		80.00		
Screen Installed: No Intake: Unknown	Coal			2.00		82.00		
original materials.	Sand			13.0		95.00		
	Shale			24.0	0	119.00		
	White Sand	t		4.00		123.00		
	Sand Broke	en		17.0	0	140.00		
	White Sand	d		30.0	0	170.00		
	Shale & Sa			65.0	0	235.00		
	White Sand			45.0		280.00		
	Black Shale	9		13.0		293.00		
	Sand Broke	en		51.0	0	344.00		
			(Continued	On Page 2)				
Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Unknown 0.00 None 0.00 ft. to 0.00 ft.	Geology R	emarks:						
Wellhead Completion: Unknown	D.::::: M-	-1.1 0	-1 N	F 0 011111				
Nearest Source of Possible Contamination:		ent: Unknov		F. C. CULLY				
	Employme	HIL. UTIKITOV	VII					
Γype Distance Direction Unknown 0 ft.								
JIKIOWII O II.			(Continue	d on page 2)				
Abandoned Well Plugged: No			(Continue	a on page 2)				
Reason Not Plugged:								
General Remarks: ORIGINAL WELLID# WAS 18002; TESTED 10-12-4	15							
Other Remarks:	TU.							

EQP-2017 (4/2010) Page 1 of 2 LHD 2/17/2000 10:27 AM





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

Failure to comply is a misdemeanor.

33040210302	F							
Tax No:	Permit No:	County: Inghar	n	To	Township: Lansing			
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:		
Well ID: 33000006280		04N 02W	18		3770	LANSING TWP		
		Distance and Direction from Road Intersection:						
Elevation: 880 ft.		WSSN 03770; 850' S OF MICHIGAN AVE. 1300' W OF GRACE ST						
Latitude : 42.731139		Well Owner: L	ANSING TO	WNSHIP				
Longitude: -84.595502		Well Address:		O	vner Address:			
Method of Collection: Interpolation	n-Map	LANSING TW LANSING, MI	P WELL #2		LANSING, MI 48	8933		
·		•	•					

		(Continued	from Page 1)
Formation Description	Thickness	Depth to Bottom	
White Sand	61.00	405.00	
Gray Limestone	11.00	416.00	
Gray Shale	1.00	417.00	
			Contractor Type: Unknown Reg No: 91-058
			Contractor Type: Unknown Reg No: 91-058 Business Name:
			Business Address:
			Water Well Contractor's Certification
			This well was drilled under my supervision and this report is true to th my knowledge and belief.
			iny knowieuge and belief.
			Signature of Registered Contractor Date

EQP-2017 (4/2010) Page 2 of 2 LHD 2/17/2000 10:27 AM



Water Well And Pump Record



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Γax No:	Permit No:	County:	Inghan	n		Township	: Lansing		
	<u> </u>				Well Status:			urce	ID/Well No:
_\ \D. 2222	0000004	04N 02	-	18				LANS	SING TWP
Well ID: 3300006281		Distance a	and Di	irection fron	n Road Inter	section:	•		
		WSSN 037	770; 15	500' S OF SA	AGINAW ST.	100' W OF	BONAIR S	T.	
Elevation: 860 ft.									
Latitude: 42.737225		Well Owne	er: L	ANSING TO	WNSHIP				
Longitude: -84.594893		Well Addr				Owner Ad	dress:		
Method of Collection: Interp	polation-Man			WELL #3		LANIOINI	O MI 40000		
metriod of concentration.	Solation Wap	LANSING	וואו ,כ			LANSIN	G, MI 48933	5	
Orilling Method: Cable Tool		Pump	o Insta	alled: No					
Well Depth: 399.00 ft.	Well Use: Type I public	Press	sure T	ank Installe	d: No				
Well Type: Replacement	Date Completed: 9/6/1945	Press	sure R	elief Valve I	nstalled:	No			
Casing Type: Unknown	Height: 0.00 ft. below grade								
Casing Joint: Unknown									
Casing Fitting: Drive shoe									
Diameter: 14.00 in. to 102.80 ft. d	lepth								
Borehole: 13.25 in. to 0.00 ft. dep	.th								
13.23 III. to 0.00 it. dep	out								
Static Water Level: 999.99 ft. Be	low Grade							П	Depth to
Well Yield Test:	Yield Test Method: Unknown			Formation	Description		Thickn	ess	Bottom
		Topso	oil W/C	Clay			6.00		6.00
				vel Wet/Mois	st		40.00		46.00
		Shale	Sand	у			53.00		99.00
Screen Installed: No	Intake: Unknown	White	Sand	stone			101.00		200.00
		Gray	Shale				5.00	_	205.00
			Sand	stone			70.00		275.00
		Blue					40.00		315.00
			stone				74.00		389.00
		Shale	Sand	У			10.00		399.00
							_	-	
							-		
							_		
							_		
Well Grouted: Yes Grouti	ng Method: Unknown	Geolo	oav Re	emarks:					
	dditives Depth		9,	omanio.					
	one 0.00 ft. to 0.00 ft.								
Wellhead Completion: Unknow	vn								
			_	chine Opera		JOHN JO	HNSTON		
Nearest Source of Possible Cont		Empl	loyme	nt: Unknow	'n				
Гуре	Distance Direction								
Jnknown	Oft.	01		T					
			ractor ness N	Type: Unki	nown		Reg	No : 9	1-0550
Abandoned Well Plugged: No				Address:					
Reason Not Plugged:		Dusii	1035 F		Vell Contr	actoric f	Cartifiant	ion	
		Thiou	ميد الميد					-	to the best of
		mv kn	well wa nowled	as arilled und Ige and belie	i ci iliy super\ f.	าอเบท สกนิ โ	ins report is	uue	to the best of
		111,710							
							_		
Conoral Remarks: ODIOMAL WE	ELLID# WAS 19003, CT LENGTH OF				d Contractor		D	ate	
General Remarks: ORIGINAL WE Other Remarks:	ELLID# WAS 18003; 6" LENGTH OF	DKIVE SHC	J⊑. 4U	Z FRUIVI IU	r of fooni	JATION.			

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Water Well And Pump Record



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Tax No: 33040220006	Permit No:		County: Ingha	m		Township:	Lansing	
14x 140. 330120301001	I CITILLIA.		Town/Range:	Section:	Well Status:			e ID/Well No:
M-11 ID- 000	0004004	0	04N 02W	20				
Well ID: 330	10001034	-2	Distance and I	Direction fro	m Road Inter	section:	•	
Flourism 050#			600'E OF WES	T SEC. LINE	;2730'N OF S	OUTH SEC. L	_INE	
Elevation: 850 ft.								
Latitude : 42.7196784765			Well Owner:	COUNTRY (CLUB OF LAN			
Longitude: -84.58021495	561		Well Address:			Owner Addr		
Method of Collection: In	terpolation-Map		2200 MOORE LANSING, MI		₹	LANSING,	RES RIVER D)R
			LANSING, WI	40310		LANOINO,	1011 409 10	
Drilling Method: Rotary			Pump Ins	talled: Ye	es	Pump Ins	stallation Onl	y: No
Well Depth: 370.00 ft.	Well Use: Test	well		tallation Dat		HP:		
Well Type: New	Date Completed			urer: Unkı	nown		pe: Submer	
Casing Type: PVC plastic	Height: 0.0	00 ft. below grade	Model Nu			-	pacity: 0 G	PM
Casing Joint: Unknown				Length:	0.00 ft.	Pump Vo	_	
Casing Fitting: None				Diameter:	ala Nia	Drilling R	Record ID:	
Diameter:				n Seal Use				
Diameter:				Tank Install Relief Valve		No		
			riessure	vellet Agine	: mstanea:	No		
Borehole:								
20.01.0.01								
Static Water Level: 0.00 ft. A	bove Grade (Flowing)			Formatio	n Description		Thickness	Depth to
Vell Yield Test:	Yield Test M	ethod: Unknown			ii Description			Bottom
			Brown Cla				20.00	20.00
			Gray Clay				5.00	25.00
			Gray Clay				10.00	35.00
Inrestricted Flow Rate:	lutalia D	ll- \A/- II	Black Sha				10.00	45.00
Screen Installed: No	Intake: B	edrock Well	Black Sha				15.00	60.00
			Gray Shall	e & Sandsto	20		5.00 15.00	65.00 80.00
			Sandstone		ile .		40.00	120.00
			Sandstone				2.00	120.00
			Sandstone				33.00	155.00
			Sandstone				15.00	170.00
				W/Limestor	ne		5.00	175.00
			Sandstone				15.00	190.00
					(Continued	d On Page 2)		1
Well Grouted: Yes Gro	outing Method: Unki	nown	Geology F	Remarks: (0	Continued On			
Grouting Material Bags	Additives	Depth			0] [20] GRAY ([25] GRAY C	LAY &
Sentonite slurry 0.00	None	0.00 ft. to 45.00 ft.			BLACK SOFT			
-					RAY SHALE - 6] [80] SANDS			
			SHALE ST		0] [00] SANDS	1 ONE. [40] [30] [120] SAN	DSTONE
Wellhead Completion: 12 i	nches above grade		0.1, 122 01	· · · · · · · · · · · · · · · · · · ·				
				•	rator Name:	STANLEY E	BROWN; BRO)WN
Nearest Source of Possible C			Employm	ent: Unkno	wn			
Гуре	Distance	Direction						
Septic tank	0 ft.	Unknown			(0 1	1	<u> </u>	
					(Continue	d on page	: ∠)	
General Remarks: SLURRY L	ISED IN GROUTING							
Other Remarks:							115 1/	
-OP-2017 (4/2010)	Page 1 of 2						HD 1/20	1/2001 1:55 DI

EQP-2017 (4/2010) Page 1 of 2 LHD 1/29/2001 4:55 PM



Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Гах No: 330120301001	Permit No:	County: Ingham			Township: Lansing		
		Town/Range:	Section:	Well Status:	WSSN:	Source ID/Well No:	
Wall ID: 22000	10242	04N 02W	20				
Well ID: 330000	Distance and Direction from Road Intersection:						
Elevation: 850 ft.	600'E OF WEST SEC. LINE;2730'N OF SOUTH SEC. LINE						
Latitude: 42.7196784765		Well Owner: COUNTRY CLUB OF LANSING					
Longitude: -84.5802149561 Method of Collection: Interpolation	-84.5802149561 2200		Well Address: 2200 MOORES RIVER DR LANSING, MI 48910 Owner Address: 2200 MOORES RIV LANSING, MI 48910 LANSING, MI 4891				

		(Continued	from Page 1)
		Depth to	GEOLOGY REMARKS:
Formation Description	Thickness	Bottom	[2] [52] [122] SANDSTONE. [33] [50] [155] SANDSTONE SHALE. [15] [52]
Sandstone W/Limestone	5.00	195.00	[170] SANDSTONE - LIMESTONE. [5] [51] [175] SANDSTONE. [15] [50] [190]
Sandstone	20.00	215.00	SANDSTONE - LIMESTONE. [5] [51] [195] SANDSTONE. [20] [50] [215]
Sandstone W/Limestone	5.00	220.00	SANDSTONE - LIMESTONE. [5] [51] [220] SANDSTONE. [20] [50] [240] SHALE - SANDSTONE. [15] [56] [255] SANDSTONE. [30] [50] [285]
Sandstone	20.00	240.00	SANDSTONE - SHALE. [25] [52] [310] SOFT & HARD SHALE. [10] [55] [320]
Shale & Sandstone	15.00	255.00	SHALE. [15] [55] [335] SHALE BLACK. [10] [55] [345] PIRITE - SHALE MIX.
Sandstone	30.00	285.00	[5] [55] [350] SHALE SANDSTONE. [15] [56] [365] GRAY - WHITE
Sandstone W/Shale	25.00	310.00	SANDSTONE. [5] [50] [370]
Shale	10.00	320.00]
Shale	15.00	335.00]
Black Shale	10.00	345.00	1
Shale	5.00	350.00	1
Shale & Sandstone	15.00	365.00	1
Gray Sandstone	5.00	370.00]
<u> </u>]
			1
			1
			1
			1
			1
			1
			1
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			1
			1
			1
			1
			1
			1
			1
			1
			1
			1
			1
			1
			Contractor Type: Unknown Reg No: 56-0272
			Business Name:
			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
			Signature of Registered Contractor Date

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Water Well And Pump Record



Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

County: Ingham

Permit No:

Well Depth: 370.00 ft. Well Use: Irrigation Date Completed: 2/8/1995 Manufacturer: Unknown Pump Type: Submersible Casing Type: PVC plastic Height: Model Number: Pump Capacity: 0 GPM Casing Joint: Unknown Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: No Pressure Tank Installed:	ID/Well No:	Source	WSSN:	Well Status:	Section:	wn/Range:				
Elevation: 850 ft. Latitude: 42.7196120656 Longitude: -84.5802434199 Method of Collection: Interpolation-Map Method of Collection: Interpolation-M					20	•	22.42	20000402	Mall ID. o	
Latitude: 42.719612056 Latitude: 42.719612056 Well Address: 2200 MOORES RIVER DR. 2200 MOORES RIVER DR. LANSING, MI 48910 LANSING, M			section:	m Road Inters	irection from	stance and D				
Method of Collection: Interpolation-Map		INE	OUTH SEC. LI	2700'N OF S	r SEC. LINE;	0'E OF WEST			Elevation: 850 ft.	
Drilling Method: Rotary			SING	LUB OF LANS	COUNTRY C	ell Owner: (0656	Latitude: 42.719612	
Drilling Method: Rotary Well Use: Irrigation Pump Installed: Yes Pump Installation Only: No. Pump Installation Date: Pump Installation D		ss:	Owner Addres			ell Address:		2/2/100	Longitudo: 94 590	
Drilling Method: Rotary Well Use: Irrigation Date Completed: 2/8/1995 Manufacturer: Unknown Casing Type: PVC plastic Height: Manufacturer: Unknown Pump Type: Submersible Pump Installation Date: Manufacturer: Unknown Pump Type: Submersible Pump Capacity: 0 GPM Model Mumber: Pump Type: Submersible Pump Capacity: 0 GPM Model Mumber: Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed:	PR.	ES RIVER D	2200 MOORI		S RIVER DR	200 MOORES			•	
Well Depth: 370.00 ft. Well Use: Irrigation Date Completed: 2/8/1995 Manufacturer: Unknown Pump Type: Submersible Casing Type: PVC plastic Height: Model Number: Pump Capacity: 0 GPM Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Drop Pipe Length: 0.00 ft. Pump Voltage: Drop Pipe Length: 0.00 ft. Drop Pipe Length:		II 48910	LANSING, M		48910	ANSING, MI	p	Interpolation-Map	Method of Collection	
Manufacture: Unknown	y: No	allation Only	Pump Insta						•	
Model Number:							· ·		•	
Casing Joint: Unknown Casing Fitting: None None Pump Voltage: Drop Pipe Diameter: 12.00 in. to 55.00 ft. depth Pressure Tank Installed: No Pressure Relief Valve Installed: No Pressure Pressure Relief Valve Installed: No Pr				own		_	•			
Drop Pipe Diameter: 12.00 in. to 55.00 ft. depth	PM	-					nt:	c Height:		
Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: No Pressure Rel		_	-	.00 ft.	_				_	
Pressure Tank Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: No Pressure Relief Valve Installed: Unknown Pumping level 132.00 ft. after 8.00 hrs. at 350 GPM Pressure Tank Installed: No Pressure Tank Installed: No Pressure Relief Valve Installed: Unknown Pumping level 132.00 ft. after 8.00 hrs. at 350 GPM Unknown Pressure Tank Installed: No Pressure Relief Valve Installed: No Pressure Tank Installed: No Pres		cord ID:	Drilling Re	l. No					Casing Fitting: None	
Pressure Relief Valve Installed: No								00 ft donth	Diameter: 12.00 in to El	
Static Water Level: 36.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 132.00 ft. after 8.00 hrs. at 350 GPM Formation Description Thickness Brown Clay End of the property of the			No					oo ii. depiii	Diameter. 12.00 III. to 5	
Static Water Level: 36.00 ft. Below Grade Well Yield Test:			140	motalieu.	vener valve	i ressure r				
Static Water Level: 36.00 ft. Below Grade Well Yield Test:								00 ft denth	Rorehole: 15.50 in to 59	
Well Yield Test: Yield Test Method: Unknown Formation Description Thickness BB Pumping level 132.00 ft. after 8.00 hrs. at 350 GPM Brown Clay 25.00 25.00 25.00 25.00 35.00 35.00 35.00 35.00 35.00 45.00 50.0								oo ii. dopiii	DOTETION: 10.00 III. to 0.	
Vield Test:										
Brown Clay	Depth to Bottom	Thickness		n Description	Formation		Test Method: Unknown			
Gray Clay & Gravel 10.00 35.00 Shale Soft 10.00 35.00 Shale Soft 10.00 45.00 Shale Soft 10.00 45.00 50.00 50.00 Shale Hard 5.00 50.00 50.00 Shale Shale 15.00 75.00 50.00 Shale Shale 15.00 75.00 50.00 Shale & Sandstone 15.00 75.00 50.00 Shale & Sandstone 15.00 75.00 50.00	25.00	25.00	2		/	Brown Clay				
Shale Soft 10.00 45.00 45.00 45.00 5.00 50.00 50.00	35.00	0.00	1						1 0	
Black Shale	45.00	0.00	1							
Gray Shale	50.00	5.00	5		I	Shale Hard	take: Bedrock Well	Intake:	Screen Installed: No	
Sandstone 70.00 145.00 160.00	60.00	0.00	1		e	Black Shale				
Shale & Sandstone	75.00	5.00	1)	Gray Shale				
Sandstone	145.00	′0.00	7			Sandstone				
Sandstone Hard W/Shale 20.00 225.00	160.00				ndstone	Shale & Sa				
Limestone & Sandstone 5.00 230.00 Sandstone 80.00 310.00 Shale & Sandstone 15.00 325.00 Shale & Sandstone 15.00 Shale & Sandstone 15.00 325.00 Shale & Sandstone 15.00 Shale & Sandstone 15.00 325.00 Shale & Sandstone 15.00 Shale & Sandstone 15.00 Shale & Sandstone 15.00 325.00 Shale & Sandstone 15.00 Shale & San	205.00									
Sandstone Sand	225.00									
Shale & Sandstone 15.00 325.00	230.00)						
Continued On Page 2	310.00					_				
Well Grouted: Yes Grouting Method: Unknown Geology Remarks: (Continued On Page 2) Bentonite slurry 0.00 None 0.00 ft. to 55.00 ft. BRWON CLAY. [25] [10] [25] GRAY CLAY & GRAVEL. [10] [17] [35] Structure Bentonite slurry 0.00 ft. to 55.00 ft. SHALE. [10] [55] [45] HARD SHALE. [5] [55] [50] BLACK SHALE. [10] [45] SHALE. [15] [55] [75] SANDSTONE. [70] [50] [145] SHALE SANDSTONE. [15] [56] [160] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [45] [45] [45] [45] [45] [45] [45]	325.00	5.00		(O = = 1)	indstone	Shale & Sa				
Grouting Material Bags Additives Depth BRWON CLAY. [25] [10] [25] GRAY CLAY & GRAVEL. [10] [17] [35] Structure Bentonite slurry 0.00 None 0.00 ft. to 55.00 ft. SHALE. [10] [55] [45] HARD SHALE. [5] [55] [50] BLACK SHALE. [10] GRAY SHALE. [15] [55] [75] SANDSTONE. [70] [50] [145] SHALE SANDSTONE. [15] [56] [160] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE. [45] [50] [205] SANDSTONE							11-1	One of the self-state of the state of the state of the self-state	Mall Occurs 1 12	
weilnead Completion: 12 Inches above drade	E. [10] [55] [60 .E	ACK SHALE] [145] SHAL	CLAY & GRAVE [5] [55] [50] BL FONE. [70] [50]) [25] GRAY (ARD SHALE. [75] SANDST	LAY. [25] [10 0] [55] [45] H LE. [15] [55] NE. [15] [56]	BRWON CI SHALE. [10 GRAY SHA SANDSTOI	Depth 0.00 ft. to 55.00 ft	gs Additives	Grouting Material B	
Drilling Machine Operator Name: STANLEY BROWN;BROWN DR	WN DRILLIN	ROWN;BRO	STANLEY BR	ator Name:	achine Oper	Drilling Ma		aboro giado		
Nearest Source of Possible Contamination: Employment: Unknown		,			-			le Contamination:	Nearest Source of Possi	
Type Distance Direction										
								0 ft.	Unknown	
(Continued on page 2)		(Continued on page 2)								
General Remarks: SLURRY ALSO USED IN GROUTING Other Remarks:							I GROUTING	RY ALSO USED IN GRO		
	/2001 4:55 P	JD 4/00	111				<u></u>	Dogg 4 of 2		

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

Failure to comply is a misdemeanor.



Tax No: 330110301001 Permit No: County: Ingham Township: Lansing Section: Well Status: Town/Range: WSSN: Source ID/Well No: 04N 02W 20 Well ID: 33000010343 **Distance and Direction from Road Intersection:** 600'E OF WEST SEC. LINE; 2700'N OF SOUTH SEC. LINE Elevation: 850 ft. Well Owner: COUNTRY CLUB OF LANSING Latitude: 42.7196120656 Well Address: **Owner Address:** Longitude: -84.5802434199 2200 MOORES RIVER DR. 2200 MOORES RIVER DR. Method of Collection: Interpolation-Map LANSING, MI 48910 LANSING, MI 48910

			2 1101110, 1111 10010
		(Continued	from Page 1)
Formation Description	Thistenass	Depth to	GEOLOGY REMARKS:
Formation Description	Thickness	Bottom	20] [52] [225] LIMESTONE SANDSTONE. [5] [51] [230] SANDSTONE. [80]
Sandstone	15.00	340.00	[50] [310] SHALE SANDSTONE. [15] [56] [325] SANDSTONE. [15] [50] [340]
Sandstone & Shale	5.00	345.00	SANDSTONE SHALE. [5] [52] [345] SANDSTONE. [15] [50] [360] SANDSTONE - GRAY SHALE. [5] [56] [365] GRAY, BLACK SHALE. [5] [55]
Sandstone	15.00	360.00	[370]
Gray Sandstone W/Shale	5.00	365.00	
Black & Gray Shale	5.00	370.00	
			Doubles to Time
			Contractor Type: Unknown Reg No: 47-2072
			Business Name:
			Business Address:
			Water Well Contractor's Certification
	This well was drilled under my supervision and this re		This well was drilled under my supervision and this report is true to the best of
			my knowledge and belief.
			1
			Signature of Registered Contractor Date

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Tax No: 33-21-01-07-403-018

Water Well And Pump Record

County: Ingham

Town/Range:

Section:

Well Status:



Source ID/Well No:

Township: Lansing

WSSN:

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No: 3-7-12-029

04N 02W Active MW-12-04 Well ID: 33000015169 Distance and Direction from Road Intersection: Timber Drive. East of Westfield Elevation: 853.9 ft. Latitude: 42.746156387 Well Owner: Racer Trust/Arcadis Well Address: Owner Address: Longitude: -84.590837388 **Timber Drive** 10559 Citation Drive, Suite 100 Method of Collection: GPS Differential (DGPS) Lansing, MI 48917 Brighton, MI 48855 Drilling Method: Rotary Pump Installed: No Well Depth: 100.00 ft. Well Use: Test well Pressure Tank Installed: Nο Well Type: New Date Completed: 3/22/2012 Pressure Relief Valve Installed: No Casing Type: Steel - black Height: 2.00 ft. above grade Casing Joint: Welded Casing Fitting: Diameter: 4.00 in. to 77.00 ft. depth Borehole: Static Water Level: Below Grade Depth to **Thickness Formation Description** Bottom Well Yield Test: Yield Test Method: Unknown 5.00 Sand 5.00 7.00 Clay 2.00 17.00 Silt 10.00 Intake: Bedrock Well Sand 1.00 18.00 Screen Installed: No Silt 6.00 24.00 30.00 54.00 Sand Clay & Silt 10.00 64.00 Shale 3.00 67.00 Sandstone 33.00 100.00 Well Grouted: Yes Grouting Method: Unknown **Geology Remarks: Grouting Material Bags Additives** Depth Neat cement Unknown Wellhead Completion: 12 inches above grade Drilling Machine Operator Name: Chris Barden **Nearest Source of Possible Contamination:** Employment: Employee Type Distance Direction Unknown Contractor Type: Water Well Drilling Contractor Reg No: Business Name: Boart Longyear Business Address: 6215 Lehman Drive, Flint, MI, 48507 Water Well Contractor's Certification This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code. Signature of Registered Contractor **General Remarks:** Other Remarks:

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Tax No: 33-21-01-18-227-001

Water Well And Pump Record

County: Ingham

Town/Range:

Section:

Well Status:



Source ID/Well No:

Township: Lansing

WSSN:

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

Failure to comply is a misdemeanor.

Permit No: 3-7-12-032

04N 02W 17 Active MW-12-03 Well ID: 33000015170 Distance and Direction from Road Intersection: GM Plant #6. South of MLK Elevation: 878.5 ft. Latitude: 42.740505418 Well Owner: Racer Trust/Arcadis Well Address: Owner Address: Longitude: -84.579633441 GM Plant #6 10559 Citation Drive, Suite 100 Method of Collection: GPS Differential (DGPS) Lansing, MI 48912 Brighton, MI 48855 Drilling Method: Rotary Pump Installed: No Well Depth: 80.00 ft. Well Use: Test well Pressure Tank Installed: Nο Well Type: New Date Completed: 3/22/2012 Pressure Relief Valve Installed: No Casing Type: Steel - black Height: 2.00 ft. above grade Casing Joint: Welded **Casing Fitting:** Diameter: 4.00 in. to 57.00 ft. depth Borehole: Static Water Level: Below Grade Depth to **Thickness Formation Description** Bottom Well Yield Test: Yield Test Method: Unknown 6.00 Silt 6.00 Silt & Sand 17.00 11.00 Silt 20.00 37.00 Intake: Bedrock Well Sand 8.00 45.00 Screen Installed: No Sandstone 33.00 78.00 80.00 Shale 2.00 Well Grouted: Yes Grouting Method: Unknown **Geology Remarks: Grouting Material Bags** Additives Depth Neat cement Unknown Wellhead Completion: 12 inches above grade Drilling Machine Operator Name: Chris Barden **Nearest Source of Possible Contamination:** Employment: Employee Direction Type Distance Unknown Contractor Type: Water Well Drilling Contractor Reg No: Business Name: Boart Longyear Business Address: 6215 Lehman Drive, Flint, MI, 48507 Water Well Contractor's Certification This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code. Signature of Registered Contractor **General Remarks:** Other Remarks:

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

Failure to comply is a misdemeanor.

Tax No: 33-21-01-18-227-001 Permit No: 3-7-12-030 County: Ingham Township: Lansing WSSN: Town/Range: Section: Well Status: Source ID/Well No: 04N 02W 18 Active MW-12-01 Well ID: 33000015171 Distance and Direction from Road Intersection: GM Plant #2, South of Adams Platting Elevation: 864 ft. Latitude: 42.736604072 Well Owner: Racer Trust/Arcadis Owner Address: Well Address: Longitude: -84.587082066 Rosemany and GM Plant #2 10559 Citation Drive, Suite 100 Method of Collection: GPS Differential (DGPS) Lansing, MI 48912 Brighton, MI 48855

Drilling Method: Rotary Pump Installed: Nο Well Depth: 110.00 ft. Well Use: Test well Pressure Tank Installed: Nο Well Type: New **Date Completed:** 3/19/2012 Pressure Relief Valve Installed: No Casing Type: Steel - black Height: 4.00 ft. above grade Casing Joint: Welded Casing Fitting: Diameter: 4.00 in. to 87.00 ft. depth Borehole: Static Water Level: Below Grade Depth to **Thickness Formation Description** Bottom Well Yield Test: Yield Test Method: Unknown 10.00 10.00 Sand Clay 7.00 17.00 Silt 31.00 48.00 Intake: Bedrock Well Sand 3.00 51.00 Screen Installed: No Clay & Sand 16.00 67.00 Shale & Sandstone 73.00 6.00 Shale 2.00 75.00 Sandstone 35.00 110.00 Well Grouted: Yes Grouting Method: Unknown **Geology Remarks: Grouting Material Bags Additives** Depth Neat cement Unknown Wellhead Completion: 12 inches above grade **Drilling Machine Operator Name:** Chris Barden **Nearest Source of Possible Contamination:** Employment: Unknown Type Distance Direction Unknown Contractor Type: Water Well Drilling Contractor Reg No: Business Name: Boart Longyear Business Address: 6215 Lehman Drive, Flint, MI, 48507 Water Well Contractor's Certification This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code. Signature of Registered Contractor **General Remarks:** Other Remarks:

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Tax No: 33-21-01-18-227-001

Water Well And Pump Record

County: Ingham

Section:

Well Status:

Town/Range:



Source ID/Well No:

Township: Lansing

Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

Permit No: 3-7-12-031

04N 02W 18 Active MW-12-02 Well ID: 33000015172 Distance and Direction from Road Intersection: GM Plant #2, East of Adams Platting Elevation: 866.1 ft. Latitude: 42.740167085 Well Owner: Racer Trust/Arcadis Well Address: Owner Address: Longitude: -84.586980713 GM Plant # 2. North side 10559 Citation Drive Method of Collection: GPS Differential (DGPS) Lansing, MI 48912 Brighton, MI 48116 Drilling Method: Rotary Pump Installed: No Well Depth: 110.00 ft. Well Use: Test well Pressure Tank Installed: Nο Well Type: New **Date Completed:** 3/19/2012 Pressure Relief Valve Installed: No Casing Type: Steel - black Height: 2.00 ft. above grade Casing Joint: Welded Casing Fitting: Diameter: 4.00 in. to 87.00 ft. depth Borehole: Static Water Level: Below Grade Depth to **Thickness Formation Description** Bottom Well Yield Test: Yield Test Method: Unknown 7.00 Sand 7.00 Sand & Clay 16.00 9.00 Silt 13.00 29.00 Intake: Bedrock Well Sand 3.00 32.00 Screen Installed: No Silt 13.00 45.00 59.00 Sand 14.00 Clay & Silt 10.00 69.00 Sandstone 41.00 110.00 Well Grouted: Yes Grouting Method: Unknown **Geology Remarks: Grouting Material Bags** Additives Depth Neat cement Unknown Wellhead Completion: 12 inches above grade **Drilling Machine Operator Name:** Chris Barden **Nearest Source of Possible Contamination:** Employment: Unknown Type Distance Direction Unknown Contractor Type: Water Well Drilling Contractor Reg No: Business Name: Boart Longyear Business Address: 6215 Lehman Drive, Flint, MI, 48507 Water Well Contractor's Certification This well/pump was constructed under my supervision and I hereby certify that the work complies with Part 127 Act 368 PA 1978 and the well code. Signature of Registered Contractor **General Remarks:** Other Remarks:

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