Mayotte Design & Engineering, P.C.

Civil & Environmental Engineering Solutions

October 10, 2018

Confidential Attorney-Client Privileged Information Do Not Disclose

Paul M. Collins Attorney and Counselor at Law Miller Canfield One Michigan Avenue, Suite 900 Lansing, Michigan 48933

Re: Lansing Board of Water & Light
Erickson Station
Compliance with 40 CFR §257 – Location Restrictions

Dear Mr. Collins:

Mayotte Design & Engineering, PC (MD&E) was commissioned by the Lansing Board of Water & Light (LBWL) to evaluate as-built engineering specifications for the existing impoundment system at the Erickson Station Power Plant (Erickson Station, subject property, or site) to verify compliance with the 40 Code of Federal Regulations (CFR) §257 – Location Restrictions for Coal Combustion Residual (CCR) Surface Impoundments. Specifically, this letter report focuses of compliance of the subject impoundment system with the restrictions associated with 40 CFR §257.60, §257.62, §257.63 and §257.64.

Background

Description of Relevant Structures

Erickson Station is an electrical power generation facility located at 3725 South Canal Road in Delta Township, Ingham County, Michigan (Figure 1). The latitude and longitude of power plant on the subject property are 42° 41′ 32.83″ N and 84° 39′ 27.89″ W, respectively. Onpremises elevations range from 870 feet (ft) to 883 ft above geodetic datum (agd).

Erickson Station generates up to 165 megawatts of electric power from one coal-fired boiler, designated as Unit 1. Currently, bottom-ash slurries from Unit 1 are processed on-site in dewatering tanks (hydrobins) and a sequence of three surface impoundments. The first two impoundments in the sequence (i.e., Forebay and Retention Basin, respectively) were constructed in 2014 and lined using best available technology. The third impoundment, the Clear Water Pond (CWP), was constructed in 1970 and is lined with compacted clay.

The cores of the embankments for the Forebay, Retention Basin and CWP are constructed with clay-rich engineered fill with hydraulic permeabilities less than 10^{-7} cm/sec. The flanks of the embankments also consist of clay-rich engineered fill. The base grade elevation of both the Forebay and Retention Basin is 871.5 ft agd. The base grades of the CWP range from 871 to 874 ft agd.

The interior embankments and floors of both the Forebay and Retention Basin are lined with a layer of geosynthetic clay (GCL) overlain with a 40-millimeter-thick flexible polyvinylchloride membrane (FML). Each FML is protected with geofabric and a 6- to 12-inch layer of sand. The tops of the embankments that are subject to wave action are protected with an additional layer of geofabric and 6 to 12 inches of stone rip-rap. Vents are positioned at 40 feet intervals (approximately) around the perimeters of the Forebay and Retention Basin to relieve gas pressures that may accumulate beneath the liner materials.

The floor of the CWP consist of compacted clay. The tops of the interior embankments of the CWP are protected with approximately 6 inches of stone rip-rap.

Geology and Hydrogeology

Erickson Station resides within the Lansing Loamy Plains physiographic region of Michigan. According to the Michigan Geologic Survey, this region is characterized by a heterogeneous mix of glacial hilly and rolling landscapes associated with the Saginaw, Lake Michigan and Huron-Erie lobes of the Laurentide ice sheet. Unconsolidated deposits in the area surrounding the subject property consist of medium to coarse textured tills and ground moraine deposits associated with the Saginaw Lobe. Topographic relief in the area is moderate. Soils are predominantly loams.

Boring logs for 41 water wells located within a 1-mile radius of the impoundments at the Erickson Station (Figure 2 and Attachment A) were examined to further evaluate the geology and hydrogeology in the vicinity of the site. In general, these records indicate that the area is underlain by a 30 to 120 feet thick sequence of layered unconsolidated glacial till and alluvium over shales and sandstone bedrock associated with the Saginaw Formation. The unconsolidated deposits consist predominantly of interlayered and poorly sorted clays, sand and gravels. Water wells in the area are screened within the Saginaw Formation. Water levels measured in these wells range from 10 to 60 ft below grade.

Location Restrictions

The location restrictions in the CCR Rule that were examined as part of the subject study include:

- §257.60 Placement Above the Uppermost Aquifer
- §257.62 Fault Areas
- §257.63 Seismic Impact Zones
- §257.64 Unstable Areas

§257.60 - Uppermost Aquifer

The CCR Rule requires new CCR landfills, existing and new CCR surface impoundments, and lateral expansions of CCR units to be constructed with a base that is 5 feet above the upper limit of the uppermost aquifer (40 CFR §257.60, 2015). The CCR Rule defines the uppermost aquifer as the geologic formation nearest the natural ground surface that is an aquifer capable of yielding usable quantities of groundwater to wells or springs (40 CFR §257.53, 2015).

The till deposits beneath Erickson Station are not productive sources of groundwater. Sandstone layers within the Saginaw Formation are more productive and common targets for water well screen placement in the vicinity of the site (Attachment A). The potentiometric surfaces associated with these aquifers range from 10 feet below grade near the Grand River, southeast of Erickson Station, to over 60 feet north of the site, near Millett Highway (Figure 1).

Test pits excavated, and borings drilled, at Erickson Station (Figure 3, Attachment B) reveal that on-site soils are clay-rich and unsaturated to depths of at least 5 feet beneath the base grades of the impoundment system. Sands and sandy clays are differentially saturated at depths ranging from approximately 5 to 15 feet below base grades. Within these strata, moisture is layered, including thin zones of saturation interbedded between moist and dry sediments. The differential nature of moisture content within these materials is not characteristic of geologic materials that produce usable quantities of groundwater.

In-field permeability testing was performed at four test pit and boring locations within the footprint of the impoundment system in 1969 (Figure 3). The base elevation of the deepest of these pits was 867.5 ft agd (AP-5, Attachment B), positioned directly east of the CWP. A falling-head permeability test performed in soil boring AP-5 proved that saturated conditions did not exist within 5 feet of ground surface at that location.

Based on the analysis presented above, it is concluded that the base elevations of the Erickson Station impoundment system are significantly greater than 5 feet above the uppermost aquifer beneath the site. The Saginaw Formation is considered to be the uppermost aquifer beneath the subject property. The top of the Saginaw Formation beneath the impoundment system was identified in AP-5 (Attachment B) at a depth of approximately 67 ft below grade.

§257.62 - Fault Areas

The CCR Rule limits the location of new CCR landfills, existing and new CCR surface impoundments, and lateral expansions of CCR units to areas outside fault damage zones (40 CFR §257.62, 2015). The CCR Rule requires these CCR units to be located at least 200 feet from the outermost damage zone of faults that have experienced displacement with the Holocene time period. The CCR Rule defines displacement as the relative movement of any two sides of a fault measured in any direction. The CCR Rule defines the Holocene time period as the most recent epoch of the Quaternary period, extending from the end of the Pleistocene Epoch, at 11,700 years before present, to present (40 CFR §257.53, 2015).

Consultation of the U.S. Quaternary Faults and Folds Database (US Geologic Hazards Science Center, Boulder, Colorado) reveals the presence of no faults in the Lansing, Michigan region, including area surrounding the subject property.

§257.63 - Seismic Impact Zones

The CCR Rule requires new CCR landfills, existing and new CCR surface impoundments, and lateral expansions of CCR units to be located outside seismic impact zones (40 CFR §257.63, 2015). A seismic impact zone is defined in the CCR Rule as an area having a 2% or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 50 years (40 CFR §257.53, 2015).

Figure 4 identifies Seismic Hazard Zones within the continental United States, as determined by the U.S. Geologic Survey (USGS). As revealed on this figure, the Lansing, Michigan area, including the Erickson Station, is considered by the USGS to be within a Seismic Impact Zone in which there is a less 2% or greater probability that the maximum expected horizontal acceleration, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10g in 50 years.

Further, the Federal Emergency Management Association has categorized central Michigan to be in Seismic Design Category A (Figure 4). Seismic Design Category A is defined as an area in which there is a very small probability of experiencing damaging earth-quake effects.

§257.64 – Unstable Areas

The CCR Rule requires that existing and new CCR landfills, existing and new CCR surface impoundments, and lateral expansions of CCR units not be located in unstable areas (40 CFR §257.64, 2015). The CCR Rule defines an unstable area as a location that is susceptible to natural or human induced events or forces capable of impairing the integrity, including structural components of some or all of the CCR unit that are responsible for preventing releases from such unit. Unstable areas can include poor foundation conditions, areas susceptible to mass movements, and karst terrains (40 CFR §257.53, 2015). The CCR Rule lists minimum factors that must be considered when evaluating whether an area is unstable. These factors include:

- On-site or local soil conditions that may result in significant differential settling;
- On-site or local geologic or geomorphological features; and/or
- On-site or local human-made features or events, both surface and subsurface.

The Erickson Station impoundments have been built on relatively flat ground that is not subject to mass wasting. The poorly-sorted nature of the layered till and alluvium deposits beneath the site is favorable for stable geotechnical conditions with limited potential for differential settling.

Bedrock beneath the subject property consists predominantly of shale and sandstone, materials not susceptible to mineral dissolution and widespread development of karst features.

There are no man-made surface or subsurface features in the proximity of the Erickson Station that are likely to promote instability of the impoundment structures.

Note that the southern embankment of the CWP is adjacent to a railroad right-of-way (ROW, Figure 1). Since construction was completed in 1970, there have been no structural impacts to the embankment from vibrations or runoff from the ROW.

Certification

As a Professional Engineer in the State of Michigan, I certify that this report was prepared in accordance with the requirements of 40 Code of Federal Regulations §257. The data and information presented in this letter report was assembled under my direct control. I further certify that a satisfactory demonstration of compliance with the requirements of 40CFR Sections §257.60, §257.62, §257.63 and §257.64 has been made for the impoundment system at Erickson Station.

This report is intended for the sole purpose of verifying the location restrictions associated with CCR Rule §257 and not intended to be reused by LBWL or others without my specific verification or authorization.

Sincerely,

Mayotte Design & Engineering, PC

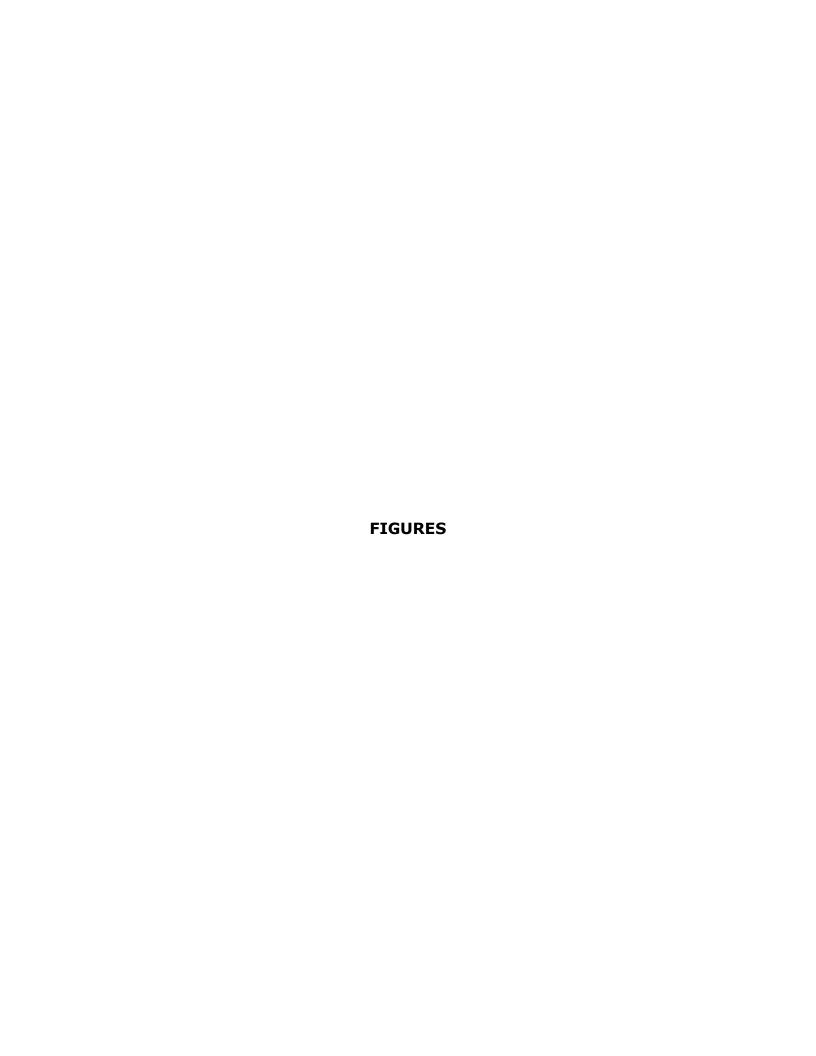
Timothy J. Mayotte, Ph.D., CPG, P.E. Owner/President

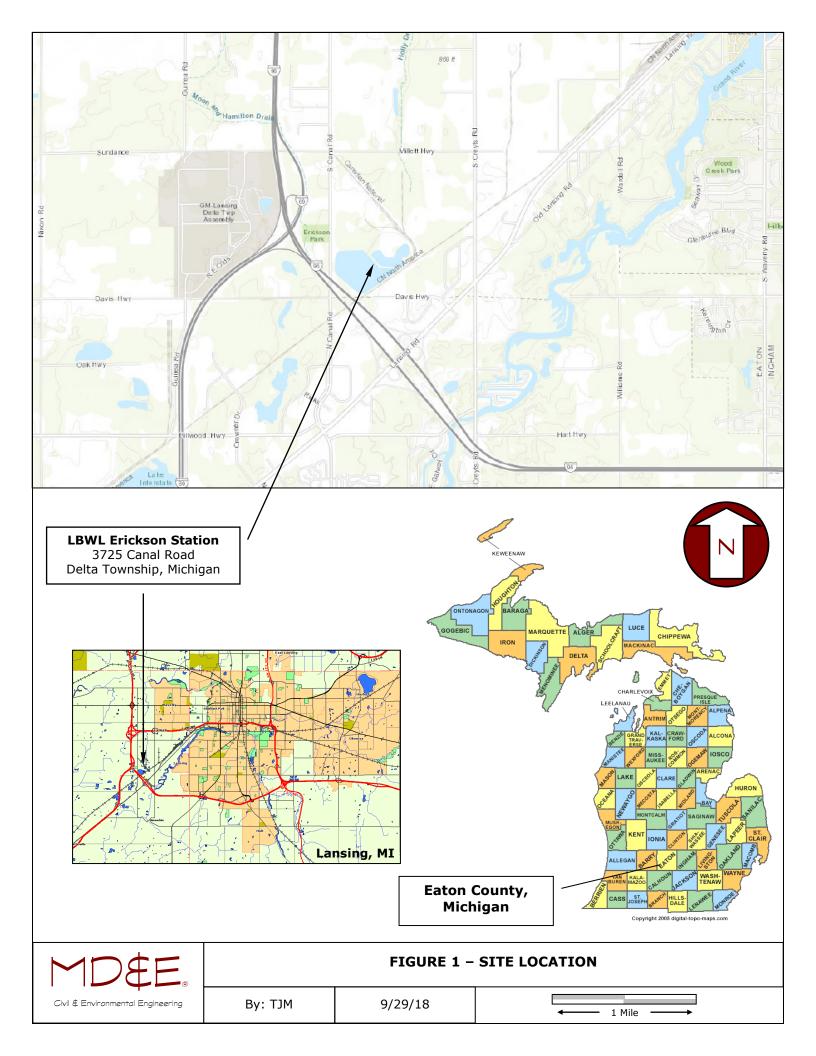
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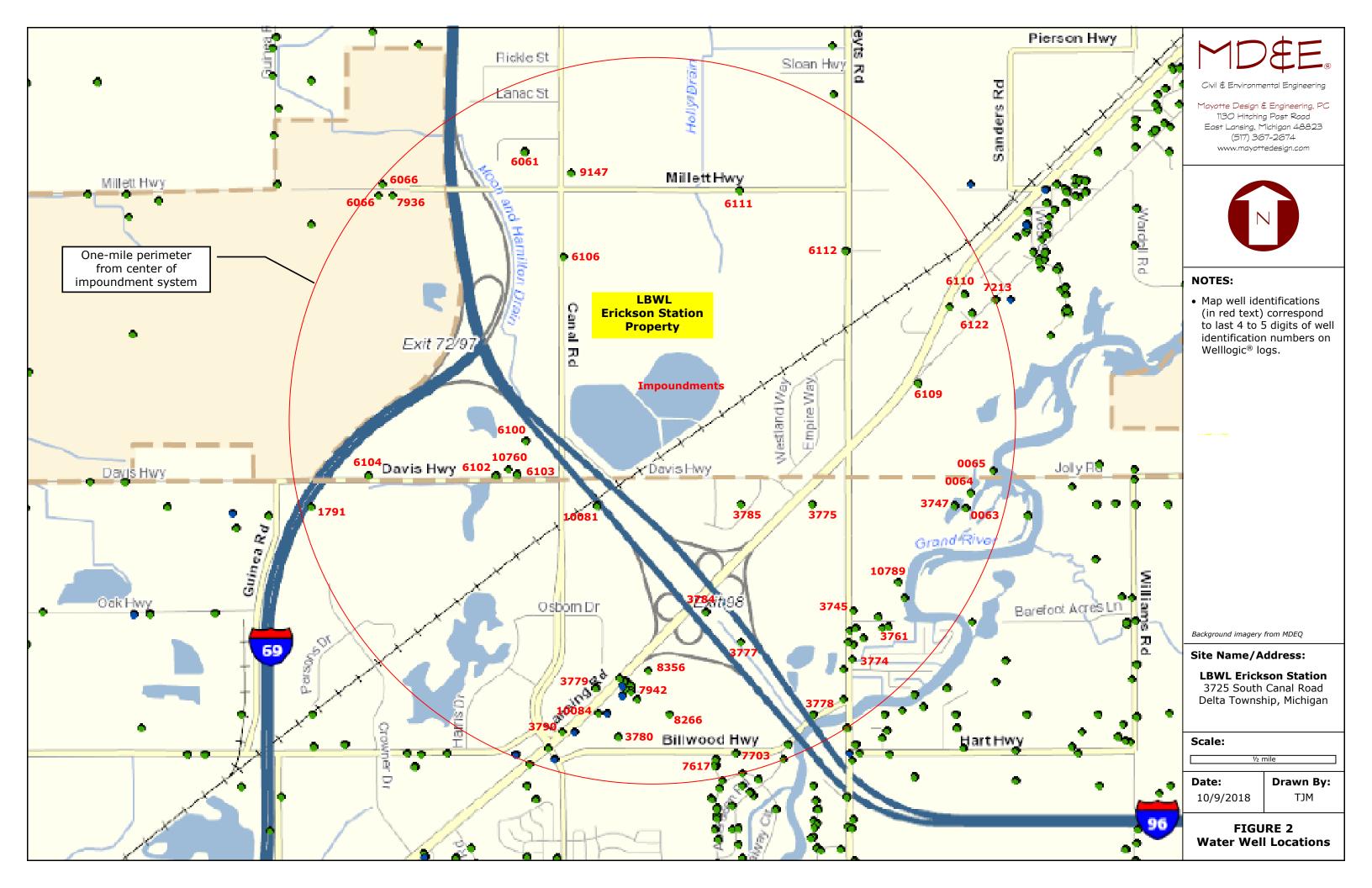
Michigan Licensed Professional Engineer No. 41981

Attachments

cc: Cheryl Louden - LBWL



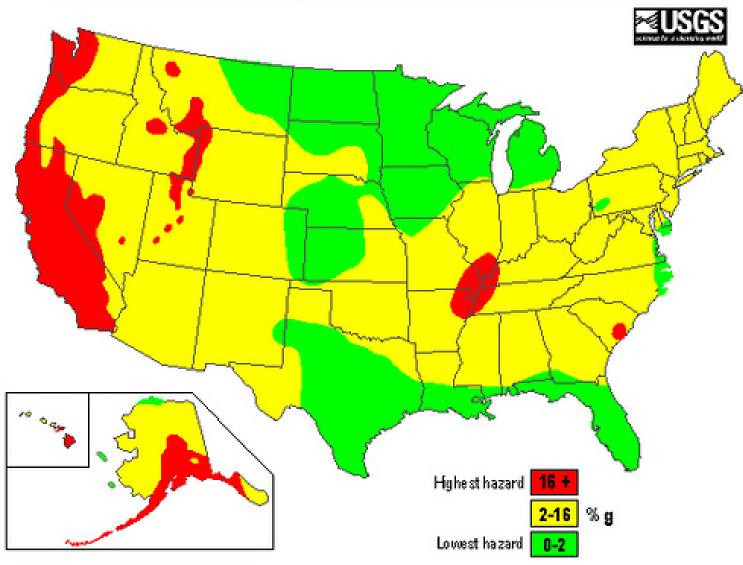


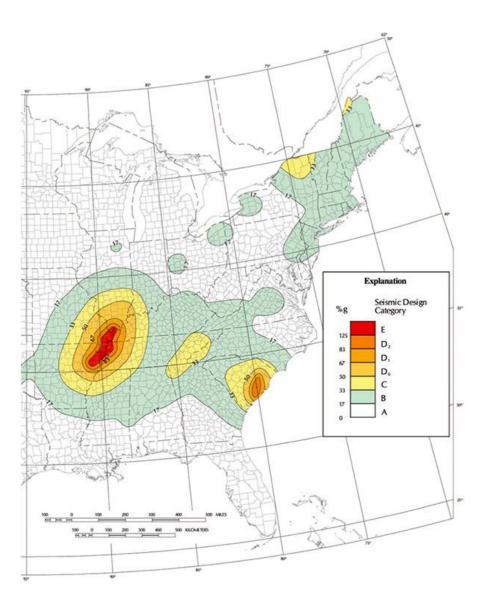




National Seismic Hazard Map

Adapted from http://earthquake.usgs.gow/research/hazmaps/products_data/48_States/index.php





https://www.fema.gov/earthquake-hazard-maps



Mayotte Design & Engineering, PC 1130 Hitching Post Road East Lansing, Michigan 48823 (517) 367-2674 www.mayottedesign.com



NOTES:

- USGS Seismic Hazard Map (left).
- FEMA Seismic Design Map (right).

Site Name/Address:

LBWL Erickson Station 3725 South Canal Road Delta Township, Michigan

Scale:

Date:

Drawn By: 10/9/2018 MLT

FIGURE 4 **Seismic Hazard Maps**

ATTACHMENT A Local Water Well Logs



Tax No:

Water Well And Pump Record

County: Eaton



Township: Windsor

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: 03N 03W 2 Active 3760 **BWL WELL 85-01** Well ID: 23000000063 Distance and Direction from Road Intersection: WSSN #03760; 2400' W. OF WILLIAMS RD., 675' S OF JOLLY Elevation: 836 ft. Latitude: 42.681387 Well Owner: BOARD OF WATER & LIGHT Well Address: Owner Address: Longitude: -84.63426 **BWL WELL 85-01** 123 W. OTTAWA ST. Method of Collection: Interpolation-Map LANSING, MI LANSING, MI 48933 Pump Installed: No Drilling Method: Rotary Well Depth: 93.00 ft. Well Use: Type I public Pressure Tank Installed: Nο Well Type: Replacement **Date Completed:** 11/21/1963 Pressure Relief Valve Installed: No Casing Type: Unknown Height: 0.00 ft. below grade Casing Joint: Unknown Casing Fitting: None Diameter: 36.00 in. to 35.00 ft. depth Borehole: Static Water Level: 999.99 ft. Below Grade Depth to **Thickness Formation Description** Bottom Well Yield Test: Yield Test Method: Unknown Brown Sand & Gravel Silty 15.00 15.00 41.00 56.00 Gray Sand Fine 57.00 Clay 1.00 Screen Installed: Yes Filter Packed: No Sand & Gravel 18.00 75.00 Screen Diameter: 18.00 in. Blank: 0.00 ft. Above Black Hardpan W/Boulders 9.00 84.00 Screen Material Type: Unknown Gravel Coarse 6.00 90.00 Slot Length Set Between Hardpan W/Boulders 3.00 93.00 0.00 0.00 ft. 0.00 ft. and 90.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown **Grouting Material Bags** Additives Depth 0.00 ft. to 55.00 ft. Unknown 0.00 None Geology Remarks: Wellhead Completion: Unknown **Nearest Source of Possible Contamination: Drilling Machine Operator Name:** RUSSEL HOFACRE Employment: Unknown Type Distance Direction None Contractor Type: Unknown Reg No: **Business Name:** Abandoned Well Plugged: **Business Address:** Reason Not Plugged: Unknown 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: ORIGINAL WELLID# WAS 02001; CONTRACTOR DUNBAR DRILLING Other Remarks:

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

Township: Windsor Tax No: **Permit No:** County: Eaton Town/Range: Section: Well Status: WSSN: Source ID/Well No: 03N 03W 2 Active 3760 **BWL WELL 85-02** Well ID: 2300000064 Distance and Direction from Road Intersection: WSSN #03760; 2325' W OF WILLIAMS RD., 350' S OF JOLLY R Elevation: 837 ft. Well Owner: BOARD OF WATER & LIGHT Latitude: 42.682167 Well Address: Owner Address: Longitude: -84.633913 **BWL WELL 85-02** 123 W. OTTAWA ST. Method of Collection: Interpolation-Map LANSING, MI LANSING, MI 48933 Pump Installed: Drilling Method: Rotary Nο Well Depth: 85.00 ft. Well Use: Type I public Pressure Tank Installed: Nο Well Type: Replacement Date Completed: 1/17/1964 Pressure Relief Valve Installed: No Casing Type: Unknown Height: 0.00 ft. below grade Casing Joint: Unknown Casing Fitting: None Diameter: 18.00 in. to 36.00 ft. depth Borehole: 36.00 in. to 0.00 ft. depth Static Water Level: 999.99 ft. Below Grade Depth to **Thickness Formation Description** Well Yield Test: Bottom Yield Test Method: Unknown Brown Clay 4.00 4.00 Brown Sand & Gravel 14.00 10.00 Gray Sand & Gravel 20.00 6.00 Screen Installed: Yes Filter Packed: No Gray Sand & Gravel 34.00 54.00 Screen Diameter: 18.00 in. Blank: 0.00 ft. Above Sand 18.00 72.00 Sand Very Fine 85.00 Screen Material Type: Unknown 13.00 Slot Length Set Between 0.00 36.00 ft. 45.00 ft. and 81.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown **Grouting Material Bags** Additives Depth 0.00 ft. to 45.00 ft. Unknown 0.00 None Geology Remarks: Wellhead Completion: Unknown **Nearest Source of Possible Contamination:** Drilling Machine Operator Name: RUSSEL HOFACRE Employment: Unknown Type Distance Direction None Contractor Type: Unknown Reg No: **Business Name:** Abandoned Well Plugged: **Business Address:** Reason Not Plugged: Unknown 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: ORIGINAL WELLID# WAS 02002; CONTRACTOR DUNBAR DRILLING Other Remarks:

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Tax No:

Water Well And Pump Record

County: Eaton



Township: Delta

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: Eaton | 1 | | Township: [| Delta | |
|--|---------------------------------------|--------------------------------|---------------|---------------|----------------|---------------|--------------------|
| | | Town/Range: | Section: | Well Status: | | | ID/Well No: |
| Well ID: 23000 | 2000065 | 04N 03W | 2 | Active | 3760 | BWL | WELL 85-03 |
| Well ID. 23000 | 000000 | Distance and D WSSN #03760; | | | | | |
| Elevation: 836 ft. | | W33N #03760, | 2025 W OF | WILLIAWS K | D., 150 5 OF 5 | OLL I K | |
| Latitude: 42.683279 | | Well Owner: | BOARD OF \ | WATER & LIG | HT. | | |
| Longitude: -84.632416 | | Well Address: | | | Owner Addre | ss: | |
| • | Jotion Mon | BWL WELL 85 | 5-03 | | 123 W. OTT/ | _ | |
| Method of Collection: Interpo | nation-iviap | LANSING, MI | | | LANSING, M | 11 48933 | |
| Drilling Method: Rotary | | Pump Inst | alled: No | | | | |
| | Well Use: Type I public | Pressure ¹ | Tank Installe | ed: No | | | |
| | Date Completed: 5/15/1964 | Pressure | Relief Valve | Installed: | No | | |
| Casing Type: Steel - black | Height: 0.00 ft. below grade | | | | | | |
| Casing Joint: Unknown | | | | | | | |
| Casing Fitting: None | | | | | | | |
| Diameter: 18.00 in. to 72.10 ft. dept | th | | | | | | |
| 72.70 K. dop | | | | | | | |
| | | | | | | | |
| Borehole: | | | | | | | |
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| Static Water Level: 999.99 ft. Belo Well Yield Test: | | | Formation | n Description | 1 | Thickness | Depth to Bottom |
| well field rest: | Yield Test Method: Unknown | | avel W/Silt | | 1 | 4.00 | 14.00 |
| | | Sand & Gr | | | | 7.00 | 41.00 |
| | | Gravel Coa | | | | 7.00 | 58.00 |
| Screen Installed: Yes | Filter Packed: No | | nes Hard Dr | / | | 2.00 | 80.00 |
| Screen Diameter: 18.00 in. | Blank: 0.00 ft. Above | Clay Sand | | | 3 | .00 | 83.00 |
| Screen Material Type: Unknown | | Sand Fine | | | 2 | .00 | 85.00 |
| Slot Length | Set Between | Hardpan C | oarse | | 1 | 2.00 | 97.00 |
| 0.00 36.00 ft. | 67.00 ft. and 103.00 ft. | Gravel & B | Soulders Coa | rse | 8 | 5.00 | 105.00 |
| | | | | | | | |
| Fittings: None | | | | | + | | |
| rittings. None | | | | | | | |
| Well Grouted: Yes Grouting | g Method: Unknown | | | | | | |
| • | ditives Depth | | | | | | |
| Unknown 0.00 Nor | ne 0.00 ft. to 67.00 ft | Geology F | Remarks: | | • | | |
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| Wellhead Completion: Unknown | | | | | | | |
| | | | | | | | |
| Nearest Source of Possible Contar | mination: | Drilling Ma | achine Oper | ator Name: | RUSSELL HO | DFACRE | |
| Туре | Distance Direction | | ent: Unknov | | | | |
| None | | | | | | | |
| | | | r Type: Unl | known | | Reg No: | |
| Abandoned Well Plugged: No | | Business | | | | | |
| Reason Not Plugged: Unknown | <u> </u> | Business | | Mall Cant | actor's Cer | 4161004100 | |
| | | This well w | | | ractor's Cer | | to the best of |
| | | | dge and beli | | | opon io ii uo | .5 110 5001 01 |
| | | | | | | | |
| | | Signature | of Register | ed Contracto | r | Date | |
| General Remarks: ORIGINAL WEL | LID# WAS 02003; CONTRACTOR | | | | | | |
| Other Remarks: | · · · · · · · · · · · · · · · · · · · | | | | | | |

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Tax No: 080002100055

Water Well And Pump Record

County: Eaton



Township: Windsor

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: | Sourc | e ID/Well No: |
|--|----------------|---------------------|----------------|-------------|--------------|--------------------|
| W II ID 0000000745 | 03N 03W | 2 | Tron Giatao. | | | 0 12, 11011 1101 |
| Well ID: 23000003745 | Distance and D | _ | m Road Inters | section: | ļ. | |
| | Aguifer: ROCK | | ell #: 2305002 | | | |
| Elevation: 858 ft. | | | | | | |
| Latitude : 42.6761989739 | Well Owner: | | | | | |
| Longitude: -84.6419790535 | Well Address: | | | Owner Addre | ess: | |
| Method of Collection: Interpolation-Map | 7566 CREYTS | RD | | | | |
| metriod of conection. | МІ | | | | | |
| Drilling Method: Rotary | Pump Inst | alled: Ye | S | Pump Ins | tallation On | ly: No |
| Well Depth: 235.00 ft. Well Use: Household | | allation Dat | e: | HP: | | |
| Well Type: Unknown Date Completed: 10/22/1980 | Manufactu | ı rer : Unkr | nown | Pump Typ | e: Unknov | vn |
| Casing Type: Unknown Height: | Model Nun | nber: | | | pacity: 12 | |
| Casing Joint: Unknown | Drop Pipe | Length: 0 |).00 ft. | Pump Vol | tage: | |
| Casing Fitting: None | Drop Pipe | Diameter: | | Drilling Ro | ecord ID: | |
| | Draw Dow | n Seal Used | i: No | | | |
| Diameter: 4.00 in. to 158.00 ft. depth | Pressure T | Tank Installe | ed: No | | | |
| | Pressure F | Relief Valve | Installed: | No | | |
| | | | | | | |
| Borehole: | | | | | | |
| | | | | | | |
| Ctatic Water Levels 40 00 ft Palace Crade | | | | Т | | |
| Static Water Level: 49.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown | | Formation | n Description | | Thickness | Depth to Bottom |
| Pumping level 59.00 ft. after 1.00 hrs. at 28 GPM | Sand & Cla | nv | | | 10.00 | 10.00 |
| Tumping level 55.00 ft. after 1.00 fils. at 20 Of W | Sand & Cla | , | | | 13.00 | 23.00 |
| | Clay | · y | | | 42.00 | 65.00 |
| Screen Installed: Yes Filter Packed: No | Gravel | | | | 4.00 | 69.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Gravel & C | lav | | | 39.00 | 108.00 |
| Screen Material Type: | Gravel & C | | | | 26.00 | 134.00 |
| Slot Length Set Between | Shale | , | | | 15.00 | 149.00 |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | Sandstone | W/Shale | | | 6.00 | 155.00 |
| | Shale | , | | | 9.00 | 164.00 |
| | Sandstone | W/Shale | | | 52.00 | 216.00 |
| Fittings: None | Sandstone | | | | 19.00 | 235.00 |
| | | | | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | | | | |
| Grouting Material Bags Additives Depth | | | | | | |
| Other 0.00 None 0.00 ft. to 0.00 ft. | | | ontinued On | | | |
| | | | 10] SAND/CLA | | | |
| | | | [149] SANDST | | | CLAY. [26] [31] |
| Wellhead Completion: Pitless adapter | | | SHALE. [52] | | | |
| | | | | | | |
| Name of Occurs of Baselilla Occursionalism | D.::::: | -1.1 0 | | 01.01 | 00/05 | /0.0 |
| Nearest Source of Possible Contamination: | _ | ent: Unknov | ator Name: | Syd Dulaney | / 02/05 | /90 |
| Type Distance Direction | Employme | ent: Unknow | WII | | | |
| Septic tank 75 ft. Southwest | - | | (Continue | d on page | 2) | |
| Abandoned Well Plugged: No | | | Continue | u on page | 4) | |
| Salidation from Fluggod. 110 | | | | | | |
| Reason Not Plugged: | | | | | | |
| | | | | | | |
| General Remarks: | | | | | | |
| Other Remarks: Orouting Material 1:Well grouted material unknown | | | | | | |
| EQP-2017 (4/2010) Page 1 of 2 | | | | 1 | HD 1/29/ | 2001 11:46 AM |





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

| 1111 POTE ID. 20000002004 | | | | | | |
|----------------------------------|------------|------------------------------|--------------|------------------|---------------|--------------------|
| Tax No: 080002100055 | Permit No: | County: Eaton | | To | wnship: Wind | lsor |
| | | Town/Range: | Section: | Well Status: | WSSN: | Source ID/Well No: |
| Mall ID: 22000 | 202745 | 03N 03W | 2 | | | |
| Well ID: 230000 | JU3745 | Distance and D | irection fro | m Road Intersec | tion: | |
| Elevation: 858 ft. | | Aquifer: ROCK | W | ell #: 230500204 | | |
| Latitude: 42.6761989739 | | Well Owner: | | | | |
| Longitude: -84.6419790535 | | Well Address: 7566 CREYTS | : PD | Ow | vner Address: | |
| Method of Collection: Interpolat | ion-Map | MI | , KD | | | |
| | | | | | | |

| | | (Continued | from Page 1) |
|-----------------------|-----------|--------------------|--|
| Formation Description | Thisless | Depth to | GEOLOGY REMARKS: |
| Formation Description | Thickness | Depth to Bottom | 50] [235] |
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| | | | Contractor Type: Unknown Reg No: 78-1511 |
| | | | Contractor Type: Unknown Reg No: 78-1511 Business Name: |
| | ļ | | Business Name: Business Address: |
| | ļ | | |
| | ļ | | Water Well Contractor's Certification |
| | ļ | | This well was drilled under my supervision and this report is true to the best of my knowledge and belief. |
| | | | iniy knowledge and bellel. |
| | | | |
| | | | Signature of Registered Contractor Date |





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

| ax No: 080002300237 Permit No: | County: Eaton Towns | snip: vvinasor |
|--|---|---|
| | Town/Range: Section: Well Status: W | /SSN: Source ID/Well No: |
| Well ID: 23000003747 | Distance and Direction from Road Intersection | l : |
| Elevation: 885 ft. | Aquifer: saginaw sandstone Well #: 230500206 | |
| Latitude: 42.681555 | Well Owner: | |
| Longitude: -84.63503 | | Address: |
| · · | 10275 HART HWY | |
| Method of Collection: QQQ - Centroid | MI | |
| Orilling Method: Rotary | Pump Installed: Yes Pun | np Installation Only: No |
| Vell Depth: 200.00 ft. Well Use: Household | Pump Installation Date: HP: | |
| Vell Type: Unknown Date Completed: 1/12/1983 | | np Type: Unknown |
| Casing Type: Unknown Height: Casing Joint: Unknown | | np Capacity: 10 GPM np Voltage: |
| Casing Fitting: None | | ling Record ID: |
| | Draw Down Seal Used: No | |
| Diameter: 5.00 in. to 110.00 ft. depth | Pressure Tank Installed: No | |
| | Pressure Relief Valve Installed: No | |
| Borehole: | | |
| or criticis. | | |
| | | |
| Static Water Level: 40.00 ft. Below Grade Vell Yield Test: Yield Test Method: Unknown | Formation Description | Thickness Depth to Bottom |
| Vell Yield Test: Yield Test Method: Unknown | Sand & Clay | 31.00 31.00 |
| | Sand & Gravel | 31.00 62.00 |
| | Gravel & Clay | 40.00 102.00 |
| Screen Installed: Yes Filter Packed: No | Sandstone | 53.00 155.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Sandstone W/Shale | 45.00 200.00 |
| Screen Material Type: Slot Length Set Between | | |
| Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | |
| 0.00 1.1 0.00 1.1 | | |
| | | |
| Fittings: None | | |
| Wall Crautade Vos Crauting Mathade Halmann | | |
| Vell Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth | | |
| Other 0.00 None 0.00 ft. to 0.00 ft. | Geology Remarks: | |
| | SAND/CLAY. [31] [28] [31] SAND & GRAVEL | [31] [25] [62] GRAVEL/CLAY. |
| | [40] [31] [102] SANDSTONE. [53] [50] [155] \$ | SANDSTONE/SHALE. [45] [52] |
| Vellhead Completion: Pitless adapter | [200] | |
| | | |
| learest Source of Possible Contamination: | Drilling Machine Operator Name: Syd D | Oulaney 02/05/90 |
| ype Distance Direction | Employment: Unknown | • |
| Septic tank 100 ft. South | | |
| Shandanad Wall Diversed. No | Contractor Type: Unknown Business Name: | Reg No: 34-0383 |
| Abandoned Well Plugged: No | Business Address: | |
| Reason Not Plugged: | Water Well Contractor | s Certification |
| | This well was drilled under my supervision ar | |
| | my knowledge and belief. | |
| | | |
| | Signature of Registered Contractor | Date |
| General Remarks: Other Remarks: Grouting Material 1:Wall grouted material unknown | | |





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

Failure to comply is a misdemeanor.

| 23030302020 | T | Ta | | | | | |
|--|-------------------------------------|------------------------|---------------------|------------------------------------|-------------------------|----------------|--------------------|
| Tax No: | Permit No: | County: Eator | | | Township: | | ID/Mall No. |
| | | Town/Range: 03N 03W | Section: | Well Status: | WSSN: | Source | e ID/Well No: |
| Well ID: 230 | 00003761 | Distance and I | | n Road Inters | section: | | |
| | | 7454 CAROL L | | | | | |
| Elevation: 842 ft. | | | | | | | |
| Latitude: 42.6753317178 | | Well Owner: | LARRY LAW | | | | |
| Longitude: -84.640000174 | 19 | Well Address: | | | Owner Addre | ess: | |
| Method of Collection: Lor | ran C | DIMONDALE. | MI 40024 | | DIMONDAL | E MI 49921 | |
| | | DINONDALL, | , 1011 4002 1 | | DINIONDAL | L, IVII 4002 I | |
| Drilling Method: Rotary | | Pump Ins | | | Pump Ins | tallation Onl | y: No |
| Well Depth: 180.00 ft. | Well Use: Household | | tallation Dat | | HP: 0.50 | | |
| Well Type: Unknown | Date Completed: 2/2/1982 | Manufact | | r | | e: Submer | |
| Casing Type: PVC plastic | Height: 0.00 ft. below grade | Model Nu | | NE 00 # | | pacity: 10 G | э́РМ |
| Casing Joint: Unknown Casing Fitting: Drive shoe | | | Length: 3 Diameter: | ιου π. | Pump Vol Drilling Re | _ | |
| Casing Fitting. Drive side | | | yn Seal Used | l: No | Dillilling K | scoru ib. | |
| Diameter: 5.00 in. to 83.00 ft. d | epth | | Tank Installe | | | | |
| | • | Pressure | Relief Valve | Installed: | No | | |
| | | | | | | | |
| Borehole: | | | | | | | |
| | | | | | | | |
| Static Water Level: 10.00 ft. B | olow Crodo | | | | 1 | | I 5 |
| Well Yield Test: | Yield Test Method: Unknown | , | Formation | n Description | | Thickness | Depth to Bottom |
| Pumping level 180.00 ft. after 1.0 | | Sand | | | 1 | 15.00 | 15.00 |
| | | Clay | | | + | 15.00 | 30.00 |
| | | Gravel | | | į. | 40.00 | 70.00 |
| Screen Installed: Yes | Filter Packed: No | Sandstone |) | | | 13.00 | 83.00 |
| Screen Diameter: 0.00 in. | Blank: 0.00 ft. Above | Shale W/S | Sandstone | | ! | 97.00 | 180.00 |
| Screen Material Type: | | | | | | | |
| Slot Length | Set Between | | | | | | ļ |
| 0.00 0.00 ft. | 0.00 ft. and 0.00 ft. | | | | | | |
| | | | | | | | |
| Fittings: None | | | | | | | |
| Timinger Hone | | | | | | | |
| Well Grouted: Yes Grou | uting Method: Unknown | | | | | | |
| Grouting Material Bags | Additives Depth | | | | | | |
| Bentonite slurry 0.00 | None 0.00 ft. to 0.00 ft. | Tooling, . | | | | | |
| | | SAND. [15 | [20] [15] CL | AY. [15] [10] [3 [83] SHALE, \$ | 30] GRAVEL. | [40] [30] [70] | 071 [56] [190] |
| Wallband Commissions Distance | a danta | SANDS1C | /NL. [13] [30] | [03] SI IALL, V | STREARS SA | NDOTONE. | 97][50][100] |
| Wellhead Completion: Pitless | adapter | | | | | | |
| | | | | | | | |
| Nearest Source of Possible Co | ntamination: | Drilling M | achine Oper | ator Name: | LJT WELL D | RILLING | |
| Туре | Distance Direction | | ent: Unknov | | | | |
| Unknown | 0 ft. Unknown | | | | | | |
| | | | or Type: Unl | nown | | Reg No: 2 | 23-1077 |
| Abandoned Well Plugged: No | 0 | Business | | | | | |
| Danasa Nat Dia | | Business | | M-11 C : | | | |
| Reason Not Plugged: | | This wall w | | Well Contr | | | to the best of |
| | | | edge and beli | | ision and this | report is true | to the best of |
| | | Signature | of Register | ed Contractor | · | Date | |
| General Remarks: | | | | | | | |
| Other Remarks: Pump Manufac | cturer:MCDONALD | | | | | | |
| EOD 0047 (4/0040) | 5 4 (4 | | | | | 110 4/00/ | |





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

| Import ID: 23030302033 Tax No: 23080002300080 Permit No: | County: Eaton Township | p: Windsor | |
|---|--|---------------------|-------------|
| 14X NO. 25000002500000 Ferrill No. | Town/Range: Section: Well Status: WSS | · | ID/Well No |
| Wall ID. 000000774 | 03N 03W 2 | | |
| Well ID: 23000003774 | Distance and Direction from Road Intersection: | • | |
| Elevation: 1899 ft. | 3/8 MI N OF HART HWY ON THE EAST SIDE | | |
| | W H O FAVEDANICIN | | |
| Latitude: 42.673765 | Well Address: | ddraga. | |
| Longitude: -84.642118 | Well Address: Owner A 7378 CREYTS RD 7378 CF | aaress: REYTS RD | |
| Method of Collection: Address Matching-House Number | 101001 | DALE, MI 48821 | |
| Drilling Method: Rotary | Pump Installed: Yes Pump | Installation Only | r. No |
| Well Depth: 155.00 ft. Well Use: Household | Pump Installation Date: HP: 0 | | . 110 |
| Well Type: Replacement Date Completed: 8/19/1997 | 1 · | Type: Submers | ible |
| Casing Type: PVC plastic Height: | Model Number: Pump | Capacity: 10 G | PM |
| Casing Joint: Threaded & coupled | Drop Pipe Length: 83.00 ft. Pump | Voltage: | |
| Casing Fitting: Drive shoe | | g Record ID: | |
| | Draw Down Seal Used: No | | |
| Diameter: 5.00 in. to 90.00 ft. depth | Pressure Tank Installed: No | | |
| | Pressure Relief Valve Installed: No | | |
| | | | |
| Borehole: 8.00 in. to 90.00 ft. depth | | | |
| | | | |
| Static Water Level: 40.00 ft. Below Grade | | T | Depth to |
| Nell Yield Test: Yield Test Method: Unknow | Formation Description | Thickness | Botton |
| Pumping level 155.00 ft. after 0.50 hrs. at 10 GPM | Sand | 18.00 | 18.00 |
| | Gravel | 43.00 | 61.00 |
| | Clay W/Shale | | 89.00 |
| Screen Installed: Yes Filter Packed: No | Shale | | 116.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Sandstone | 39.00 | 155.00 |
| Screen Material Type: | | | |
| Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | |
| | | | |
| Fittings: None | | | |
| Timigo: Tions | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | |
| Grouting Material Bags Additives Depth | | | |
| Bentonite slurry 0.00 None 0.00 ft. to 90.00 | occiogy itematics | • | |
| | SAND. [18] [20] [18] GRAVEL. [43] [30] [61] CL | | [10] [89] |
| | SHALE. [27] [55] [116] SANDROCK. [39] [54] [1 | [55] | |
| Nellhead Completion: Other | | | |
| | | | |
| Nearest Source of Possible Contamination: | Drilling Machine Operator Name: JOE WE | ST | |
| Type Direction | Employment: Unknown | | |
| Septic tank 90 ft. Northeast | | | |
| | Contractor Type: Unknown | Reg No: 1 | 9-1868 |
| Abandoned Well Plugged: Yes | Business Name: | ŭ | |
| | Business Address: | | |
| | Water Well Contractor's | Certification | |
| | This well was drilled under my supervision and | this report is true | to the best |
| Casing Removed: | my knowledge and belief. | | |
| | | | |
| | Signature of Registered Contractor | Date | |
| General Remarks: | | | |
| Other Remarks: Wellhead Completion:Approved Pit | | | |





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

Failure to comply is a misdemeanor.

| Tax No: | Permit No: | County: Eaton | | | Township: | Windsor | |
|--|------------------------------------|-------------------------|-------------------------------|-----------------------------------|----------------|----------------------|----------------|
| | | Town/Range: | Section: | Well Status: | WSSN: | Source | e ID/Well No: |
| Well ID: 23000 | 0003775 | 03N 03W Distance and D | 3 | m Bood Intoro | action: | | |
| VVCII 1D. 20000 | ,000110 | Aguifer: ROCK | | m Road Inters /ell #: 23050030 | | | |
| Elevation: 870 ft. | | Aquiler. NOCK | VV | eli #. 23030030 | 04 | | |
| Latitude: 42.681562 | | Well Owner: | | | | | |
| Longitude: -84.644809 | | Well Address: | | (| Owner Addr | ess: | |
| Method of Collection: QQQ - | Centroid | 0.5 S-M78,W S | SID-CREYTS | S RD | | | |
| metriod of concetion. QQQ | Centrola | MI | | | | | |
| Orilling Method: Rotary | | Pump Inst | alled: Ye | s | Pump Ins | stallation Onl | y: No |
| | Well Use: Household | | allation Dat | | HP: | | |
| 71 | Date Completed: 1/8/1977 | | ırer: Unkr | nown | | pe: Unknow | |
| Casing Type: Unknown | Height: | Model Nur | | 200 (1 | | pacity: 10 (| GPM |
| Casing Joint: Unknown Casing Fitting: None | | Drop Pipe Drop Pipe | Length: (|).00 π. | Pump Vo | itage: lecord ID: | |
| casing Fitting. None | | | n Seal Used | d: No | Dillilling N | ecolu ib. | |
| Diameter: 4.00 in. to 72.00 ft. depth | | | Tank Install | | | | |
| · | | Pressure I | Relief Valve | Installed: | No | | |
| | | | | | | | |
| Borehole: | | | | | | | |
| | | | | | | | |
| Static Water Level: 10.00 ft. Below | Grade | | | | | | Depth to |
| Well Yield Test: | Yield Test Method: Unknown | | Formatio | n Description | | Thickness | Bottom |
| Pumping level 50.00 ft. after 0.50 hrs | s. at 15 GPM | Clay | | | | 10.00 | 10.00 |
| | | Sand & Cla | • | | | 25.00 | 35.00 |
| | | Sand & Gra | avel | | | 37.00 | 72.00 |
| | Filter Packed: No | Shale | | | | 200.00 | 272.00 |
| Screen Diameter: 0.00 in. E Screen Material Type: | Blank: 0.00 ft. Above | Sandstone | | | | 28.00 | 300.00 |
| Slot Length | Set Between | | | | | | |
| 0.00 0.00 ft. | 0.00 ft. and 0.00 ft. | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Fittings: None | | | | | | | |
| Mall Cravitade Vac Cravitina | Mathada I Inkanya | | | | | | |
| _ | g Method: Unknown litives Depth | | | | | | |
| Other 0.00 Non | | Geology R | emarks: | | | | |
| | - | CLAY. [10] | [10] [10] SA | ND/CLAY. [25] | [28] [35] SA | ND & GRAVE | L. [37] [25] |
| | | [72] SHALE | . [200] [55] | [272] SANDST | ONE. [28] [5 | 0] [300] | |
| Wellhead Completion: Pitless ada | pter | | | | | | |
| | | | | | | | |
| Nearest Source of Possible Contar | nination: | Drilling Mr | achina Onor | ator Name: | Syd Dulane | v 02/05/ | (00 |
| Type | Distance Direction | | ent: Unkno | | Syu Dulane | y 02/03/ | 90 |
| Septic tank | 55 ft. North | | | | | | |
| • | | Contracto | r Type: Unl | known | | Reg No: | 33-0050 |
| Abandoned Well Plugged: No | | Business | | | | | |
| | | Business | | | | | |
| Reason Not Plugged: | | | | Well Contra | | | |
| | | | as drilled un dge and beli | der my supervi ef. | ision and this | report is true | to the best of |
| | | I'ily kilowie | ago ana ben | | | | |
| | | Ciam atura | of Doniete | ad Camturates | | Data | |
| General Remarks: | | Signature | or Register | ed Contractor | | Date | |
| Other Remarks: Grouting Material 1 | ·Well grouted material unknown | | | | | | |





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

| Tax No: Permit No: | Cour | nty: Eaton | 1 | | Township: | Windsor | |
|--|-----------|-------------|--------------------------|-------------------------------|-----------------|------------------|--------------------|
| • | | n/Range: | | Well Status: | | | ID/Well No: |
| Well ID: 23000003777 | | 3N 03W | 3 Direction from | l m Road Inters | section: | | |
| | | | | | | | |
| Elevation: 900 ft. | | | | | | | |
| Latitude: 42.674621 | | | DARIN NARA | AMOR | | | |
| Longitude: -84.649708 | Well | Address: | | | Owner Addr | ess: | |
| Method of Collection: QQQ - Centroid | DIN | MONDALE, | MI 48821 | | DIMONDAL | _E, MI 48821 | |
| Drilling Method: Rotary | 1 | Pump Inst | alled: Yes | S | Pump Ins | stallation Only | v: No |
| Well Depth: 216.00 ft. Well Use: Household | | • | allation Date | e: | HP: 0.50 | | • |
| Well Type: Replacement Date Completed: 5/23/198 | 39 | Manufactu | ırer: Red | Jacket | | pe: Submers | |
| Casing Type: PVC plastic Height: | | Model Nur | | | | pacity: 10 G | SPM |
| Casing Joint: Unknown | | | Length: 8 | 0.00 ft. | Pump Vo | | |
| Casing Fitting: None | | Drop Pipe | Diameter: n Seal Used | l. No | Drilling R | Record ID: | |
| Diameter: 5.00 in. to 88.00 ft. depth | | | Tank Installe | | | | |
| Planeter: 0.00 m. to 00.00 m. dopin | | | Relief Valve | | No | | |
| | | | | | | | |
| Borehole: 7.80 in. to 88.00 ft. depth | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Static Water Level: 45.00 ft. Below Grade Well Yield Test: Yield Test Method: Un | alen auem | | Formation | n Description | | Thickness | Depth to Bottom |
| Pumping level 215.00 ft. after 1.00 hrs. at 40 GPM | iknown | Sand & Gra | avel | | | 30.00 | 30.00 |
| T uniping lover 210.00 ft. after 1.00 file. at 40 Of W | | Gray Clay | | | | 35.00 | 65.00 |
| | | Black & Gr | | | | 5.00 | 70.00 |
| Screen Installed: Yes Filter Packed: No | | Gray Shale | | | | 20.00 | 90.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | | Gray Shale | & Sandston | е | | 110.00 | 200.00 |
| Screen Material Type: | | Black Shal | | | | 5.00 | 205.00 |
| Slot Length Set Between | | Black Shal | e & Sandstor | ne White | | 11.00 | 216.00 |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | - | | | | | | |
| | | | | | | | |
| Fittings: None | | | | | | | |
| - minger mane | | | | | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | | | | | |
| Grouting Material Bags Additives Depth | | | | | | | |
| Other 0.00 None 0.00 ft. to 0 | | Geology R | | | | | -1.50-1.05.4 |
| | | | | [25] [30] GRA 5] [70] GRAY | | | |
| Wellhead Completion: Pitless adapter | | SANDSTO | NE. [110] [56 | [200] BLAC | | | |
| Tuess adapter | | WHITE SA | NDSTONE. [| [11] [56] [216] | | | |
| Nearest Source of Possible Contamination: | | Drilling Ma | achine Oper | ator Name | CORNELL | & SONS | |
| Type Distance Directi | | _ | ent: Unknov | | J J | | |
| Unknown 0 ft. Unknown | | | | | | | |
| | | | r Type: Unk | nown | | Reg No: | 43-0819 |
| Abandoned Well Plugged: No | | Business | | | | | |
| Reason Not Plugged: | | Business | | Mall Cart | | 4!£!.a 4! - | |
| | | This wall | | Well Control der my superv | | | to the best of |
| | | | dge and belie | | ision and this | s report is true | to the best of |
| | | Signature | of Registere | ed Contractor | | Date | |
| General Remarks: | | | | | | | |
| Other Remarks: Grouting Material 1:Unknown | | | | | | | |





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

Failure to comply is a misdemeanor.

| T N 23030303007 | <u> </u> | | | | ı | | | |
|--|----------------------|-------------|------------------------------|-------------------|------------|-----------------|--------------|----------------|
| Tax No: Permit No: | County: E | | | Well Cteture | | hip: Wi SSN: | | ID/Mall Na |
| | Town/Rang 03N 03V | • | Section: | Well Status: | : vv; | 22N: | Source | ID/Well No: |
| Well ID: 23000003778 | | | | m Road Inter | section | | | |
| | | | | ' N OF BILLW | | | | |
| Elevation: 900 ft. | 10 0. | · | | | | • • | | |
| Latitude: 42.670986 | Well Owner | r: | HOWARD A | MMERMAN | | | | |
| Longitude: -84.644768 | Well Addre | ss: | | | Owner | Address | s: | |
| | | | | | | | | |
| Method of Collection: QQQ - Centroid | DIMONDA | LE, | MI 49348 | | DIMO | NDALE, | MI 49348 | |
| Drilling Method: Cable Tool | Pump | Inst | alled: Ye | es | Pum | ıp Instal | lation Onl | y: No |
| Well Depth: 408.00 ft. Well Use: Household | Pump | Inst | allation Da | te: | HP: | 0.33 | | |
| Well Type: Unknown Date Completed: 10/6/1975 | Manuf | | | er | | | Submer | |
| Casing Type: Unknown Height: 80.00 ft. above gra | | | | | | | city: 5 GI | PM |
| Casing Joint: Threaded & coupled | _ | - | Length: | 70.00 ft. | | p Volta | _ | |
| Casing Fitting: Drive shoe | | | Diameter: | | Drill | ing Rec | ord ID: | |
| Diameters 4.00 in to 00.00 ft doubt | | | n Seal Use Tank Install | | | | | |
| Diameter: 4.00 in. to 80.00 ft. depth | | | rank install Relief Valve | | No | | | |
| | Fiess | ui e r | Nellel Valve | ilistalieu. | NO | | | |
| Borehole: | | | | | | | | |
| 20.0.0.0. | | | | | | | | |
| | | | | | | | | |
| Static Water Level: 51.00 ft. Below Grade | | | Farmatia | n Deceriation | | Π. | 'hielmess | Depth to |
| Well Yield Test: Yield Test Method: Unkno | wn | | Formatio | n Description | 1 | ' | hickness | Bottom |
| | Clay | | | | | | .00 | 16.00 |
| | Clay S | andy | У | | | | .00 | 44.00 |
| | Sand | | | | | | .00 | 58.00 |
| Screen Installed: Yes Filter Packed: No | Clay | | | | | | .00 | 70.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Shale | | | | | | .00 | 151.00 |
| Screen Material Type: | Sandst | tone | | | | 4.0 | | 155.00 |
| Slot Length Set Between | Shale | | | | | 25 | 3.00 | 408.00 |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | <u> </u> | | | | | | | |
| | <u> </u> | | | | | | | |
| Fittings: None | | | | | | | | |
| Fittings. None | | | | | | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | | | | | | |
| Grouting Material Bags Additives Depth | | | | | | | | |
| Unknown 0.00 None 0.00 ft. to 0.00 | ft. Geolo | av R | emarks: | | | | | |
| | CLAY. | [16] | [10] [16] SA | NDY CLAY. [2 | 28] [13] [| 44] SAN | D. [14] [20] | [58] CLAY. |
| | | | O] SHALE. [8 | 31] [55] [151] \$ | SANDST | ONE. [4] |] [54] [155] | SHALE. [253 |
| Wellhead Completion: Pitless adapter | [55] [40 |)8 <u>]</u> | | | | | | |
| | | | | | | | | |
| Negroot Source of Describe Contamination | Dailli- | ~ P4 - | ahine Or - | votov Nama | יסואוסי | L ///L1 i | DDILLING | ` |
| Nearest Source of Possible Contamination: Type Distance Direction | | _ | ent: Unkno | rator Name: | KINGL | -c vvell | DRILLING | 7 |
| Type Distance Sewer line Direction North | Embio | yiiie | ant. UNKIN | VVII | | | | |
| Comor into 10 ft. NOILI | Contra | acto | r Type: Un | known | | | Reg No: | |
| Abandoned Well Plugged: No | | | Name: | | | | | |
| | | | Address: | | | | | |
| Reason Not Plugged: | | | Water | Well Contr | actor's | s Certi | fication | |
| | This w | ell w | | nder my super | | | | to the best of |
| | | | dge and bel | | | | | |
| | | | | | | | | |
| | Signat | ure | of Register | ed Contracto | r | | Date | |
| General Remarks: | | | | | | | | |
| Other Remarks: Pump Manufacturer:F. E. MYERS | | | | | | | | |





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

| Tax No: Permit No: | County: Eaton Township: | Windsor | | |
|---|---|--|--|--|
| · | Town/Range: Section: Well Status: WSSI | N: Source ID/Well No: | | |
| Well ID: 23000003779 | 03N 03W 3 Distance and Direction from Road Intersection: | | | |
| WOII 1D: 20000000110 | 1/4 MI NE OF CANAL ON 78 E SIDE | | | |
| Elevation: 900 ft. | | | | |
| Latitude: 42.6723328466 | Well Owner: DONS TRUCK STOP | | | |
| Longitude: -84.6596669153 | Well Address: Owner Add | ner Address: | | |
| Method of Collection: Loran C | DIMONDALE, MI 49348 DIMONDA | ALE, MI 49348 | | |
| Drilling Method: Rotary | Pump Installed: Yes Pump I | notellation Only. No | | |
| Well Depth: 180.00 ft. Well Use: Other | Pump Installation Date: HP: 0.5 | nstallation Only: No | | |
| Well Type: Unknown Date Completed: | | ype: Submersible | | |
| Casing Type: Unknown Height: | | Capacity: 10 GPM | | |
| Casing Joint: Threaded & coupled | | /oltage: | | |
| Casing Fitting: Drive shoe | Drop Pipe Diameter: Drilling Draw Down Seal Used: No | Record ID: | | |
| Diameter: 4.00 in. to 90.00 ft. depth | Pressure Tank Installed: No | | | |
| , i | Pressure Relief Valve Installed: No | | | |
| Power of the Control | | | | |
| Borehole: | | | | |
| | | | | |
| Static Water Level: 50.00 ft. Below Grade | Formation Description | Thickness Depth to | | |
| Well Yield Test: Yield Test Method: Unknown | Clay | 30.00 30.00 | | |
| | Sand & Clay | 50.00 80.00 | | |
| | Shale & Sandstone | 100.00 180.00 | | |
| Screen Installed: Yes Filter Packed: No | | | | |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | | | | |
| Screen Material Type: Slot Length Set Between | | + | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | | |
| | | | | |
| | | | | |
| Fittings: None | | | | |
| Well Grouted: Yes Grouting Method: Unknown | | + + + | | |
| Grouting Material Bags Additives Depth | | | | |
| Other 0.00 None 0.00 ft. to 0.00 ft. | Coology Remarks. | TOOLOULA E A CAND DOOK | | |
| | CLAY. [30] [10] [30] SAND AND CLAY. [50] [27] [100] [56] [180] | 80] SHALE & SAND ROCK. | | |
| Wellhead Completion: Pitless adapter | | | | |
| | | | | |
| Negroot Source of Descible Contembration | Drilling Mashing Organics Names 1/15/NES | т | | |
| Nearest Source of Possible Contamination: Type Distance Direction | Drilling Machine Operator Name: KLEINFEL Employment: Unknown | -1 | | |
| Sewer line 100 ft. Northwest | | | | |
| | Contractor Type: Unknown | Reg No: 23-0107 | | |
| Abandoned Well Plugged: No | Business Name: | | | |
| Reason Not Plugged: | Business Address: Water Well Contractor's C | `artification | | |
| ineason not Fluggett. | This well was drilled under my supervision and the | | | |
| | my knowledge and belief. | | | |
| | | | | |
| | Signature of Registered Contractor | Date | | |
| General Remarks: | | | | |
| Other Remarks: Well Use:Commercial, Grouting Material 1:Unknown, | Pump Manufacturer:RAPIDAYTON | | | |





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

| Tax No: Permit No: | County: Eat | on | | Township: \ | Windsor | |
|---|--------------|--------------------------------|---------------------------------|-----------------|----------------|--------------|
| | Town/Range | Section: | Well Status: | WSSN: | Source | ID/Well No |
| Well ID: 23000003780 | 03N 03W | 3 | | | | |
| Well ID. 23000003760 | | | om Road Inter | | | |
| Elevation: 898 ft. | LAST HOUSE | ON N SIDE | OF PATS DRI\ | E W END OF | ROAD | |
| Latitude: 42.6698318423 | Well Owner: | DAVID BVE | DC DC | | | |
| | Well Address | | INO . | Owner Addre | PSS: | |
| Longitude : -84.6581701931 | 7099 PATS | | | 4601 PARES | | |
| Method of Collection: Loran C | DIMONDAL | E, MI 48821 | | DIMONDALI | E, MI 48821 | |
| Drilling Method: Rotary | Pump Ir | stalled: Ye | 29 | Pumn Inst | tallation Onl | v· No |
| Well Depth: 182.00 ft. Well Use: Household | | stallation Da | | HP: 0.50 | anation om | y. 110 |
| Well Type: Replacement Date Completed: 3/16/1989 | | turer: Red | | | e: Submer | sible |
| Casing Type: PVC plastic Height: | Model N | umber: | | | oacity: 0 G | |
| Casing Joint: Unknown | Drop Pi | e Length: | 105.00 ft. | Pump Vol | | |
| Casing Fitting: Drive shoe | Drop Pi | oe Diameter: | | Drilling Re | ecord ID: | |
| | | wn Seal Use | | | | |
| Diameter: 5.00 in. to 119.00 ft. depth | | e Tank Instal | | | | |
| | Pressur | e Relief Valve | e Installed: | No | | |
| 2 | | | | | | |
| Borehole: 7.80 in. to 119.00 ft. depth | | | | | | |
| | | | | | | |
| Static Water Level: 57.00 ft. Below Grade | | Farmatia | n Dogovintion | | Thickness | Depth to |
| Vell Yield Test: Yield Test Method: Unknow | | | n Description | | | Bottom |
| Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM | Red Cla | | | | 15.00 | 15.00 |
| | | y & Gravel | | | 58.00 | 73.00 |
| Piter Period No. | Black Sh | | -lili - Di-il | | 43.00 | 116.00 |
| Screen Installed: Yes Filter Packed: No | vvnite Sa | andstone W/C | oddies Black | | 66.00 | 182.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: | | | | | | <u> </u> |
| Slot Length Set Between | | | | + | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | | | | |
| | | | | | | |
| | | | | | | |
| Fittings: None | | | | | | |
| | | | | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | | | | |
| Grouting Material Bags Additives Depth | | | | | | <u> </u> |
| Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft | [| Remarks: | I5] GREY CLA | V 0 CDAVEL | [[0] [47] [70] | COET |
| | | | 15] GREY CLA 55] [116] WHITI | | | |
| Wellhead Completion: Pitless adapter | | ROCK. [66] [5: | | | | • • . |
| veilleau Completion. Filless adapter | | | | | | |
| | | | | | | |
| Nearest Source of Possible Contamination: | Drilling | Machine Ope | rator Name: | VANWORME | R WELL DR | RILLING |
| Type Distance Direction | Employ | ment: Unkno | own | | | |
| Jnknown 0 ft. Unknown | | | | | | |
| | | tor Type: Ur | known | | Reg No: | 19-0676 |
| Abandoned Well Plugged: Yes | | s Name: | | | | |
| | Busines | s Address: | Wall O : | | .4!£! c = 4! | |
| | TL | | Well Contr | | | to the been |
| Casing Removed: | | was drilled ui ledge and be | nder my super\ lief | vision and this | report is true | to the best |
| Casing Removed: | I''y Kilow | ioago ana be | | | | |
| | ļ., | (D | | | . . | |
| General Remarks: | Signatu | re of Register | red Contracto | <u> </u> | Date | |
| General Remarks: Other Remarks: | | | | | | |
| EQP-2017 (4/2010) Page 1 of 1 | | | | 11 | HD 1/29/2 | 2001 11:48 / |





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

Failure to comply is a misdemeanor.

| Tax No: 23080003400015 Permit No: | | County: Eator | <u> </u> | | Township: \ | Mindeor | |
|---|-----------------------|----------------------------|---------------------|----------------|-------------------------|----------------|--------------------|
| Tax No. 20000000400010 | | Town/Range: | Section: | Well Status: | | | D/Well No: |
| W-II ID- 00000007 | | 03N 03W | 3 | | 1.700.1. | | |
| Well ID: 2300000378 | 54 | Distance and I | Direction fro | m Road Inters | section: | • | |
| Flouration, 4000 # | | 300' W OF CRE | EYTS RD | | | | |
| Elevation: 1899 ft. | | | | | | | |
| Latitude : 42.676156 | | Well Owner: | LULU GARR | ISON | | | |
| Longitude: -84.652162 | | Well Address: | 2.00 | | Owner Addre | | |
| Method of Collection: Section - Centroid | | 7489 CREYTS LANSING, MI | | | 7489 CREY LANSING, M | - | |
| | | | | | , | | |
| Drilling Method: Cable Tool | | Pump Ins | | | - | allation Onl | y: No |
| Well Depth: 175.00 ft. Well Use: Hou | | | tallation Dat | | HP : 2.00 | 0.1 | |
| Well Type: New Date Complete | d: 4/22/1994 | Manufacti | | Jacket | | e: Submer | |
| Casing Type: PVC plastic Height: Casing Joint: Threaded & coupled | | Model Nu | | 00 00 ft | Pump Cap | acity: 30 C | 5PIVI |
| Casing Fitting: Drive shoe | | | Length: 1 Diameter: | 00.00 II. | Drilling Re | _ | |
| Casing I itting. Drive snoe | | | n Seal Used | l: No | Drilling IX | colu ib. | |
| Diameter: 5.00 in. to 170.00 ft. depth | | | Tank Installe | | | | |
| • | | Pressure | Relief Valve | Installed: | No | | |
| | | | | | | | |
| Borehole: | | | | | | | |
| | | | | | | | |
| Static Water Level: 34.00 ft. Below Grade | | | | | <u> </u> | | I 5 |
| | /lethod: Unknown | | Formation | n Description | | Thickness | Depth to Bottom |
| Pumping level 100.00 ft. after 0.50 hrs. at 45 GPM | ictiod. Olikilowii | Clay & Sa | Clay & Sand | | | | 18.00 |
| Tumping level 100.00 ft. after 0.00 file. at 40 CF W | | Gravel | TIQ . | | | 18.00 1.00 | 22.00 |
| | | Sandstone | | | | 10.00 | 32.00 |
| Screen Installed: Yes Filter Packed: N | 10 | Gravel | | | 4 | 1.00 | 36.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. A | bove | Shale | | | 1 | 14.00 | 50.00 |
| Screen Material Type: | | Gravel | | | 3 | 3.00 | 53.00 |
| Slot Length Set Betwee | n | Shale | | | | 117.00 | 170.00 |
| 0.00 0.00 ft. 0.00 ft. and | 0.00 ft. | Green Sar | ndstone | | 5 | 5.00 | 175.00 |
| | | | | | | | |
| Pluta and Nicola | | | | | | | |
| Fittings: None | | | | | | | |
| Well Grouted: Yes Grouting Method: Unk | (nown | | | | + | | |
| Grouting Material Bags Additives | Depth | | | | - | | |
| Bentonite slurry 0.00 None | 0.00 ft. to 25.00 ft. | Geology F | Remarks: | | | | I |
| , | | CLAY & SA | AND. [18] [16 |] [18] GRAVE | L. [4] [30] [22] | SANDROCK | . [10] [54] [32 |
| | | GRAVEL. | [4] [30] [36] S | HALE. [14] [5: | 5] [50] GRAVE | L. [3] [30] [5 | 3] SHALE. |
| Wellhead Completion: Other | | [117] [55] [| 170] GREEN | SANDROCK. | . [5] [54] [175] | | |
| | | | | | | | |
| Name of Base 11 Control of | | D | | -1 N | OTEVE | | |
| Nearest Source of Possible Contamination: | Direction | _ | achine Oper | | STEVE | | |
| Type Distance | | Employm | ent: Unknow | wn | | | |
| Septic tank 60 ft. | South | Contracto | or Type: Unl | nown | | Reg No: | 10-1733 |
| | | Business | | ATIOWITI | | vea ino: | 10-1100 |
| | | Business | | | | | |
| | | | | Well Contr | actor's Cer | tification | |
| | | This well v | | | rision and this | | to the best of |
| | | | edge and beli | | | , | |
| | | Signature | of Register | ed Contractor | <u>r</u> | Date | |
| General Remarks: | | | | | | | |
| Other Remarks: Wellhead Completion:Approved Pi | t | | | | | | |
| EOD 0047 (4/0040) | | | | | | 100/6 | 3004 4 4 40 A |





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

| Tax No: 23080050800700 Permit No: | County: Eaton To | wnship: Windsor | |
|---|--|--|--------------------------------|
| | Town/Range: Section: Well Status: | WSSN: Source | ID/Well No |
| Well ID: 23000003785 | 03N 03W 3 | | |
| Well ID. 23000003703 | Distance and Direction from Road Intersec | | |
| Elevation: 1899 ft. | 3/4 M E OF CANAL HWY ON THE SOUTH S | SIDE | |
| | Well Owners TOLINI WILL LANCON | | |
| Latitude : 42.681558 | Well Owner: JOHN WILLIAMSON Well Address: Ov | vner Address: | |
| Longitude: -84.649734 | | 744 BILLWOOD HWY | |
| Method of Collection: QQQ - Centroid | *************************************** | ANSING, MI 48917 | |
| Drilling Method: Rotary | Pump Installed: Yes | Pump Installation Onl | v. No |
| Well Depth: 231.00 ft. Well Use: Household | Pump Installation Date: | HP: 0.50 | ,. |
| Well Type: New Date Completed: 8/23/1994 | Manufacturer: Other | Pump Type: Submers | sible |
| Casing Type: PVC plastic Height: | Model Number: | Pump Capacity: 15 0 | |
| Casing Joint: Threaded & coupled | Drop Pipe Length: 60.00 ft. | Pump Voltage: | |
| Casing Fitting: Drive shoe | Drop Pipe Diameter: | Drilling Record ID: | |
| | Draw Down Seal Used: No | · · | |
| Diameter: 5.00 in. to 80.00 ft. depth | Pressure Tank Installed: No | | |
| | Pressure Relief Valve Installed: No |) | |
| | | | |
| Borehole: 8.00 in. to 80.00 ft. depth | | | |
| · | | | |
| | | | |
| Static Water Level: 25.00 ft. Below Grade | Formation Description | Thickness | Depth to |
| Well Yield Test: Yield Test Method: Unknown | n <u> </u> | | Bottom |
| Pumping level 0.00 ft. after 0.00 hrs. at 40 GPM | Clay & Stones | 28.00 | 28.00 |
| | Clay & Sand | 37.00 | 67.00 |
| | Shale | 11.00 | 78.00 |
| Screen Installed: Yes Filter Packed: No | Shale & Sandstone | 8.00 | 86.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Shale | 23.00 | 109.00 |
| Screen Material Type: | Lithology Unknown | 19.00 | 128.00 |
| Slot Length Set Between | Shale | 51.00 | 171.00 |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | Shale & Sandstone | 13.00 | 172.00 |
| | Shale | 18.00 | 210.00 |
| Fifthern Alexander and the | Sandstone | 21.00 | 231.00 |
| Fittings: Neoprene packer | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | |
| Grouting Material Bags Additives Depth | | | |
| • | ft. Geology Remarks: | | |
| Bentonite slurry 0.00 None 0.00 ft. to 80.00 f | | | 🗕 🗆 |
| Bentonite slurry 0.00 None 0.00 ft. to 80.00 f | T' | SAND, [37] [16] [67] SH | 1ALE. [11] [5 |
| Bentonite slurry 0.00 None 0.00 ft. to 80.00 f | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] | SHALE. [23] [55] [109] . | [19] [0] [128 |
| | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDR | SHALE. [23] [55] [109] . | [19] [0] [128 |
| Bentonite slurry 0.00 None 0.00 ft. to 80.00 ft. www. | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] | SHALE. [23] [55] [109] . | [19] [0] [128 |
| Wellhead Completion: Pitless adapter | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH | [19] [0] [128 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] Drilling Machine Operator Name: S | SHALE. [23] [55] [109] . | [19] [0] [128 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH | [19] [0] [128 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] Drilling Machine Operator Name: S Employment: Unknown | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH TEVE PUNG | [19] [0] [128 HALE. [18] [5 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] Drilling Machine Operator Name: S Employment: Unknown Contractor Type: Unknown | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH | [19] [0] [128 IALE. [18] [5 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] Drilling Machine Operator Name: S Employment: Unknown Contractor Type: Unknown Business Name: | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH TEVE PUNG | [19] [0] [128 HALE. [18] [5 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] Drilling Machine Operator Name: S Employment: Unknown Contractor Type: Unknown Business Name: Business Address: | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH TEVE PUNG Reg No: | [19] [0] [128 IALE. [18] [5 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] Drilling Machine Operator Name: S Employment: Unknown Contractor Type: Unknown Business Name: | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH TEVE PUNG Reg No: | [19] [0] [128 HALE. [18] [5 |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction | CLAY & STONES. [28] [10] [28] CLAY & [78] SHALE & SANDROCK. [8] [56] [86] SHALE. [51] [55] [171] SHALE & SANDF [210] SANDROCK. [21] [54] [231] Drilling Machine Operator Name: S Employment: Unknown Contractor Type: Unknown Business Name: Business Address: Water Well Contract This well was drilled under my supervision. | SHALE. [23] [55] [109] . ROCK. [13] [56] [172] SH TEVE PUNG Reg No: | [19] [0] [128 HALE. [18] [5 |





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

| Tax No: | Permit No: | County: Eator | າ | | Township: | Windsor | |
|--|------------------------------------|----------------|----------------|----------------|-------------|----------------|----------------------------------|
| | | Town/Range: | Section: | Well Status: | | | ID/Well No: |
| Well ID: 230000 | 102700 | 03N 03W | 4 | | | | |
| | JUST 90 | Distance and D | | | | | |
| Elevation: 895 ft. | | Aquifer: ROCK | VV | ell #: 2305004 | .02 | | |
| Latitude: 42.6701061707 | | Well Owner: | | | | | |
| | | Well Address: | | | Owner Addr | ess: | |
| Longitude: -84.6620274817 | | 3 BLKS N-M78 | 8,1 BLK W-C | ANAL | | | |
| Method of Collection: Interpolati | on-Map | MI | | | | | |
| Drilling Method: Rotary | | Pump Inst | talled: Yes | S | Pump Ins | tallation Only | v: No |
| 1 | II Use: Household | I - | tallation Date | e: | HP: | | , |
| | te Completed: 5/22/1978 | Manufactu | urer: Unkn | own | Pump Ty | pe: Unknow | n |
| Casing Type: Unknown | Height: | Model Nu | mber: | | - | pacity: 14 G | SPM |
| Casing Joint: Unknown | | | Length: 0 | .00 ft. | Pump Vo | - | |
| Casing Fitting: None | | | Diameter: | . N. | Drilling R | ecord ID: | |
| Diameter: 4.00 in. to 176.00 ft. depth | | | n Seal Used | | | | |
| 4.00 m. to 176.00 m. deptin | | 1 | Relief Valve | | No | | |
| | | Tressure ! | rener varve | motunea. | 110 | | |
| Borehole: | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Static Water Level: 32.00 ft. Below G Well Yield Test: | rade Yield Test Method: Unknown | | Formation | n Description | | Thickness | Depth to Bottom |
| Well field fest. | rieia rest Metrioa. Onknown | Gravel & C | lav | | | 34.00 | 34.00 |
| | | Sand & Cla | | | | 56.00 | 90.00 |
| | | Gravel & C | , | | | 40.00 | 130.00 |
| Screen Installed: Yes Filt | er Packed: No | Gravel & C | | | | 32.00 | 162.00 |
| Screen Diameter: 0.00 in. Bla | nk: 0.00 ft. Above | Sandstone | W/Shale | | | 78.00 | 240.00 |
| Screen Material Type: | | Sandstone |) | | | 20.00 | 260.00 |
| Slot Length | Set Between | | | | | | |
| 0.00 0.00 ft. | 0.00 ft. and 0.00 ft. | | | | | | |
| | | | | | | | |
| Fittings: None | | | | | | | |
| Tittings. None | | | | | | | |
| Well Grouted: Yes Grouting M | lethod: Unknown | | | | | | |
| Grouting Material Bags Additi | ves Depth | | | | | | |
| Other 0.00 None | 0.00 ft. to 0.00 ft. | Geology F | | | | | |
| | | | | | | | EL/CLAY. [40] [78] [52] [240] |
| Wellhead Completion: Pitless adapte | | | NE. [20] [50] | | 02] 37(103) | ONL/SHALL. | [10] [32] [240] |
| Wellhead Completion: Pitless adapte | ∌l | | | | | | |
| | | | | | | | |
| Nearest Source of Possible Contamir | | _ | achine Oper | | Syd Dulane | y 02/05/ | 90 |
| 31 | Distance Direction | Employme | ent: Unknov | vn | | | |
| Sewer line | 100 ft. East | Contracto | r Type, 11.1 | | | D N / | 24.0000 |
| Abandoned Well Plugged: No | | Business | r Type: Unk | nown | | Reg No: 3 | 34-0383 |
| Abandoned Well Flugged. No | | Business | | | | | |
| Reason Not Plugged: | | - 33330 | | Well Contr | actor's Ce | rtification | |
| 33 | | This well w | | der my superv | | | to the best of |
| | | | edge and belie | , , | | - | |
| | | | | | | | |
| | | Signature | of Registere | ed Contractor | <u> </u> | Date | |
| General Remarks: | | | | | | | |
| Other Remarks: Grouting Material 1:W | ell grouted material unknown | | | | | | |





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

| Tax No: 23070011400061 Permit No: | County: Eaton | Tov | nship: Wind | sor | |
|--|--|---|---------------------------|----------|--------------------|
| |] | ell Status: | WSSN: | Source | ID/Well No: |
| Well ID: 23000003791 | 03N 03W 4 Distance and Direction from R | Poad Intersect | ion: | | |
| | 1/4 MI S OF DAVIS HWY ON E | | | | |
| Elevation: 1899 ft. | | | | | |
| Latitude : 42.681461 | Well Owner: RODNEY SUTFI | | | | |
| Longitude: -84.679251 | Well Address: | _ | ner Address: | _ | |
| Method of Collection: QQQ - Centroid | 7852 GUINEA RD DIMONDALE, MI 48821 | | 52 GUINEA R MONDALE, M | | |
| Drilling Method: Rotary | Pump Installed: Yes | F | Pump Installat | ion Only | y: No |
| Well Use: Household | Pump Installation Date: | | IP: 0.50 | • | |
| Well Type: New Date Completed: 11/19/1998 | Manufacturer: Other | | Pump Type: | | |
| Casing Type: PVC plastic Height: | Model Number: | | Pump Capacit | | PM |
| Casing Joint: Welded | Drop Pipe Length: 60.0 | | Pump Voltage | | |
| Casing Fitting: None | Drop Pipe Diameter: | | Orilling Recor | d ID: | |
| Diameters 5.00 in to 4.05.00 ft doubt | Draw Down Seal Used: | No | | | |
| Diameter: 5.00 in. to 105.00 ft. depth | Pressure Tank Installed: Pressure Relief Valve Ins | | | | |
| | Fressure Relief Valve IIIs | italieu. No | | | |
| Borehole: 8.00 in. to 105.00 ft. depth | | | | | |
| Borefiole: 0.00 iii. to 100.00 ii. deptii | | | | | |
| | | | | | |
| Static Water Level: 22.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown | Formation De | escription | Thi | ckness | Depth to Bottom |
| Pumping level 0.00 ft. after 0.00 hrs. at 40 GPM | Brown Clay | | 21.00 | 1 | 21.00 |
| rumping level 0.00 it. aitel 0.00 fils. at 40 Grivi | Gray Clay & Stones Sandy | , | 53.00 | | 74.00 |
| | Gravel Cemented | | 13.00 | | 87.00 |
| Screen Installed: Yes Filter Packed: No | Shale & Sandstone | | 31.00 | | 118.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Sandstone | | 27.00 | | 145.00 |
| Screen Material Type: | | | | | |
| Slot Length Set Between | | | | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | | | |
| | | | | | |
| | | | | | |
| Fittings: None | | | | | |
| | | | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | | | |
| Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 105.00 | ft Coolean Bemerker | | | | |
| Bentonite slurry 0.00 None 0.00 ft. to 105.00 | ft. Geology Remarks: BROWN CLAY. [21] [11] [2 | 11 GREY SANI | DY CLAY STO | NES 153 | R] [13] [74] |
| | GRAVEL CEMENTED. [13] | | | | |
| Wellhead Completion: Other | SANDROCK. [27] [54] [145 | 5] | | | |
| <u> </u> | | | | | |
| | | | TT FWING | | |
| Negroet Source of Possible Contamination | Drilling Machine Operate | r Name: NAA | | | |
| | Drilling Machine Operato | r Name: MA | ATT EWING | | |
| Type Distance Direction | Drilling Machine Operator Employment: Unknown | r Name: MA | ATT EWING | | |
| Type Distance Direction | Employment: Unknown | | | ea No: 3 | 23-1612 |
| Type Distance Direction | | | | eg No: 2 | 23-1612 |
| Type Distance Direction | Employment: Unknown Contractor Type: Unknown | | | eg No: 2 | 23-1612 |
| Type Distance Direction | Employment: Unknown Contractor Type: Unknown Business Name: Business Address: | | R | | 23-1612 |
| Type Distance Direction | Employment: Unknown Contractor Type: Unknown Business Name: Business Address: | wn ell Contract | R or's Certifi | cation | |
| 71 | Contractor Type: Unknown Business Name: Business Address: Water We This well was drilled under | wn ell Contract my supervision | R or's Certifi | cation | |



Tax No:

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:

| | | ip. Della |
|---|---|---------------------------------|
| | Fown/Range: Section: Well Status: WS | SN: Source ID/Well N |
| Well ID: 23000006061 | Distance and Direction from Road Intersection: | |
| | | |
| Elevation: 880 ft. | | |
| F | Well Owner: LARVE W STUCK | |
| Longitude: -84.664557 | | Address: MT HOPE RD |
| Method of Collection: QQQ - Centroid | | NG, MI 48917 |
| | · · · · · · · · · · · · · · · · · · · | |
| Drilling Method: Rotary | | o Installation Only: No |
| Well Use: Household Well Type: New Date Completed: 5/27/1970 | Pump Installation Date: HP: Manufacturer: Red Jacket Pump | o Type: Submersible |
| Casing Type: Steel - black Height: 0.00 ft. below grade | | o Capacity: 10 GPM |
| Casing Joint: Threaded & coupled | | o Voltage: |
| Casing Fitting: Drive shoe | | ng Record ID: |
| | Draw Down Seal Used: No | |
| Diameter: 4.00 in. to 104.00 ft. depth | Pressure Tank Installed: No | |
| | Pressure Relief Valve Installed: No | |
| | | |
| Borehole: | | |
| | | |
| Static Water Level: 35.00 ft. Below Grade | | Thisless Depth to |
| Well Yield Test: Yield Test Method: Unknown | Formation Description | Thickness Botton |
| Pumping level 50.00 ft. after 1.00 hrs. at 30 GPM | Clay W/Sand | 95.00 95.00 |
| | Shale | 5.00 100.00 |
| | White Sandstone | 6.00 106.00 |
| Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Gray Shale White Sandstone | 19.00 125.00 75.00 200.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: | white Sandstone | 75.00 200.00 |
| Slot Length Set Between | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | |
| | | |
| | | |
| Fittings: None | | |
| Well Grouted: Yes Grouting Method: Unknown | | |
| Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth | | |
| Bentonite slurry 0.00 None 0.00 ft. to 104.00 ft. | Geology Remarks: | |
| 11010 | CLAY WITH SAND. [95] [16] [95] SHALE. [5] [| 55] [100] WHITE SANDSTON |
| | [6] [50] [106] GRAY SHALE. [19] [55] [125] WH | HITE SANDSTONE. [75] [50] |
| Wellhead Completion: Pitless adapter | [200] | |
| | | |
| Nearest Source of Possible Contamination: | Drilling Machine Operator Name: CII PET | OT 9 INCALLS |
| Type Direction | Drilling Machine Operator Name: GILBEF Employment: Unknown | RT & INGALLS |
| Unknown 0 ft. Unknown | | |
| | Contractor Type: Unknown | Reg No: 19-0408 |
| | Business Name: | |
| | Business Address: | |
| | Water Well Contractor's | |
| | This well was drilled under my supervision and my knowledge and belief. | this report is true to the best |
| | y Miowioago and bollot. | |
| | Sign atoms of Bandatana I C. | B-1- |
| General Remarks: | Signature of Registered Contractor | Date |
| General Remarks: Other Remarks: | | |
| , | | |





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

| Import ID: 23040328010 | County: Estan | hin. Dolto |
|---|--|-----------------------------------|
| Tax No: 23040028300060 Permit No: | | hip: Delta SSN: Source ID/Well No |
| W II ID 000000000 | 04N 03W 28 | Son. Godice ID/Well No |
| Well ID: 23000006066 | Distance and Direction from Road Intersection: | |
| Elevation: 1899 ft. | | |
| Latitude: 42.697734 | Well Owner: GEORGE PARISH | |
| | • | Address: |
| Longitude: -84.67434 | | MILLETT HWY |
| Method of Collection: Address Matching-House Number | LANSING, MI 48917 LANS | ING, MI 48917 |
| Drilling Method: Rotary | Pump Installed: Yes Pum | np Installation Only: No |
| Well Use: Household | | 0.50 |
| Well Type: Replacement Date Completed: 2/22/1996 | | np Type: Submersible |
| Casing Type: PVC plastic Height: | | np Capacity: 10 GPM |
| Casing Joint: Welded | | np Voltage: |
| Casing Fitting: None | | ing Record ID: |
| | Draw Down Seal Used: No | |
| Diameter: 5.00 in. to 85.00 ft. depth | Pressure Tank Installed: No | |
| | Pressure Relief Valve Installed: No | |
| | | |
| Borehole: | | |
| | | |
| Static Water Level: 22.00 ft. Below Grade | Farmatian Bassintian | This lynne Depth to |
| Vell Yield Test Method: Unknown | n Formation Description | Thickness Bottom |
| Pumping level 60.00 ft. after 0.50 hrs. at 25 GPM | Clay & Sand | 30.00 30.00 |
| | Clay | 32.00 62.00 |
| | Shale | 53.00 115.00 |
| Screen Installed: Yes Filter Packed: No | Sandstone & Shale | 25.00 140.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Shale | 30.00 170.00 |
| Screen Material Type: | Shale & Sandstone | 30.00 200.00 |
| Slot Length Set Between | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | |
| | | |
| Fittings: None | | |
| g | | |
| Well Grouted: Yes Grouting Method: Unknown | | |
| Grouting Material Bags Additives Depth | | |
| Other 0.00 None 0.00 ft. to 85.00 f | ft. Geology Remarks: | |
| | CLAY & SAND. [30] [16] [30] CLAY. [32] [10] | |
| | SANDROCK & SHALE. [25] [54] [140] SHALE SANDROCK. [30] [56] [200] | :. [30] [55] [170] SHALE & |
| Wellhead Completion: Pitless adapter | o, w.b. (co) [co] [200] | |
| | | |
| Nearest Source of Possible Contamination: | Drilling Machine Operator Name: STEVE | Ē |
| Type Distance Direction | Employment: Unknown | |
| Septic tank 65 ft. West | | |
| | Contractor Type: Unknown | Reg No: 19-1733 |
| Abandoned Well Plugged: No | Business Name: | |
| Reason Not Plugged: | Business Address: | - Contification |
| | Water Well Contractor's | |
| | This well was drilled under my supervision an my knowledge and belief. | u this report is true to the best |
| | Signature of Registered Contractor | Date |
| General Remarks: | | |
| Other Remarks: Grouting Material 1:Unknown | | |
| OP-2017 (4/2010) Page 1 of 1 | | LHD 1/20/2001 1:20 |





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

| Well ID: 23000006099 Elevation: 870 ft. Latitude: 42.697166068 Longitude: -84.6746695607 Method of Collection: Loran C Drilling Method: Rotary Well Depth: 191.00 ft. Well Use: Household Wantacture Well Type: New Date Completed: 9/9/1970 Casing Joint: Threaded & coupled Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 62.00 ft. depth Pressure Re Borehole: Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Screen Installed: Yes Filter Packed: No Screen Material Type: Stot Length Set Between 0.00 0.00 ft. 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Well Geology Re CLAY, [15] [SHALE. [6] [Wellhead Completion: Pitless adapter Dright Manuacture Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Drilling Mac Elevation: The Well Owner: The Wel | BERRIAN BI T 917 led: Yes lation Date er: Aermo er: ength: 42 iameter: Seal Used: nk Installe | Well Status: m Road Interse ROS BLDRS Co | Owner Address 7730 W ST JC GRAND LEDG Pump Instal HP: 0.75 Pump Type: Pump Capac Pump Voltag Drilling Rec | Source Ses: DE GE, MI 4883 Illation Only : Submers icity: 15 G | / : No |
|--|--|--|---|--|------------------|
| Elevation: 870 ft. Latitude: 42.697166068 Longitude: -84.6746695607 Method of Collection: Loran C Drilling Method: Rotary Well Depth: 191.00 ft. Well Use: Household Well Type: New Date Completed: 9/9/1970 Casing Type: Steel - black Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 62.00 ft. depth Pressure Te Pressure Re Borehole: Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Screen Installed: Yes Filter Packed: No Screen Material Type: Stot Length Set Between 0.00 0.00 ft. 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Drilling Mac Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Drilling Mac Each Other Distance Direction Drilling Mac Employment Drilling Mac Employment Drilling Mac Employment Drilling Mac Employment | BERRIAN BI T 917 led: Yes lation Date er: Aermo er: ength: 42 iameter: Seal Used: nk Installe | ROS BLDRS ROS BLDRS Cossession of the cost of the co | Pump Instal HP: 0.75 Pump Type: Pump Voltage | DE GE, MI 4883 Ilation Only : Submers | 37 /: No |
| Elevation: 870 ft. Latitude: 42.697166068 Longitude: -84.6746695607 Method of Collection: Loran C Drilling Method: Rotary Well Depth: 191.00 ft. Well Use: Household Well Type: New Date Completed: 9/9/1970 Casing Type: Steel - black Height: Casing Fitting: Drive shoe Diameter: 4.00 in. to 62.00 ft. depth Borehole: Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Casceen Installed: Yes Filter Packed: No Screen Material Type: Stote Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Pitless adapter Distance Direction Drilling Mac Employment Fittings: Drive John Drilling Mac Employment Fittings: Drive Store Direction Drilling Mac Employment Fittings: Drive Store Direction Drilling Mac Employment Fittings: Drive Store Direction Drilling Mac Employment Fittings: Drive Distance Direction | ERRIAN BI T 917 led: Yes lation Date er: Aermo er: ength: 42 iameter: Seal Used: nk Installe | SROS BLDRS Sep: Hotor 2.00 ft. H: No | Pump Instal HP: 0.75 Pump Type: Pump Capac | DE GE, MI 4883 Ilation Only : Submers icity: 15 G | / : No |
| Latitude: 42.697166068 Longitude: -84.6746695607 Method of Collection: Loran C Drilling Method: Rotary Well Depth: 191.00 ft. Well Use: Household Pump Instal Manufacture Well Type: New Date Completed: 9/9/1970 Drive shoe Draw Down Diameter: 4.00 in. to 62.00 ft. depth Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between D.00 0.00 ft. 0.00 ft. 0.00 ft. 0.00 ft. 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Scrouting Material Bags Additives Depth Dther 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Geology Re CLAY, [15] ['SHALE, [6]]; Wellhead Completion: Pitless adapter Well Grouted: Direction Drilling MacEmploymen | led: Yes lation Date er: Aermo eer: ength: 42 iameter: Seal Used: nk Installe | s e: ottor 2.00 ft. l: No | 7730 W ST JC GRAND LEDG Pump Instal HP: 0.75 Pump Type: Pump Capac Pump Voltag | DE GE, MI 4883 Ilation Only : Submers icity: 15 G | / : No |
| Method of Collection: Loran C Method of Collection: Loran C Drilling Method: Rotary Mell Depth: 191.00 ft. Mell Type: New Date Completed: 9/9/1970 Draw Down Drop Pipe L Drop Pipe | led: Yes lation Date er: Aermo eer: ength: 42 iameter: Seal Used: nk Installe | s e: ottor 2.00 ft. l: No | 7730 W ST JC GRAND LEDG Pump Instal HP: 0.75 Pump Type: Pump Capac Pump Voltag | DE GE, MI 4883 Ilation Only : Submers icity: 15 G | / : No |
| Method of Collection: Loran C Method of Collection: Loran C Drilling Method: Rotary Well Depth: 191.00 ft. Well Use: Household Well Type: New Date Completed: 9/9/1970 Casing Type: Steel - black Height: Model Numl Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 62.00 ft. depth Drop Pipe L D | led: Yes lation Date er: Aermo eer: ength: 42 iameter: Seal Used: nk Installe | s e: ottor 2.00 ft. l: No | 7730 W ST JC GRAND LEDG Pump Instal HP: 0.75 Pump Type: Pump Capac Pump Voltag | DE GE, MI 4883 Ilation Only : Submers icity: 15 G | / : No |
| Method of Collection: Loran C Satisfied Recompleted: -84.6746699607 Strilling Method: Rotary Well Depth: 191.00 ft. Well Use: Household Pump Instal Pum | 917 led: Yes lation Date er: Aermo eer: ength: 42 iameter: Seal Used: nk Installe | s e: otor 2.00 ft. l: No ed: No | 7730 W ST JC GRAND LEDG Pump Instal HP: 0.75 Pump Type: Pump Capac Pump Voltag | DE GE, MI 4883 Ilation Only : Submers icity: 15 G | / : No |
| Method of Collection: Loran C Dilling Method: Rotary Well Depth: 191.00 ft. Well Use: Household Pump Instal Pump | 917 led: Yes lation Date er: Aermo eer: ength: 42 iameter: Seal Used: nk Installe | s e: ottor 2.00 ft. l: No | Pump Instal HP: 0.75 Pump Type: Pump Capac Pump Voltage | GE, MI 4883 Ilation Only : Submers icity: 15 G | / : No |
| Well Depth: 191.00 ft. Well Use: Household Wall Type: New Date Completed: 9/9/1970 Manufactur. Manufactur. Model Numbrospie Steel - black Height: Casing Type: Steel - black Height: Drop Pipe Leasing Fitting: Drive shoe Draw Down Pressure Temperature Resource of Possible Contamination: Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pressure Temperature Resource Resou | lation Date er: Aermo er: ength: 42 iameter: Seal Used: nk Installe | et: No | HP: 0.75 Pump Type: Pump Capac | : Submers | |
| Well Depth: 191.00 ft. Well Use: Household Wall Type: New Date Completed: 9/9/1970 Manufactur. Manufactur. Model Numbrospie Steel - black Height: Casing Type: Steel - black Height: Drop Pipe Leasing Fitting: Drive shoe Draw Down Pressure Temperature Resource of Possible Contamination: Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pressure Temperature Resource Resou | lation Date er: Aermo er: ength: 42 iameter: Seal Used: nk Installe | 2.00 ft. : No ed: No | HP: 0.75 Pump Type: Pump Capac | : Submers | |
| Manufacture Model Number Model | oer: ength: 42 iameter: Seal Used: nk Installe | 2.00 ft. : No ed: No | Pump Capac Pump Voltag | city: 15 G | iblo |
| Assing Type: Steel - black Height: Assing Joint: Threaded & coupled Casing Fitting: Drive shoe Draw Down Pressure Technologiameter: 4.00 in. to 62.00 ft. depth Draw Down Pressure Technologiameter: 4.00 in. to 62.00 ft. depth Draw Down Pressure Technologiameter: 4.00 in. to 62.00 ft. depth Draw Down Pressure Technologiameter: 25.00 ft. Below Grade Vell Yield Test: Yield Test Method: Unknown Shale Soft Shale Soft Shale Soft Shale Soft Shale Soft Shale Dunidentified Draw Down Shale Soft Shale Depth Set Between Draw Down Shale Soft Shale Depth Depth Shale Depth Shale Depth Shale Depth Shale Depth Shale Depth Shale Depth Depth Depth Shale Depth Depth Shale Depth Shale Depth Shale Depth Depth Depth Shale Depth | ength: 42 iameter: Seal Used: nk Installe | l: No | Pump Voltag | - | INIC |
| Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Drop Pipe L Drop Pipe D Draw Down Drop Pipe D Draw Down Pressure Ta Pressure Ta Pressure Resorehole: Catatic Water Level: 25.00 ft. Below Grade Vell Yield Test: Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Clay Sand Hardpan Screen Installed: Yes Filter Packed: No Shale Soft Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Careen Material Type: Coreen Material Type: Coreen Material Set Between Coreen Material Bags Additives Depth Coreen Diameter: 0.00 None 0.00 ft. to 0.00 ft. Coreen Material Bags Additives Depth Coreen Diameter: Direction Coreen Material Bags Additives Depth Coreen Diameter: Direction Coreen Material Bags Additives Depth Coreen Diameter: Direction Coreen Material Bags Additives Depth Coreen Distance Direction Coreen Direction Coreen Material Bags Additives Depth Coreen Material Bags Additives De | iameter: Seal Used: nk Installe | l: No | Pump Voltag | - | |
| Casing Fitting: Drive shoe Draw Down Pressure Te Pressure Re Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Clay Sand Hardpan Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Stot Length Set Between D.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Scrouting Material Bags Additives Depth Dther 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Scrouting Material Bags Additives Depth Dther 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Distance Direction Drilling MacEnter Method: Direction Drilling MacEnter Method: Direction | iameter: Seal Used: nk Installe | l: No | | ge: | |
| Draw Down Pressure Ta Pressure Re Borehole: Static Water Level: 25.00 ft. Below Grade Vell Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Clay Sand Hardpan Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Vell Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] ['SHALE. [6] [t] Vellhead Completion: Pitless adapter Drilling MacEndown Drilling MacEndown Drilling MacEndown Employmen Drilling MacEndown Employmen Drilling MacEndown Employmen Drilling MacEndown Employmen | nk Installe | ed: No | | ord ID: | |
| Borehole: Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Screen Installed: Yes Filter Packed: No Shale Softeren Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Direction Drilling MacEmploymen Drilling MacEmploymen Employmen | | | | | |
| Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Sand Hardpan Screen Installed: Yes Filter Packed: No Shale Softeren Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Dither 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] [7] SHALE. [6] [8] Wellhead Completion: Pitless adapter Distance Direction Drilling MacEmploymen | lief Valve I | Installed: N | | | |
| Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Clay Sand Hardpan Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Scrouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Dearest Source of Possible Contamination: Type Distance Direction Drilling MacEmploymen | | | lo | | |
| Static Water Level: 25.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Pumping level 0.00 ft. after 0.00 hrs. at 30 GPM Clay Sand Hardpan Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Drilling Material Employment | | | | | |
| Well Yield Test: | | | | | |
| Vell Yield Test: Yield Test Method: Unknown Clay Sand Hardpan | | | | | |
| Vell Yield Test: Yield Test Method: Unknown Clay Sand Hardpan | | | | | |
| Clay Sand Hardpan Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Unidentified Stote Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Stote Grouting Method: Unknown Scrouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Scrouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Distance Direction Drilling Mace Employment | Formation | n Description | | Thickness | Depth to |
| Sand Hardpan Creen Installed: Yes Filter Packed: No Creen Diameter: 0.00 in. Blank: 0.00 ft. Above Shale Creen Material Type: Iot Length Set Between Iou 0.00 ft. 0.00 ft. and 0.00 ft. Ittings: None Vell Grouted: Yes Grouting Method: Unknown Irrouting Material Bags Additives Depth Iother 0.00 None 0.00 ft. to 0.00 ft. Vellhead Completion: Pitless adapter Distance Direction Sand Hardpan Shale Chardpan Shale Cunidentified Unidentified Unidentified Unidentified Unidentified Chardpan Shale Shale Unidentified Unidentified Unidentified Chardpan Shale Shale Unidentified Unidentified Chardpan Shale Sha | | ——— | | | Bottom |
| Hardpan | | | | | 15.00 |
| creen Installed: Yes Filter Packed: No creen Diameter: 0.00 in. Blank: 0.00 ft. Above Creen Material Type: Iot Length Set Between00 0.00 ft. 0.00 ft. and 0.00 ft. ittings: None Vell Grouted: Yes Grouting Method: Unknown trouting Material Bags Additives Depth other 0.00 None 0.00 ft. to 0.00 ft. Vellhead Completion: Pitless adapter Distance Direction Shale Soft Shale Unidentified Unknown Condense Unkno | | | | | 40.00 |
| creen Diameter: 0.00 in. Blank: 0.00 ft. Above creen Material Type: lot Length Set Between .00 0.00 ft. 0.00 ft. and 0.00 ft. ittings: None //ell Grouted: Yes Grouting Method: Unknown trouting Material Bags Additives Depth other 0.00 None 0.00 ft. to 0.00 ft. //ellhead Completion: Pitless adapter parest Source of Possible Contamination: type Distance Direction Shale Unidentified Unidentified Unknown Geology Re CLAY. [15] [7] SHALE. [6] [8] | | | | | 55.00 |
| ittings: None Vell Grouted: Yes Grouting Method: Unknown Strouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] [7] SHALE. [6] [8] Wellhead Completion: Pitless adapter Distance Direction Direction Unidentified Unknown Set Between Direction Unidentified Unknown Set Between Direction Direction Unidentified Unknown Set Between Direction Unknown Set | | | 6.0 | | 61.00 |
| Ititings: None Vell Grouted: Yes Grouting Method: Unknown irouting Material Bags Additives Depth other 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] [7] SHALE. [6] [8] Vellhead Completion: Pitless adapter Velless Source of Possible Contamination: ype Distance Direction Drilling Mace Employment | | | 99 | 9.00 | 160.00 |
| ittings: None Vell Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Vellhead Completion: Pitless adapter Diearest Source of Possible Contamination: Type Distance Direction O.00 ft. and 0.00 ft. Geology Re CLAY. [15] [7 SHALE. [6] [8] Drilling Mace Employment | Consolidate | ed Fm | 31 | .00 | 191.00 |
| Vell Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Vellhead Completion: Pitless adapter Dearest Source of Possible Contamination: Type Distance Direction Drilling Mac | | | | | |
| Vell Grouted: Yes Grouting Method: Unknown Strouting Material Bags Additives Depth Dither 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] [7 SHALE. [6] [8] Vellhead Completion: Pitless adapter Distance Direction Drilling Mackage Direction | | | | | <u> </u> |
| Vell Grouted: Yes Grouting Method: Unknown Strouting Material Bags Additives Depth Dither 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] [7 SHALE. [6] [8] Vellhead Completion: Pitless adapter Distance Direction Drilling Mackage Direction | | | | | ļ |
| Vell Grouted: Yes Grouting Method: Unknown Strouting Material Bags Additives Depth Dither 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] [7 SHALE. [6] [8] Vellhead Completion: Pitless adapter Distance Direction Drilling Mackage Direction | | | | | <u> </u> |
| Strouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Wellhead Source of Possible Contamination: Type Distance Direction Depth Geology Re CLAY. [15] [' SHALE. [6] [! Drilling Mac Employment | | | | | |
| Strouting Material Bags Additives Depth Other 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Depth Ocher 0.00 ft. to 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Depth Ocher 0.00 ft. to 0.00 ft. Depth Ocher 0.00 ft. Depth Oc | | | | | |
| Other 0.00 None 0.00 ft. to 0.00 ft. Geology Re CLAY. [15] [' SHALE. [6] [! Wellhead Completion: Pitless adapter Distance Direction Employment | | | | | } |
| Vellhead Completion: Pitless adapter Vellhead Completion: Pitless adapter Vellhead Completion: Pitless adapter Vellhead Completion: Pitless adapter Distance Direction Employment | | | | | |
| SHALE. [6] [9] Nearest Source of Possible Contamination: Type Distance Direction Employment Emp | | ND [05] [00] [4(| | [4 5] [4 0] [5] | EL COET |
| Vellhead Completion: Pitless adapter | 0] [13] SAN 5] [61] SH/ | ND. [25] [20] [40 ALF [99] [55] [1 | J] HARD PAIN. 1601 ROCK [3: | :3] [61] [31] [191] [59] [1 | 3] 3 0F I |
| learest Source of Possible Contamination: Type Distance Direction Employment | 0] [0 1] 01 # | | 100] 1100111 [0 | 1][00][101] | 1 |
| Type Distance Direction Employment | | | | | |
| Type Distance Direction Employment | | | | | |
| · · · · · · · · · · · · · · · · · · · | | | DAILY & JACK | (SON | |
| N 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | • | vn | | | |
| Septic tank 60 ft. Unknown | • | | | | |
| | t: Unknow | nown | | Reg No: 3 | 3-0390 |
| Business N | t: Unknow | | | | |
| Business A | t: Unknow Type: Unki | | | | |
| | t: Unknow ype: Unknow me: dress: | | | | |
| This well wa my knowled | ype: Unkrow me: ddress: | Well Contra | sion and this re | port is true | to the best of |
| Cianatura o | ype: Unkrume: Idress: Water V | Well Contra | | | |
| General Remarks: | t: Unknow ype: Unknow me: ddress: Water V drilled und e and belie | Well Contra der my supervis ef. | | Date | |
| Other Remarks: Grouting Material 1:Well grouted material unknown | t: Unknow ype: Unknow me: ddress: Water V drilled und e and belie | Well Contra | | Date | |



Tax No:

Water Well And Pump Record

County: Eaton



Township: Delta

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

Permit No:

| VA / II ID 00000000000 | Town/Rang 04N 03 | | Section: 33 | Well Status: | WSSN: | Sourc | e ID/Well No: |
|--|---------------------|--------------|--------------------------------------|---------------|-------------------------|-----------|--------------------|
| Well ID: 2300006100 | | | | m Road Inter | section: | | |
| Elevation: 1899 ft. | | | | | | | |
| Latitude: 42.68481 | Well Owne | | MES GAD | SON | | | |
| Longitude : -84.664522 | Well Addre | | DD. | | Owner Addi 8627 N CA | | |
| Method of Collection: QQQ - Centroid | LANSING | | | | LANSING, | | |
| | | | | | | | |
| Orilling Method: Rotary Well Depth: 280.00 ft. Well Use: Household | | o Instal | led: No ink Installe | ed: No | | | |
| Well Type: New Date Completed: | | | ink installe elief Valve | | No | | |
| Casing Type: Steel - black Height: | | Jui C I (| JIICI VAIVO | motunea. | 110 | | |
| Casing Joint: Threaded & coupled | | | | | | | |
| Casing Fitting: Drive shoe | | | | | | | |
| Diameter: 4.00 in. to 108.00 ft. depth | | | | | | | |
| Borehole: | | | | | | | |
| Static Water Level: 21.00 ft. Below Grade Nell Yield Test: Yield Test Method: Unknown | 1 | | Formation | n Description | | Thickness | Depth to Bottom |
| | | & Clay | | | | 40.00 | 40.00 |
| | Shale |) | | | | 240.00 | 280.00 |
| Screen Installed: Yes Filter Packed: No | | | | | | | |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | | | | | | | |
| Screen Material Type: | | | | | | | |
| Slot Length Set Between | | | | | | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | | | | | |
| | | | | | | | |
| Tittin man Nama | | | | | | | |
| Fittings: None | | | | | | | |
| Nell Grouted: Yes Grouting Method: Unknown | | | | | | | |
| Grouting Material Bags Additives Depth | | | | | | | |
| Other 0.00 None 0.00 ft. to 0.00 ft. | | | marks: CLAY. [40] | [16] [40] SHA | LE. [240] [55] |] [280] | |
| Nellhead Completion: 12 inches above grade | | | | | | | |
| Nearest Source of Possible Contamination: | Drillin | ng Mac | hine Oper | ator Name: | KLEINFEL1 | Γ | |
| TypeDistanceDirectionSewer line60 ft.West | | - | t: Unknov | | | | |
| | Busin | ness Na | Type : Unk ame: ddress: | nown | | Reg No: | 23-0107 |
| | | | | | | | e to the best of |
| | Signa | ature o | f Registere | ed Contracto | • | Date | |
| General Remarks: Other Remarks: Grouting Material 1:Well grouted material unknown | | | | | | | |
| zurer Nermanks. Grouting Material 1:Well grouted material unknown | | | | | | | |





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

| Import ID: 23040333004 Tax No: | Permit No: | County: Eaton |) | | Township: | Delta | |
|--|------------------------------|----------------|---------------|------------------------------|-----------------|----------------|--------------|
| | | Town/Range: | Section: | Well Status: | | | ID/Well No: |
| \\/-II ID- 000 | 00000400 | 04N 03W | 33 | | | | |
| Well ID: 230 | 100006102 | Distance and D | Direction fro | m Road Inters | section: | • | |
| Floresties 4000 () | | | | | | | |
| Elevation: 1899 ft. | | | | | | | |
| Latitude: 42.683068 | | Well Owner: | DONALD CA | ARNS | | | |
| Longitude: -84.666539 | | Well Address: | | | Owner Add | ress: | |
| • | ddress Matching-House Number | 8745 DAVIS H | | | 8745 DAVI | - | |
| Wethod of Collection. A | | LANSING, MI | 48917 | | LANSING, | MI 48917 | |
| Drilling Method: Rotary | | Pump Inst | talled: Ye | es | Pump Ins | stallation Onl | v: No |
| Well Depth: 325.00 ft. | Well Use: Household | Pump Inst | tallation Dat | te: | HP: 0.50 | | • |
| Well Type: New | Date Completed: 8/29/1995 | Manufactu | urer: Red | Jacket | Pump Ty | pe: Submer | sible |
| Casing Type: PVC plastic | Height: | Model Nui | mber: | | Pump Ca | pacity: 12 (| SPM |
| Casing Joint: Welded | | Drop Pipe | Length: | 40.00 ft. | Pump Vo | ltage: | |
| Casing Fitting: None | | Drop Pipe | Diameter: | | Drilling F | Record ID: | |
| | | | n Seal Use | | | | |
| Diameter: 5.00 in. to 120.00 ft | Pressure | Tank Install | ed: No | | | <u> </u> | |
| | | Pressure | Relief Valve | Installed: | No | | |
| | | | | | | | |
| Borehole: 8.50 in. to 120.00 ft | . depth | | | | | | |
| | | | | | | | |
| Static Water Level: 12.00 ft. | Below Grade | | | | | | Depth to |
| Well Yield Test: | Yield Test Method: Unknown | 1 I | Formatio | n Description | | Thickness | Bottom |
| Pumping level 0.00 ft. after 0.0 | 0 hrs. at 80 GPM | Brown Cla | У | | | 10.00 | 10.00 |
| , 3 | | Gray Sand | | | | 25.00 | 35.00 |
| | | Gray Clay | | | | 55.00 | 90.00 |
| Screen Installed: Yes | Filter Packed: No | Gray Shale | Э | | | 17.00 | 107.00 |
| Screen Diameter: 0.00 in. | Blank: 0.00 ft. Above | Black Shal | е | | | 1.00 | 108.00 |
| Screen Material Type: | | White Shal | le & Sandsto | one | | 2.00 | 110.00 |
| Slot Length | Set Between | Gray Shale | e & Sandstor | ne | | 70.00 | 180.00 |
| 0.00 0.00 ft. | 0.00 ft. and 0.00 ft. | Sandstone |) | | | 10.00 | 190.00 |
| | | Black & Gr | ray Shale | | | 20.00 | 210.00 |
| | | Sandstone |) | | | 5.00 | 215.00 |
| Fittings: None | | Black & Gr | | | | 25.00 | 240.00 |
| | | Sandstone | W/Shale | | | 85.00 | 325.00 |
| | outing Method: Unknown | | | | | | |
| Grouting Material Bags | Additives Depth | | | | | | |
| Bentonite slurry 0.00 | None 0.00 ft. to 120.00 | 1000.097 | | Continued On | | 01 [2E] OD AV | CLAV. COM |
| | | | | 1] [10] GRAY S GRAY SHALE | | | |
| Wallbaad Campulation Ditla | | [108] WHIT | ΓE SHALE & | SANDSTONE | . [2] [56] [110 | O GRAY SHAI | LE & |
| Wellhead Completion: Pitles | ss adapter | SANDSTO | NE. [70] [56] | [180] SANDS | TONE. [10] [| 50] [190] GRA | Y & BLACK |
| | | SHALE. [20 | υJ | | | | |
| Nearest Source of Possible C | ontamination: | Drilling Ma | achine Ope | rator Name: | GREG MEA | AD | |
| Туре | Distance Direction | | ent: Unkno | | | | |
| Septic tank | 80 ft. East | | | | | | |
| <u> </u> | | | | (Continue | d on page | 2) | |
| | | | | - | . • | • | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| General Remarks: 12" ABOVI | E GRADE | | | | <u>-</u> | | |
| Other Remarks: | | | | | | | |
| EOD 2017 (4/2010) | Dago 1 of 2 | | | | | UD 1/20 | /2001 1:21 0 |





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

| IIII port ID. 20070000007 | | | | | | |
|----------------------------------|----------------------|-----------------------------|--------------|------------------|-------------------------------|--------------------|
| Tax No: | Permit No: | County: Eaton | | Tow | /nship: Delta | |
| | | Town/Range: | Section: | Well Status: | WSSN: | Source ID/Well No: |
| Wall ID: 220000 | 06402 | 04N 03W | 33 | | | |
| Well ID: 230000 | 000102 | Distance and D | irection fro | n Road Intersect | ion: | |
| Elevation: 1899 ft. | | | | | | |
| Latitude: 42.683068 | | Well Owner: | ONALD CA | RNS | | |
| Longitude: -84.666539 | | Well Address: | | Owi | ner Address: | |
| 3 | atching-House Number | 8745 DAVIS H LANSING, MI | | _ | 745 DAVIS HW ANSING, MI 48 | |
| | | | | | | |

| | | (Continued | from Page 1) |
|-----------------------|-----------|--------------------|---|
| | | | GEOLOGY REMARKS: |
| Formation Description | Thickness | Depth to Bottom | [55] [210] SANDSTONE. [5] [50] [215] BLACK & GRAY SHALE. [25] [55] [240] SANDSTONE W/LAYERS OF SHALE. [85] [52] [325] |
| | | | SANDSTONE W/LAYERS OF SHALE. [85] [52] [325] |
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| | | | |
| | | | Contractor Type: Unknown Reg No: 23-0418 |
| | | | 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 1/29/2001 1:31 PM





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

| County: E | aton | | Township: | Delta | |
|---------------|---|---|--|--|--|
| Town/Ran | - | Well Status: | WSSN | : Sourc | e ID/Well No |
| | | | | | |
| Distance a | nd Direction fr | om Road Inter | section: | | |
| | | | | | |
| Well Owne | r: BEN PARK | ER | | | |
| | | | Owner Add | ress: | |
| | | | | | |
| LANSING | , MI 48917 | | LANSING, | MI 48917 | |
| Pump | Installed: Y | es | Pump In | stallation On | lv: No |
| | | | - | | .,. |
| Manu | facturer: Red | d Jacket | Pump Ty | /pe: Subme | rsible |
| Mode | Number: | | Pump Ca | apacity: 18 | GPM |
| Drop | Pipe Length: | 60.00 ft. | Pump Vo | oltage: | |
| | • | | Drilling I | Record ID: | |
| | | | | | |
| | | | | | |
| Press | ure Relief Valv | e Installed: | No | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | I | Depth to |
| own | Formation | on Description | | Thickness | Botton |
| Clay | | | | 52.00 | 52.00 |
| Grave | | | | 2.00 | 54.00 |
| Clay | | | | 22.00 | 76.00 |
| Litholo | gy Unknown | | | 20.00 | 98.00 |
| Shale | | | | 104.00 | 200.00 |
| <u> </u> | | | | ļ | |
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| <u> </u> | | | | <u> </u> | |
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| <u> </u> | | | | | 1 |
| | | | | 1 | <u> </u> |
| | | | | 1 | |
| | | | | | |
| .00 ft. Geolo | gy Remarks: | | | | |
| CLAY. | [52] [10] [52] G | | [54] CLAY. | [22] [10] [76] ⁻ | ΓILL. [20] [19 |
| [98] SI | HALE. [104] [55] |] [200] | | | |
| | | | | | |
| | | | | | |
| Drillin | a Machine One | erator Name | DOODV | | |
| | | | 20001 | | |
| | JO.III. OIIIIII | | | | |
| Contr | actor Type: U | nknown | | Reg No: | 78-1616 |
| | ess Name: | | | | |
| | ess Address: | | | | |
| Busin | | | | | |
| Busin | | r Well Contr | actor's Co | ertification | |
| This w | Water vell was drilled u | inder my superv | | | |
| This w | Water | inder my superv | | | |
| This w | Water vell was drilled u | inder my superv | | | |
| This w | Water rell was drilled u owledge and be | inder my superv | rision and thi | | |
| | Well Owne Well Addre 8833 DAV LANSING Pump Pump Manut Model Drop I Draw Press Press Press Own Clay Grave Clay Lithold Shale Drop I Draw Fress Press Press Output Draw Draw Draw Draw Draw Press Press Press Drillin Emplo | Distance and Direction fr Well Owner: BEN PARK Well Address: 8833 DAVIS HWY LANSING, MI 48917 Pump Installed: Y Pump Installation Da Manufacturer: Red Model Number: Drop Pipe Length: Drop Pipe Diameter: Draw Down Seal Use Pressure Tank Instal Pressure Relief Valv Clay Gravel Clay Lithology Unknown Shale Oof ft. Geology Remarks: CLAY. [52] [10] [52] G [98] SHALE. [104] [55] Drilling Machine Ope Employment: Unknown | Distance and Direction from Road Inters Well Owner: BEN PARKER Well Address: 8833 DAVIS HWY LANSING, MI 48917 Pump Installed: Yes Pump Installation Date: Manufacturer: Red Jacket Model Number: Drop Pipe Length: 60.00 ft. Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: Clay Cravel Clay Lithology Unknown Shale Drilling Machine Operator Name: | Distance and Direction from Road Intersection: Well Owner: BEN PARKER Well Address: Owner Add 8833 DAVIS HWY 8833 DAV LANSING, MI 48917 Pump Installed: Yes Pump In Pump Installation Date: HP: 0.75 Manufacturer: Red Jacket Pump Ty Model Number: Pump Co Drop Pipe Length: 60.00 ft. Pump Wo Drop Pipe Diameter: Drilling In Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: No Formation Description Clay Clay Lithology Unknown Shale To Geology Remarks: CLAY. [52] [10] [52] GRAVEL. [2] [20] [54] CLAY. [98] SHALE. [104] [55] [200] Drilling Machine Operator Name: DOODY Employment: Unknown | Distance and Direction from Road Intersection: Well Owner: BEN PARKER |





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

| וווי: 23040333006 | ipiy is a misuemeanor. | | | | |
|--|---|------------------------------------|--|--|--|
| Tax No: Permit No: | County: Eaton Townshi | | | | |
| | Town/Range: Section: Well Status: WSS | SN: Source ID/Well No: | | | |
| Well ID: 23000006104 | 04N 03W 33 | | | | |
| ************************************** | Distance and Direction from Road Intersection: | | | | |
| Elevation: 1899 ft. | | | | | |
| Latitude: 42.683052 | Well Owner: ROGER LANCASTER | | | | |
| | Well Address: Owner A | ddraes: | | | |
| Longitude: -84.675288 | | AVIS HWY | | | |
| Method of Collection: Address Matching-House Number | | G, MI 48917 | | | |
| | | | | | |
| Drilling Method: Rotary | · | Installation Only: No | | | |
| Well Depth: 201.00 ft. Well Use: Household Well Type: Replacement Date Completed: 10/24/1996 | | Type: Submersible | | | |
| Casing Type: PVC plastic Height: | | Capacity: 10 GPM | | | |
| Casing Joint: Welded | | Voltage: | | | |
| Casing Fitting: None | | g Record ID: | | | |
| outing ritaing. Hono | Draw Down Seal Used: No | g 1100014 121 | | | |
| Diameter: 5.00 in. to 115.00 ft. depth | Pressure Tank Installed: No | | | | |
| ' | Pressure Relief Valve Installed: No | | | | |
| | | | | | |
| Borehole: 4.50 in. to 201.00 ft. depth | | | | | |
| · | | | | | |
| | | | | | |
| Static Water Level: 35.00 ft. Below Grade | Formation Description | Thickness Depth to | | | |
| Well Yield Test: Yield Test Method: Unknown | | Bottom | | | |
| Pumping level 80.00 ft. after 2.00 hrs. at 50 GPM | Clay Clay & Sand | 10.00 10.00 20.00 30.00 | | | |
| | Clay | 50.00 80.00 | | | |
| Screen Installed: Yes Filter Packed: No | Sand & Gravel | 20.00 100.00 | | | |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Shale & Sandstone | 30.00 130.00 | | | |
| Screen Material Type: | Shale | 50.00 180.00 | | | |
| Slot Length Set Between | Sandstone | 21.00 201.00 | | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | | | |
| | | | | | |
| | | | | | |
| Fittings: None | | | | | |
| | | | | | |
| Well Grouted: Yes Grouting Method: Unknown | | | | | |
| Grouting Material Bags Additives Depth | | | | | |
| Bentonite slurry 0.00 None 0.00 ft. to 115.00 f | Coolegy Hemaine. | 01 01 41/ (501 (401 (001 041 0 | | | |
| | CLAY. [10] [10] [10] CLAY & SAND. [20] [16] [30] CLAY. [50] [10] [80] SAND [GRAVEL. [20] [25] [100] SHALE & SANDSTONE. [30] [56] [130] SHALE. [50 | | | | |
| Mallhand Completion Different adents | [55] [180] SANDSTONE. [21] [50] [201] | 2. [00] [00] [100] 01 // (22. [00] | | | |
| Wellhead Completion: Pitless adapter | | | | | |
| | | | | | |
| Nearest Source of Possible Contamination: | Drilling Machine Operator Name: STEVE | PUNG | | | |
| Type Distance Direction | Employment: Unknown | | | | |
| Septic tank 59 ft. South | | | | | |
| | Contractor Type: Unknown | Reg No: 19-1733 | | | |
| Abandoned Well Plugged: No | Business Name: | | | | |
| Reason Not Plugged: | Business Address: | | | | |
| | Water Well Contractor's | | | | |
| | This well was drilled under my supervision and my knowledge and belief. | this report is true to the best of | | | |
| | Signature of Registered Contractor | Date | | | |
| General Remarks: 12" ABOVE GRADE | 1 2.3 | | | | |
| Other Remarks: | | | | | |
| FOD 2047 (4/0040) | | 111D 4/00/0004 4 04 DI | | | |





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

| Import ID: 23040334002 Tax No: | Permit No: | | County: Eaton | | [- | Township: | Dolto | |
|---------------------------------------|------------------------|--------------------|------------------------|-------------------------------|-------------------------------------|-----------------|-------------------|----------------|
| TAX NO. | remit No. | | Town/Range: | Section: | Well Status: | WSSN: | | e ID/Well No: |
| | 20000010 | _ | 04N 03W | 34 | Well Otatus. | WOON. | Journ | c ib/weii ito. |
| Well ID: 230 |)0000610 | Ó | Distance and D | | m Road Inters | ection: | I | |
| | | | | | | | | |
| Elevation: 1899 ft. | | | | | | | | |
| Latitude: 42.694103 | | | Well Owner: E | BOARD OF | WATER & LIGH | łΤ | | |
| Longitude: -84.661887 | | | Well Address: | | • | Owner Addr | ess: | |
| Method of Collection: A | Address Matching House | Number | 3725 S CANAI | | | 3725 S CAI | | |
| Wethou of Conection. | | Number | LANSING, MI | 48901 | | LANSING, | MI 48901 | |
| Drilling Method: Rotary | | | Pump Inst | alled: Ye | ·s | Pump Ins | stallation Onl | y: No |
| Well Depth: 380.00 ft. | Well Use: Other | | Pump Inst | allation Dat | e: | HP: 10.0 | | - |
| Well Type: New | Date Completed: | 4/17/1998 | Manufactu | ırer: Red | Jacket | Pump Ty | pe: Submer | sible |
| Casing Type: PVC plastic | Height: 2.00 | ft. above grade | Model Nur | mber: | | Pump Ca | pacity: 55 (| 3PM |
| Casing Joint: Welded | | | | Length: 3 | 306.00 ft. | Pump Vo | - | |
| Casing Fitting: None | | | Drop Pipe | | | Drilling R | ecord ID: | |
| | 9 I J | | | n Seal Used | | | | |
| Diameter: 8.00 in. to 104.00 f | τ. aepth | | | Tank Installe Relief Valve | | No | | |
| | | | Pressure | Relief valve | installed: | No | | |
| Borehole: 12.25 in. to 102.00 | ft denth | | | | | | | |
| 20.010.01 | in dopui | | | | | | | |
| | | | | | | | | |
| Static Water Level: 26.00 ft. | | | | Formatio | n Description | | Thickness | Depth to |
| Well Yield Test: | | thod: Unknown | | | · | | | Bottom |
| Pumping level 183.00 ft. after | 10.00 hrs. at 35 GPM | | | Jnknown Fill | | | 2.00 | 2.00 |
| | | | Muck | . 0 Cand | | | 4.00 | 6.00 |
| Screen Installed: Yes | Filter Packed: No | | Brown Clay | | | | 7.00 23.00 | 13.00 36.00 |
| Screen Diameter: 0.00 in. | Blank: 0.00 ft. Abo | | Black & Gr | Gravel Sand | 1 | | 58.00 | 94.00 |
| Screen Material Type: | Diank. 0.00 n. Abt | JVC | | & Sandstor | ne. | | 75.00 | 169.00 |
| Slot Length | Set Between | | Sandstone | | | | 12.00 | 181.00 |
| 0.00 0.00 ft. | 0.00 ft. and 0.0 | 00 ft. | Shale | | | | 68.00 | 249.00 |
| | | | Sandstone | | | | 8.00 | 257.00 |
| | | | Gray Shale | e & Limeston | ie | | 27.00 | 284.00 |
| Fittings: None | | | Sandstone | l | | | 9.00 | 293.00 |
| | | | Shale | | | | 43.00 | 336.00 |
| | outing Method: Unknown | | Sandstone | ! | | | 3.00 | 339.00 |
| Grouting Material Bags | | Depth | | | (Continued | | | |
| Neat cement 0.00 | None | 0.00 ft. to 100.00 | | | Continued On I . [4] [44] [6] BR | | CAND [7] [46 | S1 [12] CDAV |
| | | | CLAY GRA | VEL SAND. | [23] [17] [36] G | GRAY BLACK | SHALE. [58 |] [55] [94] |
| Wellhead Completion: Pitle | ss adapter | | GRAY SHA | ALE SANDS | TONE. [75] [50] | [169] SAND | STONE. [12] | [50] [181] |
| pionom 1 mo | | | SHALE. [68 LIMESTON | | SANDSTONE. | [8] [50] [257] | GRAY SHAL | .E |
| | | | LIIVIESTON | 4L. [41] | | | | |
| Nearest Source of Possible C | Contamination: | | Drilling Ma | achine Oper | rator Name: | CHRIS FEL | L | |
| Туре | Distance | Direction | Employme | ent: Unkno | wn | | | |
| Septic tank | 600 ft. | Southwest | | | | _ | | |
| | | | | | (Continued | d on page | 2) | |
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| General Remarks: | a a 11a a 11a1a | | | | | | | |
| Other Remarks: Well Use:Typ | pe Use Unknown | | | | | | | |





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

Failure to comply is a misdemeanor.

| IIIIport ID. 20040004002 | | | | | | |
|--------------------------|-----------------------|--|-----------|---------------|--------------------------------|--------------------|
| Tax No: | Permit No: | County: Eaton | | | Township: Delta | |
| | | Town/Range: | Section: | Well Status: | WSSN: | Source ID/Well No: |
| Wall ID: 22000 | 206406 | 04N 03W | 34 | | | |
| Well ID: 230000 | 00100 | Distance and Direction from Road Intersection: | | | | |
| Elevation: 1899 ft. | | | | | | |
| Latitude: 42.694103 | | Well Owner: B | OARD OF V | VATER & LIGHT | | |
| Longitude: -84.661887 | | Well Address: | | Owi | ner Address: | |
| 3 | latching-House Number | 3725 S CANA LANSING, MI | | _ | 725 S CANAL I ANSING, MI 48 | |
| | | *** | | * | • | • |

| | | (Continued | from Page 1) |
|-----------------------|-----------|--------------------|---|
| Formation Description | Thickness | Depth to Bottom | GEOLOGY REMARKS: [57] [284] SANDSTONE. [9] [50] [293] SHALE. [43] [55] [336] SANDSTONE. |
| Gray Shale | 6.00 | 345.00 | [13] 150] 1339] GRAY SHALE. 16] 155] 1345] SANDSTONE. 13] 150] 1348] GRAY |
| Sandstone | 3.00 | 348.00 | SHALE. [13] [55] [361] SANDSTONE LIMESTONE. [15] [51] [376] GRAY |
| Gray Shale | 13.00 | 361.00 | SHALE. [4] [55] [380] |
| Sandstone & Limestone | 15.00 | 376.00 | |
| Gray Shale | 4.00 | 380.00 | 1 |
| oray oriano | | 300.00 | 1 |
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| | | | Contractor Type: Unknown Reg No: 33-1686 |
| | | | Business Name: |
| | | | Business Address: |
| | | | Water Well Contractor's Certification |
| | | | |
| | | | This well was drilled under my supervision and this report is true to the best o my knowledge and belief. |
| | | | my knowieuge and belief. |
| | | | . |
| | | | Signature of Registered Contractor Date |





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

| Tax No: 040035300200 Permit No: | County: Eaton | | | Township: | Delta | |
|---|---------------------------|---------------|----------------------|---------------|-----------------|----------------|
| W. II ID 0000000400 | Town/Range: Se | ection: 35 | Well Status: | WSSN: | Source | e ID/Well No: |
| Well ID: 2300006109 | Distance and Dire | | Road Inters | section: | | |
| | Aquifer: ROCK | | II #: 2304035 | | | |
| Elevation: 872 ft. | | | | | | |
| Latitude: 42.6877355991 | Well Owner: | | | | | |
| Longitude: -84.6375731826 | Well Address: | | | Owner Add | ress: | |
| | 6300 LANSING R | .D | | | | |
| Method of Collection: Interpolation-Map | MI | | | | | |
| Drilling Method: Rotary | Pump Installe | ed: Yes | | Dumn In | stallation On | lv: No |
| Well Depth: 340.00 ft. Well Use: Other | Pump Installa | | | HP: | stanation on | iy. NO |
| Well Type: Unknown Date Completed: 4/21/1980 | Manufacturer | | | | pe: Unknov | vn |
| Casing Type: Unknown Height: | Model Number | | | | apacity: 28 | |
| Casing Joint: Unknown | Drop Pipe Lei | ngth: 0. | 00 ft. | Pump Vo | | |
| Casing Fitting: None | Drop Pipe Dia | • | | | Record ID: | |
| | Draw Down S | | No | • | | |
| Diameter: 4.00 in. to 95.00 ft. depth | Pressure Tan | k Installe | d: No | | | |
| | Pressure Reli | ief Valve I | nstalled: | No | | |
| | | | | | | |
| Borehole: | | | | | | |
| | | | | | | |
| | | | | | | _ |
| Static Water Level: 36.00 ft. Below Grade | F | ormation | Description | | Thickness | Depth to |
| Well Yield Test: Yield Test Method: Unknown | | | | | | Bottom |
| Pumping level 101.00 ft. after 1.00 hrs. at 50 GPM | Clay | | | | 7.00 | 7.00 |
| | Gravel & Clay | | | | 9.00 | 16.00 |
| Screen Installed: Yes Filter Packed: No | Gravel & Clay | | | | 38.00 21.00 | 54.00 75.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Coal W/Shale | | | | 9.00 | 84.00 |
| Screen Material Type: | Shale | | | | 9.00 | 93.00 |
| Slot Length Set Between | Sandstone W/ | /Shale | | | 6.00 | 99.00 |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | Sandstone | Ondio | | | 17.00 | 116.00 |
| 0.00 it. and 0.00 it. | Black Shale O |)rganic | | | 14.00 | 130.00 |
| | Limestone W/S | | | | 25.00 | 155.00 |
| Fittings: None | Sandstone W/ | | | | 60.00 | 215.00 |
| | Shale | | | | 60.00 | 275.00 |
| Well Grouted: Yes Grouting Method: Unknown | Sandstone | | | | 6.00 | 281.00 |
| Grouting Material Bags Additives Depth | | | (Continued | On Page 2 |) | |
| Other 0.00 None 0.00 ft. to 0.00 ft. | Geology Rem | narks: (Co | ontinued On | Page 2) | | |
| | CLAY. [7] [10] | [7] GRÁVI | EL/CLAY. [9] | [31] [16] GR | AVEL. [38] [3 | 0] [54] |
| | GRAVEL/ČLÁ | | | | | |
| Wellhead Completion: Pitless adapter | SANDSTONE/ SHALE (ORGA | | | | | |
| | SANDST | THE INIO | ·/· [· ¬] [∪ /] [| OOJ LIIVIL/OI | ,, LL. [20] [01 |][100] |
| | | | | | | |
| Nearest Source of Possible Contamination: | Drilling Mach | • | | Syd Dulane | ey 02/05 | 5/90 |
| Type Distance Direction | Employment: | : Unknow | n | | | |
| Septic tank 75 ft. South | | | (0 :1 | • | | |
| | | | (Continue | d on page | 2) | |
| Abandoned Well Plugged: No | | | | | | |
| Peacen Not Blugged | | | | | | |
| Reason Not Plugged: | | | | | | |
| | | | | | | |
| General Remarks: | | | | | | |
| Other Remarks: Well Use:Commercial, Grouting Material 1:Well groute | d material unknown | | | | | |





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

| iiiipoit ib | . 2004000000 | | | | | | |
|-------------|---------------------------------|------------|-------------------------------|--------------|------------------|---------------|--------------------|
| Tax No: | 040035300200 | Permit No: | County: Eaton | | То | wnship: Delta | |
| | | | Town/Range: | Section: | Well Status: | WSSN: | Source ID/Well No: |
| ۱۸/۵ | II ID: 220000 | 06100 | 04N 03W | 35 | | | |
| vve | II ID: 230000 | 06109 | Distance and D | rection from | m Road Intersed | ction: | |
| Eleva | tion: 872 ft. | | Aquifer: ROCK | W | ell #: 230403503 | | |
| Latitu | ide: 42.6877355991 | | Well Owner: | | | | |
| Long | itude: -84.6375731826 | | Well Address: 6300 LANSING | 2 PD | Ov | wner Address: | |
| Metho | od of Collection: Interpolation | n-Мар | MI | 3 ND | | | |
| | | | | | | | |

| | | (Continued | from Page 1) |
|-----------------------|--------------|------------|--|
| | 1 | Depth to | GEOLOGY REMARKS: |
| Formation Description | Thickness | Bottom | ONE/SHALE (60) (52) (215) SHALE (60) (55) (275) SANDSTONE (6) (50) |
| Black Shale Organic | 18.00 | 299.00 | ONE/SHALE. [60] [52] [215] SHALE. [60] [55] [275] SANDSTONE. [6] [50] [281] BLACK SHALE (ORGANIC RICH). [18] [67] [299] SANDSTONE/SHALE. |
| Sandstone W/Shale | | 337.00 | [38] [52] [337] SHALE. [3] [55] [340] |
| | 38.00 | | |
| Shale | 3.00 | 340.00 | |
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| | ļ | | Contractor Tons |
| | | | Contractor Type: Unknown Reg No: 81-0522 |
| | | | Business Name: |
| | ļ | | 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 |





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

| Well Yield Test: Yield Test Method: Unknown Clay 19.00 15 Sand & Clay 22.00 41 Shale W/Sandstone 259.00 30 Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Pitless adapter Pitless adapter Distance Direction Unknown Oft. Unknown Type Distance Direction Unknown Contractor Type: Unknown Contractor Type: Unknown Contractor Type: Unknown Reg No: | |
|--|--------------------|
| Well ID: 23000006110 Elevation: 860 ft. Latitude: 42.6921646f111 Longitude: 84.6934932966 Method of Collection: Loran C Well Owner: KENNETH JOHNSTON Well Address: 5750 LARSINOR D WAYLAND, MI 49348 Well Owner Address: 3470 DOBIE RD WAYLAND, MI 49348 Well Owner KENNETH JOHNSTON Well Address: 3470 DOBIE RD WAYLAND, MI 49348 Well Owner KENNETH JOHNSTON Well Address: 3470 DOBIE RD WAYLAND, MI 49348 Well Owner KENNETH JOHNSTON Well Address: 3470 DOBIE RD WAYLAND, MI 49348 Well Owner KENNETH JOHNSTON Well Address: 3470 DOBIE RD WAYLAND, MI 49348 Well Owner Massage Well Owner Meldress: 4000 ft. Below Grade Well Owner Address: 3470 DOBIE RD Washall Address: 3470 D | D/Mall N |
| Elevation: 860 ft. Latitude: 42.6921646111 Longitude: -84.6343923066 Method of Collection: Loran C Drilling Method: Rotary Well Address: 5750 LANSING RD WAYLAND,M 49348 MASON, MI 48894 Pump Installation Date: HP: 0.50 Machine Trives dec & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 54.00 ft. depth Back Well Vield Test: Well Test Method: Unknown Diameter: 0.00 in. Balow Grade Well Vield Test: Well Test Method: Unknown Screen Installed: Yes Fitter Packed: No Screen Installed: Yes Fittings: None Well Grouted: Yes Grouting Method: Unknown Fittings: None Well Grouted: Yes Grouting Material Bags Additives Depth Distance Direction Of th. Unknown Diameter: Unknown Of th. Unknow | J/Weii No |
| Elevation: 860 ft. Latitude: 42.6921646111 Well Owner: KENNETH JOHNSTON Well Address: 3470 DOBIE RD, MASON, MI 49854 S750 LANSING RD WAYLAND, MI 49348 Pump Installation Date: HB: 0.50 MASON, MI 49854 HB: 0.50 MASON, MI 4985 | |
| Latitude: 42.6921646111 | |
| Longitude: -84.6343923066 Method of Collection: Loran C Method of Collection: S750 LANSING RD MASON, Mil 48854 | |
| Method of Collection: Loran C Drilling Method: Rotary Well Use: Household Well Type: Unknown Date Completed: 1/10/1978 Zasing Type: Stell - black Height: 0.00 ft. below grade Casing Type: Stell - black Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 54.00 ft. depth Diameter: 4.00 in. to 54.00 ft. depth Borehole: Static Water Level: 40,00 ft. Below Grade Well Yield Test Yield Test Method: Unknown Bressure Relief Valve Installed: No Pressure Tank Installed: No Press | |
| Method of Collection: Loran C Drilling Method: Rotary Well User: Household Mell Type: Unknown Date Completed: 1/10/1978 Basing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 54.00 ft. depth Formation Description Thickness Clay Sand & Clay Shale W/Sandstone Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Installed: Yes Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Sentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Diameter: Direction Unknown 0 ft. Direction Unknown Contractor Type: Unknown Cont | |
| Drilling Method: Rotary Well Depth: 300.00 ft. Well Use: Household Well Type: Unknown Date Completed: 1/10/1978 Manufacturer: Goulds Nodel Number: Pump Installation Date: HP: 0.50 Manufacturer: Goulds Nodel Number: Pump Installation Date: HP: 0.50 Manufacturer: Goulds Nodel Number: Pump Installation Date: HP: 0.50 Manufacturer: Goulds Nodel Number: Pump Installation Date: HP: 0.50 Pump Installation Date: HP: 0.50 Pump Inst | |
| Well Depth: 300.00 ft. Well Use: Household Mell Type: Unknown Date Completed: 1/10/1978 Manufacturer: Goulds Pump Type: Submersibl Model Number: Pump Capacity: 10 GPh Pump Capacity | |
| Mode Type: Unknown Date Completed: 1/10/1978 Manufacturer: Goulds Pump Type: Submersible Casing Type: Steel - black Height: 0.00 ft. below grade Casing Fitting: Drive shoe Diameter: 4.00 in. to 54.00 ft. depth Diameter: Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: N | No |
| Casing Type: Steel - black | |
| Casing Joint: Threaded & coupled Casing Fitting: Drive shoe Diameter: 4.00 in. to 54.00 ft. depth Diameter: 4.00 in. to 54.00 ft. depth Diameter: 4.00 in. to 54.00 ft. depth Borehole: Static Water Level: 40.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Clay Sand & Clay Sand & Clay Shale W/Sandstone Clay Shale W/Sand | |
| Drop Pipe Diameter: | M |
| Draw Down Seal Used: No Pressure Tank Installed: No Pressure Relief Valve Installed: No Prickness Pr | |
| Pressure Tank Installed: No Pressure Relief Valve Installed: No Pressure Tank Installed: No | |
| Pressure Relief Valve Installed: No | |
| Static Water Level: 40.00 ft. Below Grade Yield Test Method: Unknown Formation Description Thickness | |
| Static Water Level: 40.00 ft. Below Grade Well Yield Test: Yield Test Method: Unknown Clay Sand & Clay Sand & Clay Shale W/Sandstone Screen Installed: Yes Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Well Grouted: Yes Grouting Material Bentonite slurry 0.00 None Well Grouted: Yes Grouting Material Bentonite slurry 0.00 None Distance Direction Unknown Distance Direction Unknown Contractor Type: Unknown Contractor Type: Unknown Formation Description Thickness Clay 19.00 1 | |
| Well Yield Test: Yield Test Method: Unknown Clay Sand & Clay Sand & Clay Sand & Clay Shale W/Sandstone 259.00 30 Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length 0.00 0.00 ft. 0.00 ft. 0.00 ft. and 0.00 ft. Well Grouted: Yes Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Distance Unknown 0 ft. Unknown Distance Direction Unknown Contractor Type: Unknown Clay Sand & Clay Sand | |
| Well Yield Test: Yield Test Method: Unknown Clay Sand & Clay Sand & Clay Sand & Clay Shale W/Sandstone 259.00 30 Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length 0.00 0.00 ft. 0.00 ft. 0.00 ft. and 0.00 ft. Well Grouted: Yes Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Distance Unknown 0 ft. Unknown Distance Direction Unknown Contractor Type: Unknown Clay Sand & Clay Sand | |
| Well Yield Test: Yield Test Method: Unknown Clay 19.00 15 Sand & Clay 22.00 41 Sand & Clay 259.00 30 Sand & Clay 259.00 30 Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Siot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | |
| Clay | Depth to Bottom |
| Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. One of the surry of the surry of the set of Possible Contamination: Type Distance Direction Jinknown of ft. Unknown Sand & Clay Shale W/Sandstone 259.00 30 All W/Sandstone | 9.00 |
| Shale W/Sandstone 259.00 30 Screen Installed: Yes Filter Packed: No Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Wearest Source of Possible Contamination: Type Distance Direction Jnknown 0 ft. Unknown Type Distance Direction Jnknown Reg No: Shale W/Sandstone 259.00 30 Geology Remarks: CLAY, [19] [19] SAND ADD CLAY. [22] [27] [41] SHALE W/STF SANDSTONE. [259] [58] [300] Drilling Machine Operator Name: CENTRAL DRILLING COMF Employment: Unknown Contractor Type: Unknown Reg No: | 1.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. and 0.00 ft. Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Wearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Direction Unknown Direction Unknown Contractor Type: Unknown Reg No: | 00.00 |
| Screen Material Type: Slot Length Set Between 0.00 0.00 ft. 0.00 ft. 0.00 ft. 0.00 ft. o.00 f | |
| Slot Length Set Between 0.00 0.00 ft. 0.00 ft. 0.00 ft. and 0.00 ft. Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Contractor Type: Unknown Reg No: | |
| Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Drilling Machine Operator Name: CENTRAL DRILLING COMF Employment: Unknown Contractor Type: Unknown Reg No: | |
| Fittings: None Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Drilling Machine Operator Name: CENTRAL DRILLING COMF Employment: Unknown Contractor Type: Unknown Reg No: | |
| Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Distance Direction Unknown Contractor Type: Unknown Reg No: | |
| Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Depth Geology Remarks: CLAY. [19] [10] [19] SAND AND CLAY. [22] [27] [41] SHALE W/STF SANDSTONE. [259] [58] [300] Drilling Machine Operator Name: CENTRAL DRILLING COMF Employment: Unknown Contractor Type: Unknown Reg No: | |
| Well Grouted: Yes Grouting Method: Unknown Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Depth Geology Remarks: CLAY. [19] [10] [19] SAND AND CLAY. [22] [27] [41] SHALE W/STF SANDSTONE. [259] [58] [300] Drilling Machine Operator Name: CENTRAL DRILLING COMF Employment: Unknown Contractor Type: Unknown Reg No: | |
| Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Oft. Unknown Contractor Type: Unknown Reg No: | |
| Grouting Material Bags Additives Depth Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Oft. Unknown Contractor Type: Unknown Reg No: | |
| Geology Remarks: CLAY. [19] [10] [19] SAND AND CLAY. [22] [27] [41] SHALE W/STF SANDSTONE. [259] [58] [300] Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown Contractor Type: Unknown Reg No: | |
| Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Unknown CLAY. [19] [10] [19] SAND AND CLAY. [22] [27] [41] SHALE W/STF SANDSTONE. [259] [58] [300] Drilling Machine Operator Name: CENTRAL DRILLING COMF Employment: Unknown Contractor Type: Unknown Reg No: | |
| Nearest Source of Possible Contamination: Type Distance Direction Unknown O ft. Unknown Contractor Type: Unknown Reg No: | RIPS OF |
| Nearest Source of Possible Contamination: Type Distance Direction Unknown 0 ft. Drilling Machine Operator Name: CENTRAL DRILLING COMPEMPION Employment: Unknown Contractor Type: Unknown Reg No: | |
| Type Distance Direction Employment: Unknown Oft. Unknown Contractor Type: Unknown Reg No: | |
| Type Distance Direction Employment: Unknown Oft. Unknown Contractor Type: Unknown Reg No: | |
| Type Distance Direction Employment: Unknown Oft. Unknown Contractor Type: Unknown Reg No: | DANN |
| Unknown 0 ft. Unknown Contractor Type: Unknown Reg No: | PANY |
| Contractor Type: Unknown Reg No: | |
| | |
| Abandoned Well Plugged: No Business Name: | |
| Business Address: | |
| Reason Not Plugged: 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 | |
| General Remarks: | |
| Other Remarks: | 004.4-04 |





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

| Import ID: 23040335008 | Tiply is a misdemeanor. | |
|---|---|-----------------------------------|
| Tax No: Permit No: | County: Eaton Township | |
| | Town/Range: Section: Well Status: WSS | N: Source ID/Well No: |
| Well ID: 23000006111 | 04N 03W 34 | |
| Well ID. 23000000111 | Distance and Direction from Road Intersection: | |
| Elevation: 870 ft. | | |
| | | |
| Latitude : 42.697399 | Well Owner: CLARK FOUNDATIN | |
| Longitude: -84.649826 | Well Address: Owner Ad | |
| Method of Collection: Address Matching-House Number | | LET RD G, MI 48917 |
| montou of obligation / hadrood matering froude (talliber | LANSING, IVII 46917 | 3, 1011 469 17 |
| Drilling Method: Rotary | Pump Installed: Yes Pump | Installation Only: No |
| Well Depth: 335.00 ft. Well Use: Household | Pump Installation Date: HP: 0. | |
| Well Type: New Date Completed: 6/26/1974 | | Type: Submersible |
| Casing Type: Steel - black Height: | | Capacity: 10 GPM |
| Casing Joint: Threaded & coupled | | Voltage: |
| Casing Fitting: None | | Record ID: |
| Cusing Finning. Theme | Draw Down Seal Used: No | , 1.00014 121 |
| Diameter: 4.00 in. to 76.00 ft. depth | Pressure Tank Installed: No | |
| Planteter 1.00 m. to 70.00 m. dopan | Pressure Relief Valve Installed: No | |
| | Trocoure Ronor varyo motamou. | |
| Borehole: | | |
| Borenoie. | | |
| | | |
| Static Water Level: 40.00 ft. Below Grade | | This Depth to |
| Well Yield Test: Yield Test Method: Unknown | Formation Description | Thickness Bottom |
| Pumping level 40.00 ft. after 0.00 hrs. at 20 GPM | Clay | 20.00 20.00 |
| amping foror forocal and office at 25 Gran | Hardpan | 32.00 52.00 |
| | Shale | 52.00 270.00 |
| Screen Installed: Yes Filter Packed: No | Unidentified Consolidated Fm | 15.00 285.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Shale | 50.00 335.00 |
| Screen Material Type: | Strate | 30.00 |
| Slot Length Set Between | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | |
| 0.00 it. 0.00 it. and 0.00 it. | | |
| | | |
| Fittings, None | | |
| Fittings: None | | |
| Mall Country Very Country Mathed Halanne | | |
| Well Grouted: Yes Grouting Method: Unknown | | |
| Grouting Material Bags Additives Depth | | |
| Other 0.00 None 0.00 ft. to 0.00 ft. | | 11ALE (50) (55) (070) DOCK |
| | CLAY. [20] [10] [20] HARD PAN. [32] [18] [52] S [15] [59] [285] SHALE. [50] [55] [335] | HALE. [52] [55] [270] ROCK. |
| W W 10 Ld Bill | [10] [00] [200] OHALL. [00] [00] [000] | |
| Wellhead Completion: Pitless adapter | | |
| | | |
| Negret Course of Describe Continuing | Dulling Marking Organica N | IACKCON |
| Nearest Source of Possible Contamination: | | JACKSON |
| Type Distance Direction | Employment: Unknown | |
| Unknown 0 ft. Unknown | Contractor Type: 111 | B N - 00 0000 |
| | Contractor Type: Unknown | Reg No: 33-0390 |
| | Business Name: | |
| | Business Address: | |
| | Water Well Contractor's | |
| | This well was drilled under my supervision and t | his report is true to the best of |
| | my knowledge and belief. | |
| | | |
| | Signature of Registered Contractor | Date |
| General Remarks: | _ | |
| Other Remarks: Grouting Material 1:Well grouted material unknown, P | ump Manufacturer:FLINT & WALLING | |
| | | |





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

| וווי: 23040335009 UI: 23040335009 | inply is a misuemeanor. | |
|--|---|---|
| Tax No: Permit No: | County: Eaton Township | |
| | Town/Range: Section: Well Status: WSS | Source ID/Well No: |
| Well ID: 23000006112 | 04N 03W 34 Distance and Direction from Road Intersection: | |
| 77011 1D. 20000000112 | Distance and Direction from Road intersection. | |
| Elevation: 1899 ft. | | |
| Latitude: 42.694398 | Well Owner: TOM SCOZZABONE | |
| Langitudo: 94.642509 | Well Address: Owner Ad | dress: |
| Longitude: -84.642508 | 3712 CREYTS RD 3737 LA | NSING RD |
| Method of Collection: Address Matching-House Number | LANSING, MI 48917 LANSING | G, MI 48917 |
| Drilling Mathed: Daton: | Pump Installed: Yes Pump | Installation Only, No. |
| Drilling Method: Rotary Well Depth: 245.00 ft. Well Use: Household | Pump Installed: Yes Pump Pump Installation Date: HP: 0. | Installation Only: No |
| Well Type: New Date Completed: 5/20/1974 | | Type: Submersible |
| Casing Type: Steel - black Height: | | Capacity: 10 GPM |
| Casing Joint: Threaded & coupled | | Voltage: |
| Casing Fitting: Drive shoe | | g Record ID: |
| 3 | Draw Down Seal Used: No | , |
| Diameter: 4.00 in. to 68.00 ft. depth | Pressure Tank Installed: No | |
| | Pressure Relief Valve Installed: No | |
| | | |
| Borehole: | | |
| | | |
| | | T |
| Static Water Level: 25.00 ft. Below Grade | Formation Description | Thickness Depth to |
| Well Yield Test: Yield Test Method: Unknow | n . | Bottom |
| Pumping level 0.00 ft. after 0.00 hrs. at 40 GPM | Sand & Clay | 24.00 24.00 25.00 49.00 |
| | Gravel Shale | 25.00 49.00 192.00 241.00 |
| Screen Installed: Yes Filter Packed: No | Sandstone | 4.00 245.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | Gariusione | 4.00 243.00 |
| Screen Material Type: | | + |
| Slot Length Set Between | | 1 |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | |
| | | |
| | | |
| Fittings: None | | |
| | | |
| Well Grouted: Yes Grouting Method: Unknown | | |
| Grouting Material Bags Additives Depth | | |
| Other 0.00 None 0.00 ft. to 49.00 | Coolegy Homanic | [00] [40] OLIAL E. [400] [55] |
| | SAND AND CLAY. [24] [27] [24] GRAVEL. [25] [241] SAND ROCK. [4] [54] [245] | 30] [49] SHALE. [192] [55] |
| Mallhand Completion. Different adents | [241] 6/11/8/10001. [4] [64] [240] | |
| Wellhead Completion: Pitless adapter | | |
| | | |
| Nearest Source of Possible Contamination: | Drilling Machine Operator Name: VANWO | RMER WELL DRILLING |
| Type Distance Direction | Employment: Unknown | |
| None | ' ' | |
| | Contractor Type: Unknown | Reg No: 19-0676 |
| | Business Name: | |
| | Business Address: | |
| | Water Well Contractor's | |
| | This well was drilled under my supervision and t | his report is true to the best of |
| | my knowledge and belief. | |
| | | |
| | Signature of Registered Contractor | Date |
| General Remarks: | | |
| Other Remarks: Grouting Material 1:Unknown | | |
| FOD 0047 (4/0040) | | 1110 4/00/0004 4 04 04 |



Tax No:

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:

| TAX NO. | T (D | 0 4 | I.M. II. O | lwoon | | 15.04/ 11.11 |
|--|---|----------------|------------------------------|--------------------------|-------------------------|----------------|
| \\\ | Town/Range: 04N 03W | Section: 34 | Well Status | : WSSN | : Sourc | e ID/Well No: |
| Well ID: 23000006122 | Distance and Di | | n Road Inter | section: | | |
| | | | | | | |
| Elevation: 858 ft. | | | | | | |
| Latitude : 42.6912485284 | Well Owner: K | ENNETH J | OHNSTON | | | |
| Longitude : -84.6339030615 | Well Address: 5750 LANSING | . DD | | Owner Add 3470 DOB | | |
| Method of Collection: Loran C | LANSING, MI 4 | | | MASON, N | | |
| | I | | | | | |
| Drilling Method: Rotary Well Depth: 300.00 ft. Well Use: Household | Pump Insta | | | Pump In HP: 0.50 | stallation On | ly: No |
| Well Type: New Date Completed: 1/10/1978 | Manufactur | | | | , /pe: Submei | rsible |
| Casing Type: Steel - black Height: 0.00 ft. below grade | Model Num | | | | apacity: 10 | |
| Casing Joint: Threaded & coupled | Drop Pipe I | Length: 4 | 7.00 ft. | Pump Vo | | |
| Casing Fitting: Drive shoe | Drop Pipe I | | | Drilling I | Record ID: | |
| - | Draw Down | | | | | |
| Diameter: 4.00 in. to 54.00 ft. depth | Pressure P | | | No | | |
| | Pressure R | teller valve | installed: | No | | |
| Borehole: | | | | | | |
| Borenoie. | | | | | | |
| | | | | | | |
| Static Water Level: 40.00 ft. Below Grade | | Formation | n Description | 1 | Thickness | Depth to |
| Well Yield Test: Yield Test Method: Unknown | Clavi | | | | | Bottom |
| | Clay Sand & Clay | | | | 19.00 22.00 | 19.00 41.00 |
| | Shale W/Sa | | | | 259.00 | 300.00 |
| Screen Installed: Yes Filter Packed: No | Chale W/Ca | indotorio | | | 200.00 | 000.00 |
| Screen Diameter: 0.00 in. Blank: 0.00 ft. Above | | | | | | |
| Screen Material Type: | | | | | | |
| Slot Length Set Between | | | | | | |
| 0.00 0.00 ft. 0.00 ft. and 0.00 ft. | | | | | | |
| | | | | | 1 | + |
| Fittings, None | | | | | <u> </u> | |
| Fittings: None | | | | | 1 | + |
| Well Grouted: Yes Grouting Method: Unknown | | | | | 1 | 1 |
| Grouting Material Bags Additives Depth | | | | | | |
| Bentonite slurry 0.00 None 0.00 ft. to 0.00 ft. | Geology Re | | | | | |
| | CLAY. [19] [| [10] [19] SA | ND AND CLA NE. [259] [56] | Y. [22] [27] [4 H300] | 41] SHALE WI | TH FEW |
| Mallhand Completion. Distance adoptor | STKII 5 OF | SANDSTO | NE. [209] [00] | [[300] | | |
| Wellhead Completion: Pitless adapter | | | | | | |
| | | | | | | |
| Nearest Source of Possible Contamination: | Drilling Ma | chine Oper | ator Name: | CENTRAL | DRILLING CO |) |
| Type Distance Direction | Employme | nt: Unknow | wn | | | |
| Unknown 0 ft. Unknown | 0 | T | | | | |
| | Contractor Type: Unknown Reg No: Business Name: | | | | | |
| | Business A | | | | | |
| | Dusiness F | | Well Contr | ractor's C | ertification | 1 |
| | This well wa | | | | | to the best of |
| | my knowled | | | 3.2 aniw 111 | | |
| | | | | | | |
| | Signature of | of Register | ed Contracto | r | Date | |
| General Remarks: | | | | | | |
| Other Remarks: | | | | | | |
| EOP 2017 (4/2010) Page 1 of 1 | | | | | I LID 1/20 | 1/2001 1·22 D |



Tax No:

Water Well And Pump Record

County: Eaton



Township: Delta

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

Permit No: 16476

| | Town/Range: Section: Well Status: WSSN: Source ID/Well No | | | | | | |
|--|---|----------------------------|------------------------|-----------------|-------------------|--------------------|--|
| | own/Range: 04N 03W | Section: 35 | Well Status: Active | WSSN | : Sourc | e ID/Well No: | |
| Well ID: 23000007213 | istance and D | | | section: | | | |
| 1 | mile east of La | | | | Rd. | | |
| Elevation: | | | | | | | |
| <u></u> | ell Owner: J | lack Glessor | 1 | | | | |
| Longitude: -84.632244 | ell Address: | | | Owner Add | | | |
| | 5638 Old Lansing Rd. 5638 Old Lansing Rd. | | | | | | |
| inclined of concession. Address Materiality Floude Nathbol | Lansing, MI Lansing, MI | | | | | | |
| Drilling Method: Rotary | Pump Inst | alled: Ye | S | Pump In | stallation On | ly: No | |
| Well Depth: 320.00 ft. Well Use: Household | Pump Inst | allation Dat | e: 9/14/2001 | HP: 0.50 | 0 | | |
| Well Type: Replacement Date Completed: 9/14/2001 | _ | rer: F.E. | • | | ype: Subme | | |
| Casing Type: PVC plastic Height: 1.00 ft. above grade | | nber: 2Nfl | - | - | apacity: 12 | GPM | |
| Casing Joint: Solvent welded/glued | | Length: 1 | | Pump V | - | | |
| Casing Fitting: Shale packer/trap | | Diameter: n Seal Used | | Drilling | Record ID: | | |
| Diameter: 5.00 in. to 61.00 ft. depth | | Tank Installe | | | | | |
| | | | Diaphragm/ | bladder | | | |
| | | | Rite-Flexcon | | | | |
| Borehole: 4.50 in. to 320.00 ft. depth | | nber: W-8 | | Tank C | apacity: 26. | 0 Gallons | |
| | Pressure F | Relief Valve | Installed: | No | | | |
| | | | | | | | |
| Static Water Level: 40.00 ft. Below Grade | | Formation | n Description | ı | Thickness | Depth to Bottom | |
| Well Yield Test: Yield Test Method: Air Pumping level 100.00 ft. after 1.00 hrs. at 25 GPM | Clay | | | | 9.00 | 9.00 | |
| rumping level 100.00 it. aiter 1.00 fils. at 25 Grivi | Clay & San | nd | | | 5.00 | 14.00 | |
| | Clay & Gra | | | | 14.00 | 28.00 | |
| Screen Installed: No Intake: Bedrock Well | Shale | | | | 100.00 | 128.00 | |
| | Sandstone | | | | 11.00 | 139.00 | |
| | Shale | | | | 131.00 | 270.00 | |
| | Sandstone | & Shale | | | 15.00 | 285.00 | |
| | Shale | | | | 25.00 | 310.00 | |
| | Sandstone | | | | 8.00 | 318.00 | |
| | Shale | | | | 2.00 | 320.00 | |
| | | | | | + | | |
| Well Grouted: Yes Grouting Method: Grout pipe outside casing | | | | | + | | |
| Grouting Material Bags Additives Depth | | | | | | | |
| Bentonite slurry 4.00 Other 0.00 ft. to 61.00 ft. | Geology R | emarks: | | | 1 | | |
| , | | | | | | | |
| | | | | | | | |
| Wellhead Completion: Pitless adapter, 12 inches above grade | | | | | | | |
| | | | | | | | |
| Namest Course of Descible Contouring the | D=:111: 2.5 | abina O: | atan Na | Otavia Di | | | |
| Nearest Source of Possible Contamination: Type Distance Direction | _ | achine Oper ent: Employ | ator Name: | Steve Pun | 9 | | |
| Type Distance Direction Sewer line 50 ft. West | Employme | an. ⊏mpio | / C C | | | | |
| 50 It. W65t | Contractor | r Type: Wa | ter Well Drillin | g Contractor | Reg No: | 34-2246 | |
| Abandoned Well Plugged: Yes | | | nson Well Dri | | | 0 | |
| | | | 12577 State R | | | | |
| | | Water | Well Contr | actor's C | ertification | | |
| | | | | ision and th | is report is true | e to the best o | |
| Casing Removed: | my knowled | dge and beli | ef. | | | | |
| | | | | | | | |
| | Signature | of Register | ed Contracto | <u>r</u> | Date | | |
| General Remarks: | | | | | | | |
| Other Remarks: Grouting Additive 1:Retarder, Map Scale:Unknown | | | | | | | |
| EOD 2017 (4/2010) Page 1 of 1 | | | | Contr | 0/1/ | 3/2001 1.22 0 | |

EQP-2017 (4/2010) Page 1 of 1 Contractor 9/16/2001 1:22 PM





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

| import iD: | ure to comply | | | I= | ownob! | Mindoor | | | |
|---|------------------|--|---|--|--|--|---------------------|--|--|
| Tax No: Permit No: 16843 | | unty: Eaton | Section: | Well Status: | Township: Windsor atus: WSSN: Source | | | | |
| | 10 | wn/Range: 03N 03W | Section: | Active | WSSN: | Source | D/Well No | | |
| Well ID: 23000007617 | Dis | Distance and Direction from Road Intersection: | | | | | | | |
| 11011 12. 20000001011 | | Distance and Direction from Road Intersection: HILL & HOLLOW SUBDV. LOT#22 | | | | | | | |
| Elevation: 876 ft. | | L & HOLLOV | V 3000 V. L | 01#22 | | | | | |
| Latitude: 42.66837999 | We | II Owner: F | ROBERT HII | I BUILDER | | | | | |
| | | II Address: | (ODLICT TIII | | wner Addr | ess. | | | |
| Longitude : -84.65145432 | 1 | 953 THORNE | HILL DRIVE | _ | 755 E. COL | | | | |
| Method of Collection: Address Matching-House Numb | | IMONDALE, | | | MASON, M | | | | |
| Drilling Method: Rotary | | Pump Inst | | | | stallation Onl | y: No | | |
| Well Depth: 180.00 ft. Well Use: Household | | Pump Inst | allation Dat | e: 6/17/2002 | HP: 0.50 | | | | |
| Well Type: New Date Completed: 6/10 | Manufactu | ırer: Sta-l | Rite | Pump Ty | pe: Submer | sible | | | |
| Casing Type: PVC plastic Height: 1.00 ft. about | ove grade | Model Nur | nber : 108 | P40025 | Pump Ca | pacity: 12 0 | SPM | | |
| Casing Joint: Solvent welded/glued | | | Length: 8 | | Pump Vo | Itage: | | | |
| Casing Fitting: None | | Drop Pipe | Diameter: | 1.00 in. | Drilling R | Record ID: | | | |
| | | Draw Dow | n Seal Used | d: No | | | | | |
| Diameter: 5.00 in. to 100.00 ft. depth | | Pressure 7 | Tank Install | ed: Yes | | | | | |
| | | Pressure 7 | Tank Type: | Diaphragm/bla | adder | | | | |
| | | Manufactu | ırer: Pro- | Source | | | | | |
| Borehole: 8.50 in. to 100.00 ft. depth | | Model Nur | nber : 202 | | Tank Ca | pacity: 20.0 |) Gallons | | |
| 4.75 in. to 180.00 ft. depth | | Pressure I | Relief Valve | Installed: No | 0 | | | | |
| Static Water Level: 50.00 ft. Below Grade Well Yield Test: Yield Test Method: | Λir | | Formatio | n Description | | Thickness | Depth to | | |
| Pumping level 180.00 ft. after 1.00 hrs. at 80 GPM | Λ | Brown Clay | / & Sand | | | 20.00 | 20.00 | | |
| rumping level 100.00 it. after 1.00 fils. at 60 Grivi | | Gray Clay | y & Sariu | | | 40.00 | 60.00 | | |
| | | Gray Shale | | | | 15.00 | 75.00 | | |
| Screen Installed: No Intake: Bedrock | Mall | | | | | 5.00 | 80.00 | | |
| ocreen installed: No intake: bedrock | vveii | Black & Gr | _ | | | 9.00 | 89.00 | | |
| | | Gray Shale White Shal | | | | 4.00 | | | |
| | | Shale & Sa | | | | 10.00 | 93.00 103.00 | | |
| | | | | - M/Ob - I - | | | | | |
| | | Gray & wn | ite Sandstor | ie vv/Snaie | | 77.00 | 180.00 | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Well Grouted: Yes Grouting Method: Grout pipe of | _ | | | | | | | | |
| Grouting MaterialBagsAdditivesDepthBentonite slurry5.00None0.00 ft. | t. to 100.00 ft. | Geology R | lemarks: | | | | | | |
| | | | | | | | | | |
| Wellhead Completion: Pitless adapter | | 1 | | | | | | | |
| | | _ | | | | | | | |
| - Mood dadptor | | | | | | | | | |
| Nearest Source of Possible Contamination: | | 1 | • | | GREG MEA | AD/TIM WALT | Z | | |
| Nearest Source of Possible Contamination: Type Distance Di | irection ast | 1 | achine Oper ent: Employ | | GREG MEA | AD/TIM WALT | Z | | |
| Nearest Source of Possible Contamination: Type Distance Di | | Employme | ent: Emplo | | | AD/TIM WALT. | | | |
| Nearest Source of Possible Contamination: Type Distance Di | | Employme | ent: Emplo | yee ter Well Drilling (| Contractor | Reg No: | | | |
| Nearest Source of Possible Contamination: Type Distance Di | | Employme Contracto Business | ent: Employ r Type: Wa Name: DY | yee ter Well Drilling (ER WELL DRILL | Contractor LING&SER | Reg No: 2 | 23-2227 | | |
| Nearest Source of Possible Contamination: Type Distance Di | | Employme Contracto Business | r Type: Wa Name: DY | vee ter Well Drilling (ER WELL DRILL 12520 PEACOC | Contractor LING&SER' K RD, LAIN | Reg No: : VICE,INC NGSBURG, M | 23-2227 I, 48848 | | |
| Nearest Source of Possible Contamination: Type Distance Di | | Employme Contractor Business Business This well w | r Type: Wa Name: DY Address: Water | ter Well Drilling (ER WELL DRILL 12520 PEACOC Well Contrac der my supervisi | Contractor LING&SER' K RD, LAIN C tor's Ce | Reg No: 2 VICE,INC NGSBURG, M Prtification | 23-2227 I, 48848 | | |
| Nearest Source of Possible Contamination: Type Distance Di | | Employment Contracto Business Business This well w my knowled | r Type: Wa Name: DY Address: Water ras drilled un dge and beli | ter Well Drilling (ER WELL DRILL 12520 PEACOC Well Contract der my supervisi ef. | Contractor LING&SER' K RD, LAIN C tor's Ce | Reg No: 2 VICE,INC NGSBURG, M Prtification | 23-2227 I, 48848 | | |
| Nearest Source of Possible Contamination: Type Distance Di | | Employment Contracto Business Business This well w my knowled | r Type: Wa Name: DY Address: Water ras drilled un dge and beli | ter Well Drilling (ER WELL DRILL 12520 PEACOC Well Contrac der my supervisi | Contractor LING&SER' K RD, LAIN C tor's Ce | Reg No: 2 VICE,INC NGSBURG, M Prtification is report is true | 23-2227 I, 48848 | | |

EQP-2017 (4/2010) Page 1 of 1 Contractor 6/11/2002 11:58 AM





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

| Import ID: | | Failure to con | nply is a misder | neanor. | | | | | | | |
|--|------------------------|--------------------|--|-------------------|--------------------|-------------------|----------------|--------------|--|--|--|
| Tax No: | Permit No: | 15470 | County: Eaton | | 1 | Township: Windsor | | | | | |
| | | | Town/Range: | Section: | Well Status: | WSSN: | Source | e ID/Well No | | | |
| Well ID: 230 | 0000770 | 2 | 03N 03W | 10 | Active | | | | | | |
| VVEII 1D. 230 | | 3 | Distance and Direction from Road Intersection: | | | | | | | | |
| Elevation: | | | appx5 mi W of | f Creyts rd o | n S side of Billv | vood Hwy | | | | | |
| | | | Wall Owner 5 | Danaantian D | \t | | | | | | |
| Latitude : 42.669052 | | | Well Owner: F | Perception L | | Owner Addr | '066' | | | | |
| Longitude: -84.650089 | | | 9562 Billwood | Нили | ľ | 403 S Clint | | | | | |
| Method of Collection: Ad | ddress Matching-Hous | e Number | Dimondale, MI | | | | ge, MI 48837 | | | | |
| Drilling Method: Rotary | | | Pump Inst | alled: Ye | es | Pump Ins | stallation Onl | v: No | | | |
| Well Depth: 180.00 ft. | Well Use: Hous | ehold | | allation Dat | | HP: 0.50 | | | | | |
| Vell Type: New Date Completed: 1/22/2001 | | | Manufactu | ırer: Aern | notor | Pump Ty | pe: Submer | sible | | | |
| Casing Type: PVC plastic | Height: | | Model Nur | mber: T12 | 250 | | pacity: 12 (| | | | |
| Casing Joint: Unknown | • | | Drop Pipe | Length: (| 60.00 ft. | Pump Vo | | | | | |
| Casing Fitting: Drive shoe | | | | Diameter: | | - | ecord ID: | | | | |
| 5 5 | | | | n Seal Use | d: No | Ū | | | | | |
| Diameter: 5.00 in. to 100.00 ft. | depth | | | Tank Install | | | | | | | |
| | • | | | Tank Type: | | | | | | | |
| | | | Manufactu | ırer: Amtı | ·ol | | | | | | |
| Borehole: 8.50 in. to 100.00 ft. | depth | | | nber : 203 | | Tank Ca | pacity: 32.0 |) Gallons | | | |
| 4.75 in. to 180.00 ft. | . depth | | Pressure I | Relief Valve | Installed: | No | . , | | | | |
| Static Water Level: 28.00 ft. E | Below Grade | | | | | | | Depth to | | | |
| Well Yield Test: | Yield Test M | ethod: Air | | | n Description | | Thickness | Bottom | | | |
| Pumping level 180.00 ft. at 50 (| SPM | | Brown Clay | y & Gravel | | | 65.00 | 65.00 | | | |
| | | | Gray Clay | | | | 8.00 | 73.00 | | | |
| | | | Gray Shale | | | | 7.00 | 80.00 | | | |
| Screen Installed: No | Intake: B | edrock Well | | Shale & Sai | | | 22.00 | 102.00 | | | |
| | | | Gray & Wh | ite Sandstor | ne | | 78.00 | 180.00 | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Well Grouted: Yes Gro | outing Method: Unki | nown | | | | | | | | | |
| Grouting Material Bags | Additives | Depth | | | | | | | | | |
| Bentonite slurry 5.00 | None | 0.00 ft. to 100.00 | ft. Geology R | Remarks: | | | | | | | |
| | | | | | | | | | | | |
| Wellhead Completion: Pitles | s adapter, 12 inches a | bove grade | | | | | | | | | |
| Nearest Source of Possible Co | ontamination: | | Drilling Me | achine One | rator Name: | Derrick Dav | ie | | | | |
| Type | Distance | Direction | _ | ent: Emplo | | Domok Dav | 10 | | | | |
| Septic tank | 70 ft. | Northeast | | <u>-</u> | , | | | | | | |
| - | | | Contracto | r Type: Wa | ter Well Drilling | Contractor | Reg No: | 23-2227 | | | |
| | | | | Name: Dy | er Well Drilling 8 | | 3 / | | | | |
| | | | Dusiness . | | Well Contra | actoric Co | rtification | | | | |
| | | | | | nder my supervi | | | | | | |
| | | | Signature | of Register | ed Contractor | | Date | | | | |
| General Remarks: | | | | <u> </u> | | | | | | | |
| Other Remarks: | | | | | | | | | | | |
| OD 0047 (4/0040) | | | | | | 1-1£ N 1:- -: | | /0000 4.00 | | | |

EQP-2017 (4/2010) Page 1 of 1 State of Michigan 7/8/2002 4:02 PM





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

Failure to comply is a misdemeanor.

| Tax No: | Permit No: 16540 | County: Eaton | | | Township: | Delta | | | | |
|---|-------------------------------------|--|---------------|-----------------------------------|----------------|---------------|------------------|--|--|--|
| | | Town/Range: | Section: | Well Status: | WSSN: | Sourc | e ID/Well No: | | | |
| Well ID: 230000 | 007936 | 04N 03W 33 Active Distance and Direction from Road Intersection: | | | | | | | | |
| VVCII 1D. 200000 | 001000 | 1/4 mile north of Davis Road on the east side of Guinea Road | | | | | | | | |
| Elevation: | | | Davis Noac | on the cast s | ido di Guirica | Noau | | | | |
| Latitude: 42.697192 | | Well Owner: / | Angelo Infrat | <u></u> е | | | | | | |
| Longitude: -84.6737067 | | Well Address: Guinea Road Owner Address: 26400 Sherwood | | | | | | | | |
| Method of Collection: Address N | Astabina Stroot Contarling | | | | | | | | | |
| Method of Conection. Address in | | Lansing, MI | | | Warren, MI | 48091 | | | | |
| Orilling Method: Rotary | | Pump Inst | alled: No | | | | | | | |
| | II Use: Household | | Tank Install | | | | | | | |
| 7. | e Completed: 11/13/2001 | Pressure F | Relief Valve | Installed: | No | | | | | |
| Casing Type: PVC plastic Casing Joint: Welded | Height: 1.00 ft. above grade | | | | | | | | | |
| Casing Fitting: None | | | | | | | | | | |
| Juding Fitting. | | | | | | | | | | |
| Diameter: 5.00 in. to 90.00 ft. depth | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Borehole: 8.75 in. to 90.00 ft. depth 5.88 in. to 100.00 ft. depth | | | | | | | | | | |
| 4.75 in. to 340.00 ft. depth | | | | | | | | | | |
| Static Water Level: 100.00 ft. Below 0 | Grade | | | 5 | | - | Depth to | | | |
| Well Yield Test: | Yield Test Method: Air | | Formatio | n Description | | Thickness | Bottom | | | |
| Pumping level 340.00 ft. after 1.00 hrs. at 25 GPM | | Sand | | | | 10.00 | 10.00 | | | |
| | | Clay Shale | | | | 50.00 | 60.00 | | | |
| Screen Installed: No | Intake: Bedrock Well | Sandstone | | | | 40.00 5.00 | 100.00 | | | |
| Sorten matanea. 110 | make. Bedrook Well | Shale | | | | 105.00 | 210.00 | | | |
| | | Sandstone | | | | 3.00 | 213.00 | | | |
| | | Shale | | | | 115.00 | 328.00 | | | |
| | | Sandstone | | | | 6.00 | 334.00 | | | |
| | | Shale | | | | 6.00 | 340.00 | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| Well Grouted: Yes Grouting M | ethod: Grout pipe outside casi | ng | | | | | | | | |
| Grouting Material Bags Additi | | ŭ | | | | | | | | |
| Bentonite slurry 9.00 None | 0.00 ft. to 90.00 ft | Geology R | emarks: | | | | | | | |
| | | | | | | | | | | |
| Wellhead Completion: 12 inches abo | wo grado | | | | | | | | | |
| weinieau Completion. 12 mones abo | ove grade | | | | | | | | | |
| | | | | | | | | | | |
| Nearest Source of Possible Contamir | ation: | | - | ator Name: | Dan Cesal | | | | | |
| 71 | Distance Direction | Employme | ent: Employ | /ee | | | | | | |
| None | | Contracto | r Typo: \A/a | ter Well Drillin | Ctt | Dan Na | 70.4007 | | | |
| | | | | ter weil Drillin Birkmeier Wel | | Reg No: | 78-1607 | | | |
| | | | | 10655 Easton | | othrop. Ml. 4 | 8460 | | | |
| | | | | Well Contr | | | | | | |
| | | | as drilled un | der my superv | | | e to the best of | | | |
| | | my knowled | dge and beli | ef. | | | | | | |
| | | | | | | | | | | |
| | | Signature | of Register | ed Contractor | r | Date | | | | |
| General Remarks: Owner is hooking u | | | | | | | | | | |
| Other Remarks: Coordinate Source: Go | nodie well address deocoding | | | | | | | | | |

EQP-2017 (4/2010) Page 1 of 1 Contractor 8/28/2002 10:53 AM





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

Tax No: 0647301KA04 Township: Windsor **Permit No: 16497** County: Eaton WSSN: Town/Range: Source ID/Well No: Section: Well Status: 03N 03W 3 Active Well ID: 23000007942 Distance and Direction from Road Intersection: 80' EAST OF PATS DR. 750' SOUTH OF LANSING RD Latitude: 42.67222194 Well Owner: BRENDA FINCH Well Address: Owner Address: Longitude: -84.65757727 7332 PATS DR 980 S MEECH RD Method of Collection: Interpolation-Map DIMONDALE, MI DANSVILLE, MI 48819 Drilling Method: Rotary Pump Installed: Pump Installation Only: No Yes Well Depth: 300.00 ft. Well Use: Household Pump Installation Date: **HP:** 0.50 Well Type: Replacement Date Completed: 10/12/2001 Manufacturer: Goulds Pump Type: Submersible Casing Type: PVC plastic Height: 2.00 ft. above grade Model Number: 10LS05421 Pump Capacity: 10 GPM Casing Joint: Solvent welded/glued Drop Pipe Length: 100.00 ft. Pump Voltage: **Drilling Record ID:** Casing Fitting: None **Drop Pipe Diameter:** Draw Down Seal Used: No Diameter: 5.00 in. to 157.00 ft. depth Pressure Tank Installed: No Pressure Relief Valve Installed: Borehole: 8.75 in. to 155.00 ft. depth 4.75 in. to 300.00 ft. depth Static Water Level: 40.00 ft. Below Grade Depth to **Thickness Formation Description** Bottom Well Yield Test: Yield Test Method: Air Brown Clay 11.00 11.00 Pumping level 100.00 ft. after 0.50 hrs. at 20 GPM 5.00 16.00 Gravel Gray Clay 8.00 24.00 Screen Installed: No Intake: Unknown Sand W/Gravel Fine 25.00 49.00 Gray Clay 6.00 55.00 Gravel 8.00 63.00 Gray Clay 14.00 77.00 Gray Shale 6.00 83.00 White Shale & Sandstone 14.00 97.00 Black Shale 3.00 100.00 Gray Shale 21.00 121.00 Gray Sandstone & Shale 48.00 169.00 Well Grouted: Yes Grouting Method: Unknown 24.00 Gray Shale 193.00 **Grouting Material Bags** Additives Depth (Continued On Page 2) 0.00 ft. to 155.00 ft. Bentonite slurry 7.00 None **Geology Remarks:** Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Drilling Machine Operator Name: FRED WEITLING Employment: Employee Type Distance Direction Other 40 ft. North (Continued on page 2) Abandoned Well Plugged: Casing Removed: General Remarks: DRILLED BY AARDVARK DRLG Other Remarks: Contamination Source 1:OLD WATER WELL

EQP-2017 (4/2010) Page 1 of 2 State of Michigan 8/29/2002 8:53 AM





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

Township: Windsor **Tax No:** 0647301KA04 **Permit No:** 16497 County: Eaton Section: Well Status: Town/Range: WSSN: Source ID/Well No: Well ID: 23000007942 03N 03W 3 Active **Distance and Direction from Road Intersection:** 80' EAST OF PATS DR, 750' SOUTH OF LANSING RD Elevation: Well Owner: BRENDA FINCH Latitude: 42.67222194 Well Address: **Owner Address:** Longitude: -84.65757727 **7332 PATS DR** 980 S MEECH RD Method of Collection: Interpolation-Map DIMONDALE, MI DANSVILLE, MI 48819

| | | | d from Page 1) |
|-------------------------|-----------|--------------------|---|
| Formation Description | Thickness | Depth to Bottom | OTHER REMARKS: Contamination Source 1:OLD WATER WELL |
| White Shale & Sandstone | 19.00 | 212.00 | 1 |
| Gray Shale | 3.00 | 215.00 | 1 |
| Sandstone | 11.00 | 226.00 | |
| Gray Shale | 4.00 | 230.00 | 1 |
| Black Shale | 4.00 | 234.00 | 1 |
| Sandstone & Shale | 10.00 | 244.00 | 1 |
| Black Shale | 6.00 | 250.00 | 1 |
| Sandstone | 11.00 | 261.00 | 1 |
| Shale & Sandstone | 39.00 | 300.00 | 1 |
| Shale & Sandstone | 39.00 | 300.00 | - |
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| | | | |
| | | | Contractor Type: Water Well Drilling Contractor Reg No: 33-1686 |
| | | | Business Name: HART WELL DRLG |
| | | | 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. |
| | | | In this mode and bollon |
| | | | 4 |
| | | | Signature of Registered Contractor Date |

EQP-2017 (4/2010) Page 2 of 2 State of Michigan 8/29/2002 8:53 AM





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

County: Eaton Township: Windsor Tax No: **Permit No: 14886** Town/Range: WSSN: Source ID/Well No: Section: Well Status: 03N 03W 3 Active Well ID: 23000008266 Distance and Direction from Road Intersection: 30 FEET WEST OF PATS DRIVE AT DEAD END Well Owner: RICHARD GOHER Latitude: 42.671013 Well Address: Owner Address: Longitude: -84.654616 7281 PATS DRIVE 7281 PATS DRIVE Method of Collection: QQQ - Centroid Drilling Method: Rotary Pump Installed: Pump Installation Only: No Yes Well Depth: 200.00 ft. Well Use: Household **Pump Installation Date: HP:** 10.00 Well Type: Replacement Date Completed: 12/9/1999 Manufacturer: Red Jacket Pump Type: Submersible Casing Type: PVC plastic Height: Model Number: Pump Capacity: 10 GPM Casing Joint: Unknown **Drop Pipe Length:** Pump Voltage: **Drilling Record ID:** Casing Fitting: Shale packer/trap **Drop Pipe Diameter:** Draw Down Seal Used: No Diameter: 5.00 in. to 94.00 ft. depth Pressure Tank Installed: Pressure Tank Type: Unknown Manufacturer: Well-Rite-Flexcon Borehole: 4.50 in. to 200.00 ft. depth Model Number: W80 Tank Capacity: 28.0 Gallons Pressure Relief Valve Installed: Nο Static Water Level: 30.00 ft. Below Grade Depth to **Thickness Formation Description** Bottom Well Yield Test: Yield Test Method: Air 20.00 Pumping level 100.00 ft. after 0.50 hrs. at 30 GPM 20.00 Clay & Gravel W/Stones 30.00 Sand 10.00 Muck W/Clay 50.00 20.00 Screen Installed: No Intake: Bedrock Well Shale 10.00 60.00 Muck W/Clay 5.00 65.00 120.00 Shale 55.00 Sandstone & Shale 20.00 140.00 Shale 30.00 170.00 Sandstone 30.00 200.00 Well Grouted: Yes Grouting Method: Unknown **Grouting Material Bags** Additives Depth 0.00 ft. to 94.00 ft. Bentonite slurry 6.00 None Geology Remarks: Wellhead Completion: Pitless adapter, 12 inches above grade Nearest Source of Possible Contamination: Drilling Machine Operator Name: STEVE PERRY Employment: Unknown Type Distance Direction 10 ft. Other South Contractor Type: Water Well Drilling Contractor Reg No: 34-2246 Business Name: J WELL DRLG Abandoned Well 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. Casing Removed: Signature of Registered Contractor **General Remarks:** Other Remarks: Contamination Source 1:OLD WELL

EQP-2017 (4/2010) Page 1 of 1 State of Michigan 12/11/2002 2:18 PM





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

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| 00 1 22 1 27 10 | | | | | | | |
| Well Owner: | CHRIS DAV | IS | | | | | |
| Well Address | | Ov | vner Addr | ess: | | | |
| | | | | | | | |
| DIMONDALE | , MI | [| DIMONDAL | .E, MI | | | |
| Pump Ins | stalled: Ye | es | Pump Ins | tallation Only | y: No | | |
| Pump Ins | stallation Da | te: | HP: 0.50 | | | | |
| Manufact | urer: F.E. | Myers | | | | | |
| | | | | | SPM | | |
| | | 100.00 ft. | - | - | | | |
| | | | Drilling R | ecord ID: | | | |
| | | | | | | | |
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| | | • | | | | | |
| | | | | pacity: 32.0 | Gallons | | |
| Pressure | Relief Valve | e Installed: No |) | | | | |
| | | | | | Depth to | | |
| | · | | | | Bottom | | |
| Clay | | | | | 70.00 | | |
| | Clay | | | | 80.00 | | |
| | | | | | 110.00 | | |
| | | | | | 130.00 | | |
| | | | | | 160.00 | | |
| | e & Shale | | | | 230.00 | | |
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| Shale & S | andstone | | | 30.00 | 320.00 | | |
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| _ | ent: Subco | ntractor | | | | | |
| Employm | ent: Subco | | `ontre -t- : | Dec No | 10.0000 | | |
| Employm | or Type: Wa | ater Well Drilling C | | Reg No: | 19-2330 | | |
| Employn Contract Business | or Type: Was Name: MA | | | | 19-2330 | | |
| Employn Contract Business | or Type: Was Name: MAS Address: | ater Well Drilling C NURER & PARKS | WELL DR | LG | 19-2330 | | |
| Contract Business Business | or Type: Was Name: MAGAD Address: Water | ater Well Drilling C NURER & PARKS | well DR | rtification | | | |
| Contract Business Business This well | or Type: Was Name: MAs Address: Water was drilled ur | ater Well Drilling C NURER & PARKS Well Contract | well DR | rtification | | | |
| Contract Business Business This well | or Type: Was Name: MAGAD Address: Water | ater Well Drilling C NURER & PARKS Well Contract | well DR | rtification | | | |
| Contract Business Business This well my knowl | or Type: Was Name: MAs Address: Water was drilled uredge and bel | ater Well Drilling C AURER & PARKS Well Contrac ader my supervision | well DR | rtification report is true | | | |
| Contract Business Business This well my knowl | or Type: Was Name: MAs Address: Water was drilled uredge and bel | ater Well Drilling C NURER & PARKS Well Contract | well DR | rtification | | | |
| | County: Eato Town/Range: 03N 03W Distance and 85 FEET EAST Well Owner: Well Address: 7382 PATS DIMONDALE Pump Ins Manufact Model Nu Drop Pipo Draw Dov Pressure Pressure Manufact Model Nu Pressure Sandston Shale Sandston Shale Shale & S | Distance and Direction fro 85 FEET EAST OF PATS D Well Owner: CHRIS DAV Well Address: 7382 PATS DRIVE DIMONDALE, MI Pump Installed: Ye Pump Installation Dat Manufacturer: F.E. Model Number: Drop Pipe Length: Drop Pipe Diameter: Draw Down Seal Use Pressure Tank Install Pressure Tank Type: Manufacturer: Cha Model Number: CM Pressure Relief Valve Formatio Clay Gravel & Clay Shale Sandstone & Shale Shale Shale Shale Shale & Sandstone | County: Eaton Town/Range: Section: Well Status: 03N 03W 3 Active Distance and Direction from Road Intersect 85 FEET EAST OF PATS DR Well Owner: CHRIS DAVIS Well Address: 7382 PATS DRIVE DIMONDALE, MI CTATE Manufacturer: F.E. Myers Model Number: Drop Pipe Length: 100.00 ft. Drop Pipe Length: 100.00 ft. Drop Pipe Diameter: Draw Down Seal Used: No Pressure Tank Installed: Yes Pressure Tank Type: Unknown Manufacturer: Champion Model Number: CM-203 Pressure Relief Valve Installed: No Formation Description Clay Gravel & Clay Shale Sandstone & Shale Sh | Town/Range: 3 | County: Eaton Township: Windsor | | |

EQP-2017 (4/2010) Page 1 of 1 State of Michigan 2/13/2003 2:37 PM





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

| Import ID: Tax No: | Permit No: | | nply is a misder County: Eaton | | | Township: | Dolto | | | |
|--|-----------------|---------------|--|------------------------------|--------------------|---------------|----------------|--------------|--|--|
| Tax No: | Permit No: | | Town/Range: | Section: | Well Status: | | | ID/Well No | | |
| \ | | | 04N 03W | 27 | Active | WOON | . Source | s ID/Well NO | | |
| Well ID: 2300 | 000914 | 7 | Distance and Direction from Road Intersection: | | | | | | | |
| | | • | N.E CORNER MILLETT HWY & CANAL | | | | | | | |
| Elevation: | | | IN.E GOTTIVETCH | VIII | V 1 & 67 (147 (E | | | | | |
| Latitude: 42.69829723 | | | Well Owner: | LOWELL SN | 1ITH | | | | | |
| | | | | | | Owner Add | ress: | | | |
| Longitude: -84.66143605 | | | | | | 3333 CAN | AL RD | | | |
| Method of Collection: Unkn | own | | | | | LANSING, | MI 48910 | | | |
| Drilling Method: Rotary | | | | talled: Ye | | - | stallation Onl | y: No | | |
| Well Depth: 270.00 ft. | | | | tallation Da | | HP: 1.50 | | -9-1- | | |
| Well Type: Unknown | Date Completed: | | | urer: Red | Jacket | | /pe: Submer | | | |
| Casing Type: Unknown | Height: | | Model Nur | | 04.00.0 | | apacity: 15 (| έΡΜ | | |
| Casing Joint: Threaded & couple | ed | | | Length: | 84.00 ft. | Pump Vo | | | | |
| Casing Fitting: Drive shoe | | | | Diameter: | al. No | Drilling F | Record ID: | | | |
| Diameter: 4.00 in. to 90.00 ft. dep | ath. | | | n Seal Use Tank Install | | | | | | |
| Diameter: 4.00 in. to 90.00 it. dep | PUTI | | | rank install Relief Valve | | No | | | | |
| | | | Pressure | Reliei valve | instaneu. | NO | | | | |
| Borehole: | | | | | | | | | | |
| Borenoie. | | | | | | | | | | |
| | | | | | | | | | | |
| Static Water Level: 60.00 ft. Beld | | | | Formatio | n Description | | Thickness | Depth to | | |
| Well Yield Test: | Yield Test Me | thod: Air | 0. | | | | | Bottom | | |
| | | | Clay | | | | 50.00 | 50.00 | | |
| | | | Shale | | | | 210.00 | 260.00 | | |
| One or brotelled No | Intelle De | -l l- \A/- II | Sandstone |) | | | 10.00 | 270.00 | | |
| Screen Installed: No | Intake: Be | arock vveii | | | | | | | | |
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| Wall Country I. No. | | | | | | | - | | | |
| Well Grouted: No | | | | | | | <u> </u> | | | |
| | | | Coology | Damarka. | | | | | | |
| | | | Geology F | kemarks: | | | | | | |
| | | | | | | | | | | |
| Wellhead Completion: Pitless a | danter | | | | | | | | | |
| Tremeda Compicación. | ααριοι | | | | | | | | | |
| Nearest Source of Possible Cont | amination: | | Drilling Ma | achine Ono | rator Name: | | | | | |
| Type | Distance | Direction | | ent: Unkno | | | | | | |
| Septic tank | 50 ft. | East | | one onkilo | **** | | | | | |
| Copilo tarin | 00 11. | Luoi | Contracto | r Type: \//a | ater Well Drilling | g Contractor | Reg No: | 23-0107 | | |
| Abandoned Well Plugged: No | | | | | IAS KLEINFEL | | | | | |
| | | | Business | | | | | | | |
| Reason Not Plugged: | | | | | Well Contra | actor's Co | ertification | | | |
| 334 | | | | | nder my superv | | | | | |
| | | | Sjanature | of Register | ed Contractor | | Date | | | |
| General Remarks: | | | 12.3 | | | | | | | |
| Other Remarks: | | | | | | | | | | |
| EOP-2017 (4/2010) | Page 1 of 1 | | | | | State of Mich | | /2004 8:32 | | |

EQP-2017 (4/2010) Page 1 of 1 State of Michigan 5/25/2004 8:32 AM



Well ID: 23000010081

Tax No:

Elevation:

Water Well And Pump Record

County: Eaton

Town/Range:

03N 03W

Blue Water #1 north

Section:

Distance and Direction from Road Intersection:

Well Status:

Active



Source ID/Well No:

1-North

Township: Windsor

795

WSSN:

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

Permit No: w051091

| Latitude: 42.658438 | Well Owner: BLUE WATER VILLAGE | GE | | |
|--|---|-------------------|-----------|--------------------|
| Longitude: -84.679803 | Well Address: | Owner Addres | s: | |
| • | BLUE WATER 1 | STROBEL RO | DAD | |
| Method of Collection: Interpolation-Aerial Photo | Dimondale, MI 48821 | DIMONDALE, | MI 48821 | |
| Drilling Method: Rotary | Pump Installed: No | | | |
| Well Depth: 460.00 ft. Well Use: Type I public | Pressure Tank Installed: No |) | | |
| Well Type: New Date Completed: 8/17/2004 | Pressure Relief Valve Installed | i: No | | |
| Casing Type: PVC plastic Height: 1.00 ft. above grade | | | | |
| Casing Joint: Solvent welded/glued | | | | |
| Casing Fitting: None | | | | |
| Diameter: 6.90 in. to 92.00 ft. depth SDR: 21.00 | | | | |
| Borehole: 10.00 in. to 92.00 ft. depth 5.75 in. to 460.00 ft. depth | | | | |
| Static Water Level: 31.00 ft. Below Grade Well Yield Test: Yield Test Method: Air | Formation Descrip | otion 1 | Thickness | Depth to Bottom |
| Pumping level 260.00 ft. after 1.00 hrs. at 55 GPM | Black Clay Sandy | | 3.00 | 16.00 |
| Pumping level 360.00 ft. after 1.00 hrs. at 65 GPM | Brown Clay | | 00 | 17.00 |
| Pumping level 460.00 ft. after 1.00 hrs. at 80 GPM | Gravel & Sand | | 0.00 | 27.00 |
| Screen Installed: No Intake: Bedrock Well | Gray Clay | | .00 | 38.00 |
| | Sand & Stones W/Gravel | 7.0 | | 45.00 |
| | Gray Sandstone Soft | 6.0 | | 51.00 |
| | Gray Sandstone Hard | | 0.00 | 70.00 |
| | Gray & White Shale | 5.0 | 2.00 | 75.00 87.00 |
| | Black & Gray Shale Gray & White Sandstone | | .00 | 98.00 |
| | Gray Shale & Sandstone | 3.0 | | 101.00 |
| | Gray Shale | 2.0 | | 103.00 |
| Well Grouted: Yes Grouting Method: Grout pipe outside casis | | 1.0 | | 104.00 |
| Grouting Material Bags Additives Depth | - | inued On Page 2) | 00 | 101.00 |
| Neat cement 36.00 None 0.00 ft. to 92.00 ft. Wellhead Completion: 12 inches above grade | Geology Remarks: | • | | |
| Nearest Source of Possible Contamination: Type Distance Direction None | Drilling Machine Operator Nan Employment: Employee | | Ť | L TEVELDE |
| | (Conti | nued on page 2 |) | |
| | | | | |
| General Remarks: 75-80GPM@460', 60-65GPM@360', 50-55GPM@2 6/25/2010. | 60', 25-30GPM@160', 10-15GPM@60 |)'. SEVERAL ITEMS | CORRECT | ED BY DNRE |
| Other Remarks: | | | | 10000 / 00 == |
| EQP-2017 (4/2010) Page 1 of 2 | | Contracto | or 1/9/ | 2006 1:02 Pl |



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



Permit No: w051091 Township: Windsor Tax No: County: Eaton Town/Range: Section: Source ID/Well No: Well Status: WSSN: 03N 03W Active 795 1-North Well ID: 23000010081 **Distance and Direction from Road Intersection:** Blue Water #1 north Elevation: Well Owner: BLUE WATER VILLAGE Latitude: 42.658438 Well Address: Owner Address: Longitude: -84.679803 **BLUE WATER 1** STROBEL ROAD Method of Collection: Interpolation-Aerial Photo Dimondale, MI 48821 DIMONDALE, MI 48821

| | | (Continued | I from Page 1) |
|--------------------------------|-----------|--------------------|--|
| Formation Description | Thickness | Depth to Bottom | |
| White Shale & Sandstone | 4.00 | 108.00 | |
| White Sandstone | 5.00 | 113.00 | 1 |
| Gray Shale & Sandstone | 7.00 | 120.00 |] |
| Gray Shale & Limestone | 22.00 | 142.00 | 1 |
| Gray Shale & Sandstone | 7.00 | 149.00 | 1 |
| Black Shale W/Pyrite | 1.00 | 150.00 |] |
| White Shale | 4.00 | 154.00 |] |
| Gray & White Shale & Sandstone | 4.00 | 158.00 |] |
| Gray Shale W/Limestone | 25.00 | 183.00 | |
| Gray Shale & Sandstone | 11.00 | 194.00 | 1 |
| White Sandstone | 6.00 | 200.00 |] |
| Gray & White Sandstone | 8.00 | 208.00 | |
| White Shale | 2.00 | 210.00 | |
| White Sandstone | 2.00 | 212.00 | |
| Gray & White Shale & Sandstone | 3.00 | 215.00 | 1 |
| Gray Sandstone | 6.00 | 221.00 | 1 |
| Gray & White Shale & Sandstone | 18.00 | 239.00 | 1 |
| Black & Gray Shale | 9.00 | 248.00 | 1 |
| Gray Sandstone | 9.00 | 257.00 | 1 |
| Black & Gray Shale | 13.00 | 270.00 | 1 |
| White Shale & Sandstone | 7.00 | 277.00 | 1 |
| Black & Gray Sandstone | 12.00 | 289.00 | 1 |
| Gray Shale & Limestone | 44.00 | 333.00 | 1 |
| Black Shale W/Pyrite | 16.00 | 349.00 | 1 |
| Gray Sandstone | 12.00 | 361.00 | 1 |
| Sandstone Cemented | 3.00 | 364.00 | 1 |
| Limestone | 7.00 | 371.00 | 1 |
| Gray Sandstone | 4.00 | 375.00 | 1 |
| Limestone | 17.00 | 392.00 | 1 |
| Gray Sandstone | 2.00 | 394.00 | 1 |
| Limestone | 9.00 | 403.00 | 1 |
| Gray Sandstone | 4.00 | 407.00 | |
| Limestone | 11.00 | 418.00 | |
| Gray Sandstone | 23.00 | 441.00 | |
| Limestone | 6.00 | 447.00 | |
| Gray Sandstone | 13.00 | 460.00 |] |
| | | |] |
| | | | Contractor Type: Water Well Drilling Contractor Reg No: 23-2309 |
| | | | Business Name: Dyer Well Drilling & Service |
| | | | Business Address: 7300 Millett Hwy, Lansing, MI, 48917 |
| | | | 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 1/9/2006 1:02 PM Contractor





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

Tax No: Permit No: W051091 County: Eaton Township: Windsor Source ID/Well No: Town/Range: Section: WSSN: Well Status: 03N 03W Active 795 4-East Well ID: 23000010084 Distance and Direction from Road Intersection: **BLUE WATER #4 EAST** Well Owner: BLUE WATER VILLAGE Latitude: 42.658386 Well Address: Owner Address: Longitude: -84.679641 **BLUE WATER 4** STROBEL RD Method of Collection: Interpolation-Aerial Photo DIMONDALE, MI 48821 DIMONDALE, MI 48821 Pump Installed: Drilling Method: Rotary Well Depth: 460.00 ft. Well Use: Type I public Pressure Tank Installed: Date Completed: 8/19/2004 Well Type: New Pressure Relief Valve Installed: No

Height: 1.00 ft. above grade

Borehole: 10.00 in. to 83.00 ft. depth

Diameter: 6.00 in. to 88.00 ft. depth SDR: 21.00

Casing Joint: Solvent welded/glued

Casing Type: PVC plastic

Casing Fitting: None

5.75 in. to 460.00 ft. depth

| | 16.70 ft. Below Grade | nat Mathada Air | Formation Description | Thickness | Depth to Bottom |
|--|---------------------------------------|---------------------------|------------------------|-----------|--------------------|
| Well Yield Test: | field 10 ft. after 1.00 hrs. at 55 GF | est Method: Air PM | Black Clay Sandy | 13.00 | 13.00 |
| Pumping level 360.00 ft. after 1.00 hrs. at 65 GPM | | Gravel & Sand | 11.00 | 24.00 | |
| Pumping level 460.00 ft. after 1.00 hrs. at 80 GPM | | Gray Clay & Gravel | 11.00 | 35.00 | |
| Screen Installed: No | o Inta | ke: Bedrock Well | Gravel & Sand W/Stones | 13.00 | 48.00 |
| | | | Gray Sandstone Soft | 4.00 | 52.00 |
| | | | Gray & White Shale | 31.00 | 83.00 |
| | | | Gray Sandstone | 14.00 | 97.00 |
| | | | Black & Gray Shale | 7.00 | 104.00 |
| | | | Gray Sandstone | 5.00 | 109.00 |
| | | | Gray Shale & Sandstone | 9.00 | 118.00 |
| | | | Gray Shale & Limestone | 25.00 | 143.00 |
| | | | Gray Shale & Sandstone | 5.00 | 148.00 |
| Well Grouted: Yes | Grouting Method: | Grout pipe outside casing | Black & Gray Shale | 2.00 | 150.00 |
| Grouting Material | Bags Additives | Depth | (Continued On P | age 2) | |
| Neat cement | 26.00 None | 0.00 ft. to 88.00 ft. | Geology Remarks: | | |

Wellhead Completion: 12 inches above grade

Nearest Source of Possible Contamination:

Type Distance Direction

None Direction Employee

(Continued on page 2)

General Remarks: 75-80gpm@460', 60-65gpm@360', 50-55gpm@260', 25-30gpm@160', 10-15gpm@60'. Date of completion and remarks corrected by DNRE 6/25/2010.

Other Remarks:

EQP-2017 (4/2010) Page 1 of 2 Contractor 1/9/2006 3:52 PM





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

Permit No: W051091 Township: Windsor Tax No: County: Eaton Town/Range: Section: Source ID/Well No: Well Status: WSSN: 03N 03W 9 Active 795 4-East Well ID: 23000010084 **Distance and Direction from Road Intersection: BLUE WATER #4 EAST** Elevation: Well Owner: BLUE WATER VILLAGE Latitude: 42.658386 Well Address: Owner Address: Longitude: -84.679641 **BLUE WATER 4** STROBEL RD Method of Collection: Interpolation-Aerial Photo DIMONDALE, MI 48821 DIMONDALE, MI 48821

| | | (Continued |
|--|----------------|------------------|
| Formation Description | Thickness | Depth to |
| • | | Bottom |
| Gray Sandstone | 4.00 | 154.00 173.00 |
| Gray Sandstone Gray Shale & Limestone | 19.00 19.00 | 173.00 |
| White Sandstone | 3.00 | 192.00 |
| Gray Shale | 1.00 | 196.00 |
| Gray Sandstone | 19.00 | 215.00 |
| Sandstone Cemented | 6.00 | 213.00 |
| | 19.00 | 240.00 |
| Gray Shale & Sandstone Black & White Shale | 2.00 | 240.00 |
| Shale & Limestone | 39.00 | 281.00 |
| Gray Sandstone | 8.00 | 289.00 |
| Gray Shale & Limestone | 55.00 | 344.00 |
| Gray Sandstone | 23.00 | 367.00 |
| Limestone | 11.00 | 378.00 |
| Iron Formation W/Sandstone | 21.00 | 399.00 |
| Gray & White Sandstone | 5.00 | 404.00 |
| Limestone | 7.00 | 411.00 |
| Gray Shale & Sandstone | 12.00 | 423.00 |
| Limestone | 1.00 | 424.00 |
| Gray Shale & Sandstone | 12.00 | 436.00 |
| Limestone | 2.00 | 438.00 |
| Iron Formation W/Shale | 15.00 | 453.00 |
| Limestone | 1.00 | 454.00 |
| Gray Shale & Sandstone | 6.00 | 460.00 |
| Oray Chaic & Caridotorio | 0.00 | 100.00 |
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Completion is required under authority of Part 127 Act 368 PA 1978. Failure to comply is a misdemeanor.

| Import ID: | Failure to d | comply is a mis | uemea | anor. | | | | |
|---|--|--|---|--|---|--------------------------------------|---|--------------------|
| Tax No: | Permit No: 08335 | County: Ea | | | | Township: Delta | | |
| | | Town/Rang | - | ection: | Well Status: | WSSN: | Source | D/Well No |
| Well ID: 230 | 00010760 | 04N 03V | | 33 | Active n Road Inters | antion. | | |
| VVCII 1D. 200 | 00010700 | | | | n Road Inters nd 150' north o | | , | |
| Elevation: | | 1/6 fillie wes | l Oi Ca | anei Nu. ai | ia 150 Horiii 0 | i Davis i iwy | • | |
| Latitude: 42.68337 | | Well Owner | Pat | Wheeler | | | | |
| Longitude: -84.66569 | | Well Addres | ss: | | | Owner Add | ress: | |
| • | D0 D;(((D0D0) | 8809 Davis | | | | 8809 Davis | | |
| Method of Collection: GF | PS Differential (DGPS) | Lansing, M | I 4891 | 7 | | Lansing, M | II 48917 | |
| Drilling Method: Rotary | | Pump | nstalle | ed: Yes | S | Pump In: | stallation Onl | y: No |
| Well Depth: 300.00 ft. | Well Use: Household | Pump | nstalla | ation Date | e: 6/10/2008 | HP : 0.50 |) | |
| Well Type: Replacement | Date Completed: 6/10/2008 | | | | din Electric | | pe: Submer | |
| Casing Type: PVC plastic | Height: 1.00 ft. above gra | | | er : 10F | | | apacity: 12 (| SPM |
| Casing Joint: Solvent welded/ | | | | ength: 8 | | Pump Vo | _ | |
| Casing Fitting: Shale packer/t | trap | | - | ameter: Seal Used | | Drilling F | Record ID: | |
| Diameter: 5.00 in. to 125.00 ft. | depth SDR: 21.00 | | | nk Installe | | | | |
| | 35ptil 55lt. 21.00 | | | | Diaphragm/b | ladder | | |
| | | | | | Rite-Flexcon | | | |
| Borehole: 8.50 in. to 125.00 ft. | depth | | | er: PC6 | | Tank Ca | apacity: 20.0 |) Gallons |
| 4.50 in. to 300.00 ft. | depth | Pressu | re Reli | lief Valve | Installed: | Yes | | |
| | | | | | | | | |
| Static Water Level: 25.00 ft. B Well Yield Test: | Below Grade Yield Test Method: Air | | F | Formation | Description | | Thickness | Depth to Bottom |
| Pumping level 300.00 ft. after 1. | | Clay & | Cobble | 28 | | | 22.00 | 22.00 |
| r amping lover ecologic in and in | .00 mo. at 20 Gr m | Clay & | | | | | 75.00 | 97.00 |
| | | Black 8 | | | | | 25.00 | 122.00 |
| Screen Installed: No | Intake: Bedrock Well | Sandst | one & S | Shale W/S | Sandstone | | 178.00 | 300.00 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Well Grouted: Yes Gro | outing Method: Grout pipe outside | casing | | | | | | |
| Grouting Material Bags | Additives Depth | | | | | | | |
| Bentonite slurry 8.00 | None 0.00 ft. to 125 | .00 ft. Geolog | v Rem | narks: | | | | |
| | | | | | | | | |
| | | | ,, | | | | | |
| | | | ,, | | | | | |
| Wellhead Completion: Pitless | s adapter, 12 inches above grade | | ,,, | | | | | |
| Wellhead Completion: Pitless | s adapter, 12 inches above grade | | ,, | | | | | |
| Wellhead Completion: Pitless Nearest Source of Possible Co | • | | - | nine Oper | ator Name: | Steve Punc | 1 | |
| Nearest Source of Possible Co | • | Drilling | Mach | nine Opera | ator Name: | Steve Pung | 3 | |
| Nearest Source of Possible Co | ontamination: | Drilling Emplo | Mach | : Employ | ree | | • | |
| Nearest Source of Possible Co | ontamination: Distance Direction | Drilling Emplo | Mach | : Employ | ree er Well Drilling | Contractor | • | 34-2246 |
| Nearest Source of Possible Co Type Septic tank | ontamination: Distance Direction | Drilling Emplo Contra Busine | Mach ment: ctor Ty | : Employ ype: Wat me: Joh | ee er Well Drilling nson Well Drilli | Contractor | Reg No: | |
| Nearest Source of Possible Co Type Septic tank | ontamination: Distance Direction 50 ft. West | Drilling Emplo Contra Busine | Mach ment: ctor Ty ss Nai | ype: Wat me: Joh dress: 1 | ee er Well Drilling nson Well Drilli 2577 State Ro | Contractor | Reg No: | , |
| Nearest Source of Possible Co Type Septic tank | ontamination: Distance Direction 50 ft. West | Drilling Emplo Contra Busine Busine | Mach ment: ctor Ty ss Nai | ype: Wat me: Joh dress: 1 | eer Well Drilling nson Well Drilli 2577 State Ro Well Contra | Contractoring I Grand, Lecartor's Co | Reg No: dge, MI, 48837 | • |
| Nearest Source of Possible Co Type Septic tank | ontamination: Distance Direction 50 ft. West | Drilling Emplo Contra Busine Busine | Mach ment: ctor Ty ss Nai ss Add | ype: Wat me: Joh dress: 1 Water of | ree Well Drilling nson Well Drilli 2577 State Ro Well Contra der my supervi | Contractoring I Grand, Lecartor's Co | Reg No: dge, MI, 48837 | • |
| Nearest Source of Possible Co Type Septic tank | ontamination: Distance Direction 50 ft. West | Drilling Emplo Contra Busine Busine | Mach ment: ctor Ty ss Nai ss Add | ype: Wat me: Joh dress: 1 | ree Well Drilling nson Well Drilli 2577 State Ro Well Contra der my supervi | Contractoring I Grand, Lecartor's Co | Reg No: dge, MI, 48837 | • |
| Nearest Source of Possible Co Type Septic tank | ontamination: Distance Direction 50 ft. West | Drilling Emplo Contra Busine Busine This we my kno | Mach yment: ctor Ty ss Nai ss Add | ype: Wat me: Joh dress: 1 Water V drilled und e and belie | tee Well Drilling nson Well Drilli 12577 State Ro Well Contra der my supervi of. | Contractoring I Grand, Lecartor's Co | Reg No: dge, MI, 48837 ertification s report is true | • |
| Nearest Source of Possible Co Type Septic tank Abandoned Well Plugged: Y | ontamination: Distance Direction 50 ft. West | Drilling Emplo Contra Busine Busine This we my kno | Mach yment: ctor Ty ss Nai ss Add | ype: Wat me: Joh dress: 1 Water V drilled und e and belie | ree Well Drilling nson Well Drilli 2577 State Ro Well Contra der my supervi | Contractoring I Grand, Lecartor's Co | Reg No: dge, MI, 48837 | • |
| Nearest Source of Possible Co Type Septic tank | ontamination: Distance Direction 50 ft. West Yes Casing Removed: | Drilling Emplo Contra Busine Busine This we my kno | Mach yment: ctor Ty ss Nai ss Add | ype: Wat me: Joh dress: 1 Water V drilled und e and belie | tee Well Drilling nson Well Drilli 12577 State Ro Well Contra der my supervi of. | Contractoring I Grand, Lecartor's Co | Reg No: dge, MI, 48837 ertification s report is true | • |





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

Township: Windsor Tax No: **Permit No: 04698** County: Eaton WSSN: Town/Range: Section: Well Status: Source ID/Well No: 03N 03W 2 Active Well ID: 23000010789 Distance and Direction from Road Intersection: 2/10 mile east of Creyts and 5/10 mile south of Lansing Ave. Latitude: 42.67768 Well Owner: David Hoisington Well Address: Owner Address: Longitude: -84.63895 7584 Creyts 7584 Crevts Method of Collection: GPS Std Positioning Svc SA Off Dimondale, MI 48821 Dimondale, MI 48821 Drilling Method: Rotary Pump Installed: Pump Installation Only: No Yes Well Depth: 356.00 ft. Well Use: Household Pump Installation Date: **HP:** 0.75 Well Type: Replacement Date Completed: 7/30/2008 Manufacturer: Red Jacket Pump Type: Submersible Casing Type: PVC plastic Height: 1.00 ft. above grade Model Number: 75211G12BC Pump Capacity: 12 GPM Casing Joint: Solvent welded/glued Drop Pipe Length: 100.00 ft. Pump Voltage: Casing Fitting: None **Drilling Record ID:** Drop Pipe Diameter: 1.00 in. Draw Down Seal Used: No Diameter: 5.00 in. to 179.00 ft. depth SDR: 21.00 Pressure Tank Installed: No Pressure Relief Valve Installed: Borehole: 8.75 in. to 178.00 ft. depth 4.50 in. to 356.00 ft. depth Static Water Level: 43.00 ft. Below Grade Depth to **Thickness Formation Description** Well Yield Test: Bottom Yield Test Method: Air 1.00 hrs. at 20 GPM Sand & Clay Brown 19.00 19.00 47.00 66.00 Sand & Gravel Gray Clay Soft 78.00 12.00 Screen Installed: No Intake: Bedrock Well Gray Clay W/Gravel 39.00 117.00 Shale 29.00 146.00 Sandstone & Shale 35.00 181.00 Sandstone 34.00 215.00 Shale 126.00 341.00 Sandstone 15.00 356.00 Well Grouted: Yes Grouting Method: Grout pipe outside casing **Grouting Material Bags** Additives Depth Bentonite slurry 0.00 ft. to 175.00 ft. 11.00 None Geology Remarks: Wellhead Completion: Pitless adapter Nearest Source of Possible Contamination: Drilling Machine Operator Name: D Hein and W Witt Employment: Employee Type Distance Direction Pump Installer: C Fell and C Blackshear Septic tank 75 ft. West Contractor Type: Water Well Drilling Contractor Reg No: 33-2036 Business Name: Hart Well Drilling Abandoned Well Plugged: Business Address: 1154 S Jefferson, Mason, MI, 48854 Drilling Record ID: 23000003765 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. Casing Diameter: 4 in. Casing Removed: No Plugging Material: Neat cement No. of Bags: 18.00 Well Depth: 180 ft. Signature of Registered Contractor General Remarks: Plugged well GPS 42.67748 -84.63865 Original depth 360, probed to 180 and was solid at bottom. Well was pumping black mud, formation may have caved in. New well producing 20 GPM from 100 feet while developing with air. Other Remarks: 7/31/2008 10:21 AM

EQP-2017 (4/2010) Page 1 of 1 Contractor



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: | | |
|--|--|------------------------------|
| Tax No: Permit No: 31521 | County: Eaton Tow | vnship: Windsor |
| • | Town/Range: Section: Well Status: | WSSN: Source ID/Well No: |
| VALUED 00000044554 | 03N 03W 3 Active | |
| Well ID: 23000011554 | Distance and Direction from Road Intersect | ion: |
| | 3/8 MILE WEST OF LANSING RD ON NORTH | |
| Elevation: | HOLIDAY INN EXPRESS | SIDE OF WOODLANE DIX. |
| Latter 12 40 07005 | | |
| Latitude : 42.67995 | Well Owner: STARBEST CONSTRUCTION | |
| Longitude: -84.652516 | | ner Address: |
| Method of Collection: GPS Std Positioning Svc SA Off | | 40 HAMLIN RD |
| Method of Collection. GF3 3td Fositioning 3vc 3A Off | DIAMONDALE, MI 48821 RO | OCHESTER HILLS , MI 48309 |
| Deilling Mathada Detam | Dumin Installadi. Van | Summa Installation Only. No. |
| Drilling Method: Rotary | l · · | Pump Installation Only: No |
| Well Depth: 200.00 ft. Well Use: Irrigation | | HP: 0.50 |
| Well Type: New Date Completed: 9/13/2013 | | Pump Type: Submersible |
| Casing Type: PVC plastic Height: | | Pump Capacity: 25 GPM |
| Casing Joint: Solvent welded/glued | Drop Pipe Length: 80.00 ft. F | Pump Voltage: 230 |
| Casing Fitting: | Drop Pipe Diameter: 1.25 in. | Drilling Record ID: |
| | Draw Down Seal Used: No | _ |
| Diameter: 5.00 in. to 115.00 ft. depth SDR: 21.00 | Pressure Tank Installed: No | |
| ' | Pressure Relief Valve Installed: No | |
| | 110 | |
| Borehole: 8.75 in. to 115.00 ft. depth | | |
| • | | |
| 4.50 in. to 200.00 ft. depth | | |
| Otatia Water Laval - 04 00 ti Dalaw Orada | | |
| Static Water Level: 24.00 ft. Below Grade | Formation Description | Thickness Depth to |
| Well Yield Test: Yield Test Method: Air | | Bottom |
| Pumping level 80.00 ft. after 1.00 hrs. at 50 GPM | Brown Clay & Sand Soft | 6.00 6.00 |
| | Gray Clay | 30.00 36.00 |
| | Gravel & Clay Medium | 9.00 45.00 |
| Screen Installed: No Intake: Bedrock Well | Gray Clay Hard | 20.00 65.00 |
| | Gray Clay & Sand Soft | 15.00 80.00 |
| | Gravel & Clay Fine W/Stones | 21.00 101.00 |
| | Sandstone Broken W/Sand | 14.00 115.00 |
| | Shale & Sandstone Water Bearing | 85.00 200.00 |
| | Chair a Canacient trater Dearing | 20.00 |
| | | |
| | | |
| | | |
| | | |
| Well Grouted: Yes Grouting Method: Grout pipe inside cas | ing | |
| Grouting Material Bags Additives Depth | | |
| Bentonite slurry 8.00 None 0.00 ft. to 115.0 | ^{0 ft.} Geology Remarks: | |
| | | |
| | | |
| Wellhead Completion: 12 inches above grade | | |
| | | |
| | | |
| Nearest Source of Possible Contamination: | Drilling Machine Operator Name: RIG | CK FREY |
| Type Distance Direction | Employment: Employee | |
| Other 75 ft. North | Zimpioyinonii Zimpioyoo | |
| TO IL INUIUI | Contractor Type: Water Well Drilling Co | ontractor Reg No: 13-1593 |
| | Business Names Att 16 a Maria Business Names | miracior Reg No: 13-1593 |
| | Business Name: Mike Katz Well Drilling | |
| | Business Address: 1479 E Michigan, E | |
| | Water Well Contract | |
| | This well/pump was constructed under my | |
| | the work complies with Part 127 Act 368 F | A 1978 and the well code. |
| | | |
| | Signature of Registered Contractor | Date |
| General Remarks: | Jerginana. 2 or regional de litradioi | |
| Other Remarks: Contamination Source 1:MUNICIPAL SEWER | | |
| Contamination Source Livid NICIFAL SEWER | | |

EQP-2017 (4/2010) Page 1 of 1 Contractor 10/11/2013 10:27 AM

ATTACHMENT B

Test Pit and Soil Boring Documentation



| PROJECT: | LBWL - Erickson | PAGE | 1 OF 1 |
|--------------|-------------------|--------|-----------|
| PROJECT NO.: | | BORING | CW-SB-01 |
| ELEVATION: | | DATE | 10/2/2018 |
| FIELD GEOLOG | GIST: Tim Mayotte | RIG | Geoprobe |

| | R | | <i>∞</i> ≺ | | MAT | ERIAL DESCRIPTION* | | | |
|----------------------------------|--------------------------------|--|---|---|------------|---------------------------|--------------|----------------------------|-----------------|
| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | SOIL DENSITY/CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATIO | Ν | USCS OR ROCK BROKENNESS | REMARKS |
| 1 | | | | | | Void | | | |
| 2 | | | | | | | | | |
| 3 | NA | 2.5 ft | Dry | Stiff | Gray-Brown | Sandy Clay | | CL | |
| 4 | | | - | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | NA | 4 ft | Wet | Loose | Grav-Brown | Fine to Medium Sand | | SP | Boring consists |
| 8 | | | | | , | | 7 | | of layers of |
| 9 | | | | | | | | | saturated soils |
| 10 | | 4 ft | Dry | Loose | | Medium Sand | | SP | from a depth of |
| 11 | | | , | | | | - | | 5 ft to EOB. |
| 12 | | | | | | | T. | | 3 It to LOB. |
| 13 | | | | | | | - | | |
| 14 | | 4 ft | Moist | Loose | | Medium to Coarse Sand | ₹ | SP | |
| 15 | | 411 | WOIST | Loose | | Medium to Coarse Sand | - | 35 | |
| 16 | | | Wet | Stiff | | Sandy Clay | 23737373 | SC-CL | |
| 17 | | | wei | Still | | End of boring = 16 feet. | | 30-0L | |
| 18 | | | | | | End of boiling – To feet. | | | |
| | | | | | | | | | |
| 19 20 | | | | | | | | | |
| | | | | | | | | | |
| 21 22 | | | | | | | | | |
| | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 25 | | | | | | | | | |
| | | | | | | | | | + |
| 26 | | | | | | | | | 1 |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 30 | | | | | | | | | |
| | | | | | | | | | + |
| 31 | | | | | | | | | 1 |
| 32 | | | | | | | | | - |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | | | | | | | | |
| 39 | | | | | | | | | |
| 40 | | | | | | | | | |

REMARKS Boring backfilled with bentonite chips.



| PROJECT: LBWL | - Erickson | PAGE | 1 OF 1 |
|------------------|-------------|--------|-----------|
| PROJECT NO.: | | BORING | CW-SB-02 |
| ELEVATION: | | DATE | 10/2/2018 |
| FIELD GEOLOGIST: | Tim Mayotte | RIG | Geoprobe |

| | ~ | | 7 | | MAT | ERIAL DESCRIPTION* | | | |
|-------------------------------|--------------------------------|--|---|---|--------------|----------------------------|--------------|----------|------------------------------|
| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | SOIL DENSITY/CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATION | | | REMARKS |
| 1 | | | | | | Void | | | |
| 2 | | | | | | | | | |
| 3 | NA | 3 ft | Dry | Stiff | Gray-Brown/ | Clav | | CL | |
| 4 | | - | , | | Black | | | - | |
| 5 | | | | | | | | | |
| 6 | | | | | | | ***** | | |
| 7 | NA | 4 ft | Wet | Loose | Cray Proum | Medium Sand | | SP | Boring consists |
| 8 | INA | 711 | Wet | Loose | Glay-blowii | Mediam Gand | | <u> </u> | |
| 9 | | | | | | | ₩ | | of layers of saturated soils |
| 10 | | 4 ft | Moist | Loose | Gray-Brown | Medium Sand | | SP | from a depth of |
| 11 | | 711 | WOSt | 20030 | Gray-Brown | Wediam Cana | - | OI . | |
| 12 | | | | | | | | | 5 ft to EOB. |
| 13 | | | Wet | | | | | | |
| 14 | | 4 ft | wet | Loose | Carry Barrer | Medium Sand | | SP | |
| 15 | | 411 | Moist | Loose | Gray-Brown | Medium Sand | | 35 | |
| 16 | | | WOSt | | | | | | |
| 17 | | | | | | End of boring = 16 feet. | [656555555 | | |
| 18 | | | | | | Lild of boiling – To leet. | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | | | | | | | | |
| 39 | | | | | | | | | |
| 40 | | | | | | | | | |
| <u> </u> | | | | | - | | | | |

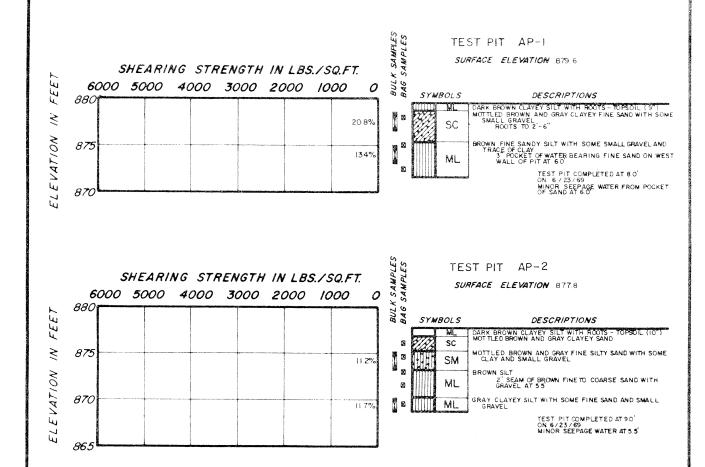
| REMARKS | Boring backfilled with bentonite chips. |
|---------|---|
| | |



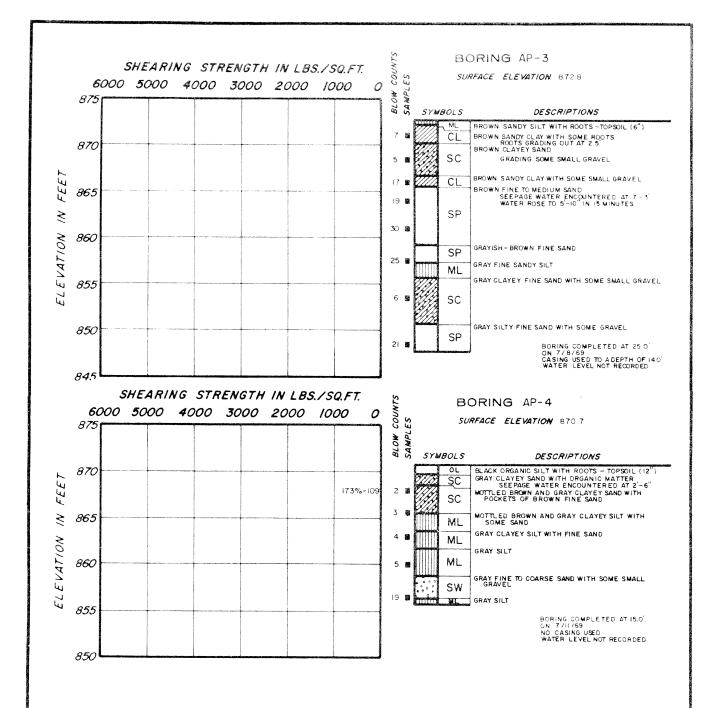
| PROJECT: | LBWL - Erickson | PAGE | 1 OF 1 |
|--------------|------------------|--------|-----------|
| PROJECT NO.: | | BORING | CW-SB-03 |
| ELEVATION: | | DATE | 10/2/2018 |
| FIELD GEOLOG | IST: Tim Mayotte | RIG | Geoprobe |

| | | | -4 | | MAT | ERIAL DESCRIPTION* | | | |
|-------------------------------|--------------------------------|--|---|---|------------|--------------------------|----------------------------|---------|-----------------|
| SAMPLE NO., TYPE & DEPTH (ft) | BLOWS/SIX INCHES OR RQD (%) | SAMPLE RECOVERY/SAMPLE LENGTH (ft) | MATERIAL MOISTURE & WATER DEPTH (ft) | SOIL DENSITY/CONSISTENCY OR ROCK HARDNESS | COLOR | MATERIAL CLASSIFICATI | USCS OR ROCK BROKENNESS | REMARKS | |
| 1 | | | | | | Void | | | |
| 2 | | | | | | | | | |
| | NIA | 0.05.6 | | Oriti | 1 | | | 01 | |
| 3 | NA | 2.25 ft | Dry | Stiff | Gray-Brown | Clay | | CL | |
| 4 | | | | | | | | | |
| 5 | | _ | | | | | 20000000 | | |
| 6 | | | Moist - | | | | | | |
| 7 | NA | 3 ft | Wet | Loose | Gray-Brown | Medium Sand | | SP | Boring consists |
| 8 | | | | | | | _ | | of layers of |
| 9 | | | | | | | | | saturated soils |
| 10 | | 4 ft | Wet | Loose | Gray-Brown | Medium Sand | | SP | from a depth of |
| 11 | | | | | | | _ | | 5 ft to EOB. |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | 4 ft | Moist - | Loose | Gray-Brown | Medium Sand | | SP | |
| 15 | | | Wet | | | | | | |
| 16 | | | | | | | | | |
| 17 | | | | | | End of boring = 16 feet. | 12.2.2.2. | | |
| 18 | | | | | | 3 | | | |
| 19 | | | | | | | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | + |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | + |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | 1 | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |
| 33 | | | | | | | | | |
| 34 | | | | | | | | | |
| 35 | | | | | | | | | |
| 36 | | | | | | | | | |
| 37 | | | | | | | | | |
| 38 | | | | | | | | | |
| 39 | | | | | | | | | |
| 40 | | | | | | | | | |
| | | | | | • | | | | |

| REMARKS | Boring backfilled with bentonite chips. |
|---------|---|
| | |

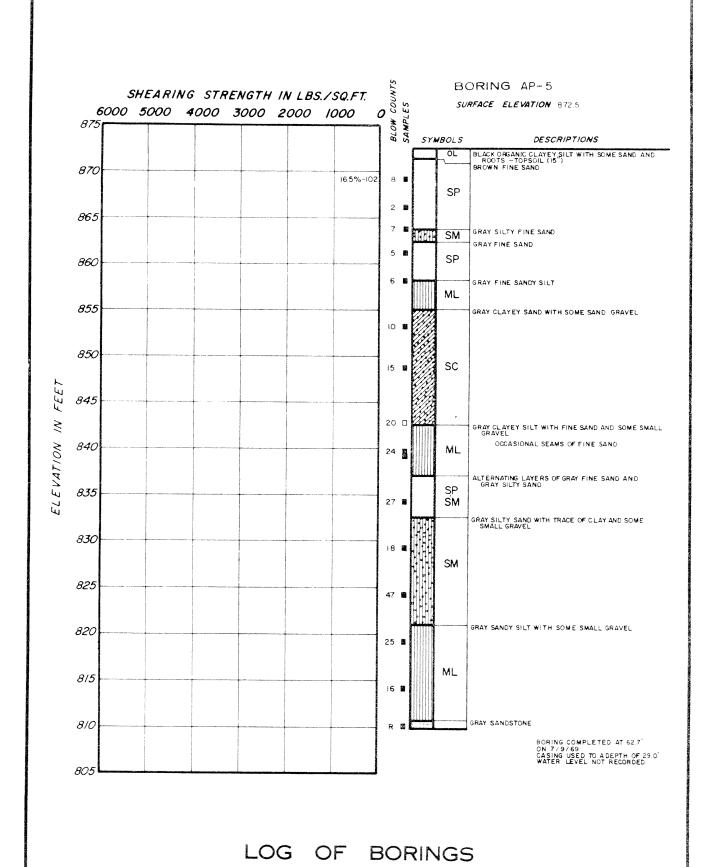


LOG OF TEST PITS

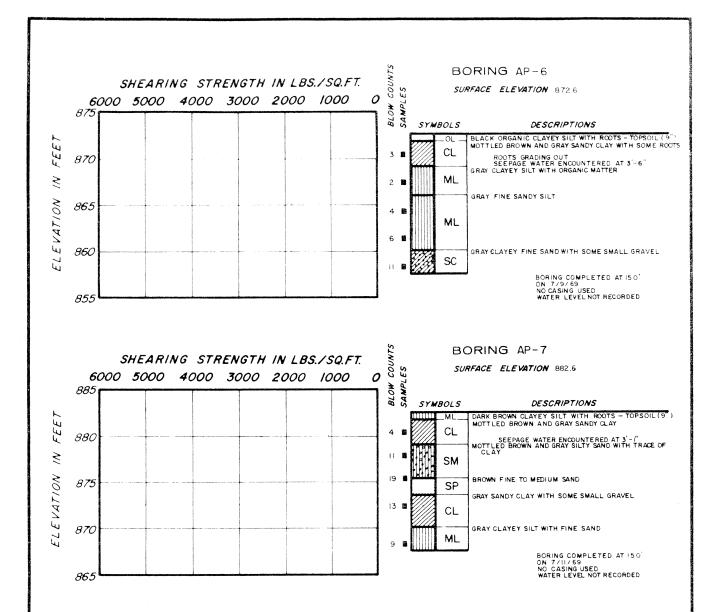


LOG OF BORINGS

CHECKED BY



DAMES 8 MOORE



LOG OF BORINGS

DAMES & MOORE

Mayotte Design & Engineering, PC

PHOTOGRAPHIC LOG

Civil & Environmental Engnineering Solutions

Customer: LBWL Project No.: LBWL-1018-001

Site Name: 3725 South Canal Road Site Location: Delta Township, Michigan

Photographer: Tim Mayotte

Photo No.: 1

Date: June 2014

Direction:

East
Notes:

Two test pits excavated within footprint of Retention Basin. Note standing water.

Photographer: Tim Mayotte

Photo No.: 2

Date: June 2014

Direction: NA

Notes:

View into test pit within footprint of Forebay. Soils are sandy clays and clayey sands. Soil conditions are dry despite surface moisture.



Mayotte Design & Engineering, PC

PHOTOGRAPHIC LOG

Civil & Environmental Engnineering Solutions

Customer: Allen-Bailey Tag & Label Project No.: ABT-0318-001

Site Name: 3177 Lehigh Street Site Location: Caledonia, NY 14423

Photographer: Tim Mayotte

Photo No.: 3

Date:

April 6, 2018

Direction: NA

Notes:

View into test pit within footprint of Forebay. Soils are sandy clays and clayey sands. Soil conditions are dry despite surface moisture.

Photographer: Tim Mayotte

Photo No.: 4

Date:

April 6, 2018

Direction: NA

Notes:

View into test pit within footprint of Retention Basin. Soils are sandy clays and clayey sands. Soil conditions are dry despite surface moisture.



Mayotte Design & Engineering, PC

PHOTOGRAPHIC LOG

Civil & Environmental Engnineering Solutions

Customer: Allen-Bailey Tag & Label Project No.: ABT-0318-001

Site Name: 3177 Lehigh Street Site Location: Caledonia, NY 14423

Photographer: Tim Mayotte

Photo No.: 5

Date:

April 6, 2018

Direction: NA

Notes:

View into test pit within footprint of Retention Basin. Soils are sandy clays and clayey sands. Soil conditions are dry despite surface moisture.

Photographer: Tim Mayotte

Photo No.: 6

Date:

April 6, 2018

Direction: South

Notes:

View into test pit within footprint of Retention Basin. Soils are sandy clays and clayey sands. Soil conditions are dry despite surface moisture.





GEOTECHNICAL TESTING SUMMARY

LBWL - Erickson Station - Foundation Samples MD&E Project No.



| SAMPLE | CLASSIFICATION | %Fines | LL% | PI% | w% _{field} | w% _{opt} | ρ _d (lbs/ft³) | K (cm/s) |
|--------------|----------------|--------|-----|-----|---------------------|-------------------|--------------------------|----------|
| EW-F-01 | Clayey Sand | 29.50 | NA | NA | NA | 9.20 | 124.24 | NA |
| EW-F-02 | Clayey Sand | 14.10 | NA | NA | NA | 8.25 | 129.23 | NA |
| EW-F-03 | Clayey Sand | 9.70 | NA | NA | NA | 12.00 | 121.11 | NA |
| EW-F-04 | Clayey Sand | 9.80 | NA | NA | NA | 8.50 | 125.92 | NA |
| EW-F-05 | Clayey Sand | 16.30 | NA | NA | NA | 8.30 | 126.86 | NA |
| EW-F-06 | Clayey Sand | 12.20 | NA | NA | NA | 7.85 | 131.10 | NA |
| EW-T-01 | Clayey Sand | NA | NA | NA | NA | 10.00 | 133.60 | NA |
| EW-T-02 | Clayey Sand | NA | NA | NA | NA | 9.80 | 127.67 | NA |
| EW-T-03 | Clayey Sand | NA | NA | NA | NA | 9.30 | 127.98 | NA |
| West Floor | Clayey Sand | 13.10 | NA | NA | NA | 9.00 | 128.61 | NA |
| South Floor | Clayey Sand | 17.60 | NA | NA | NA | 7.95 | 129.98 | NA |
| Ranges/Avera | ages: | | | | | | | |

NOTES:

GRAIN SIZE ANALYSIS

Sieve Analysis

Project: LBWL - Erickson Ash Impoundment Reconfiguration

Sample:

E. Floor Cut Stockpile 7/8/2014 TJM Clayey sand Test Date: Test Personnel: Visual Classification:

31.50 700.00 668.50 Wt. of Soil Container (g): W. of Container w/Dry Soil (g): Wt. of Dry Soil (g):



| Sieve Number | Diameter (mm) | Mass of Sieve (g) | Mass of Sieve/Soil (g) | Soil Retained (g) | Percent Retained | Percent Passing |
|--------------|------------------|-------------------------|------------------------------|-------------------------|---------------------|--------------------|
| 4 | 4.750 | 419.50 | 435.50 | 16.0 | 2.4% | 97.6% |
| 10 | 2.000 | 391.00 | 431.50 | 40.5 | 6.1% | 91.5% |
| 20 | 0.840 | 322.00 | 364.50 | 42.5 | 6.4% | 85.2% |
| 40 | 0.425 | 284.50 | 326.00 | 41.5 | 6.2% | 79.0% |
| 60 | 0.250 | 264.50 | 331.50 | 67.0 | 10.0% | 69.0% |
| 100 | 0.150 | 258.00 | 383.50 | 125.5 | 18.8% | 50.2% |
| 200 | 0.075 | 244.50 | 382.50 | 138.0 | 20.6% | 29.5% |
| Pan | | 366.50 | 561.50 | 195.0 | 29.2% | 0.4% |
| | | | | 666.0 | | |

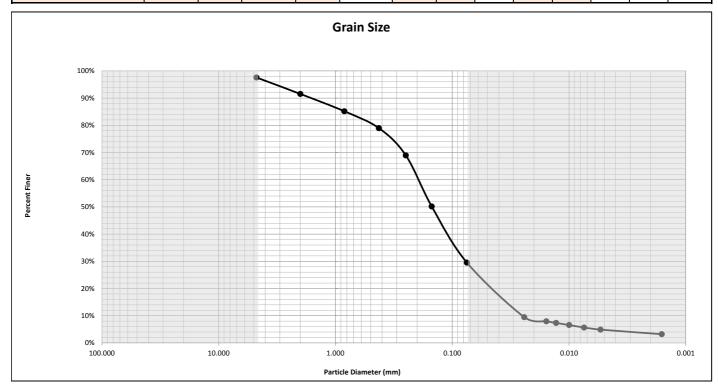
D₁₀: % Gravel: 2.4% 0.025 mm D₃₀: % Sand: 68.1% 0.075 mm % Fines: 0.2 mm 29.2% D₆₀:

C_u: 8 Well Graded C_c: 1

Hydrometer Analysis

Test Date: Hydrometer Number: Specific Gravity of Soil: Dispersing Agent: 8-Jul-14 152H 2.55 SHMP Weight of Soil Sample (g): Zero Correction: Meniscus Correction: 194.5 6

| Date | Time | Elapsed Time (min) | Temp °C | Hydrom. Reading | | L | k | D (mm) | C _T | а | R _c | Р | P _A |
|------|------|--------------------------|---------|--------------------|----|-----|---------|---------|----------------|------|----------------|------|----------------|
| | | 0 | 24 | 75 | 76 | 6.5 | 0.01342 | | 1 | 1.02 | | | |
| | | 2 | 24 | 67 | 68 | 6.5 | 0.01342 | 0.02419 | 1 | 1.02 | 62 | 32.5 | 9.5% |
| | | 5 | 24 | 57 | 58 | | | 0.01565 | 1 | 1.02 | 52 | 27.3 | 8.0% |
| | | 8 | 24 | 53 | 54 | 7.4 | 0.01342 | 0.01291 | 1 | 1.02 | 48 | 25.2 | 7.3% |
| | | 15 | 24 | 48 | 49 | | | 0.00998 | 1 | 1.02 | 43 | 22.6 | 6.6% |
| | | 30 | 24 | 42 | 43 | 9.2 | 0.01342 | 0.00743 | 1 | 1.02 | 37 | 19.4 | 5.7% |
| | | 63 | 24 | 37 | 38 | | 0.01342 | | 1 | 1.02 | 32 | 16.8 | 4.9% |
| | | 836 | 24 | 26 | 27 | 12 | 0.01342 | 0.00161 | 1 | 1.02 | 21 | 11.0 | 3.2% |
| | | | | | | | | | | | | | |



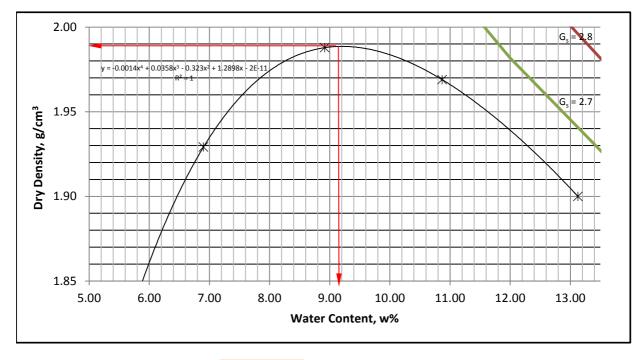
Test Method: Standard Proctor (Method A) ASTM 698

Test Date: 8-Jul-14
Test Personnel: T. Mayotte
Project: LBWL - Erickson

Sample: EW-F-01 Visual Classification of Soil: SC-SM



| Test No. | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|
| w% (assumed) | 7.00 | 9.00 | 11.00 | 13.00 | | |
| WC Tin No. | 4B | 3B | 1F | 1Y | | |
| $M_c(g)$ | 13.91 | 13.79 | 13.86 | 14.23 | | |
| $M_{cms}(g)$ | 77.27 | 101.85 | 104.24 | 107.13 | | |
| $M_{cds}(g)$ | 73.18 | 94.64 | 95.38 | 96.35 | | |
| $M_s(g)$ | 59.27 | 80.85 | 81.52 | 82.12 | 0.00 | 0.00 |
| $M_w(g)$ | 4.09 | 7.21 | 8.86 | 10.78 | 0.00 | 0.00 |
| w% | 6.90 | 8.92 | 10.87 | 13.13 | #DIV/0! | #DIV/0! |
| Mold No. | В | В | В | В | | |
| Mold Vol (cm ³) | 952.61 | 952.61 | 952.61 | 952.61 | | |
| M _{mold} (g) | 2282.00 | 2282.00 | 2282.00 | 2282.00 | | |
| $M_m + M_{cs}(g)$ | 4246.50 | 4344.50 | 4361.50 | 4329.50 | | |
| M _{mms} (g) | 1964.50 | 2062.50 | 2079.50 | 2047.50 | 0.00 | 0.00 |
| ρ_{ws} (g/cm ³) | 2.06 | 2.17 | 2.18 | 2.15 | #DIV/0! | #DIV/0! |
| ρ _d (g/cm ³) | 1.93 | 1.99 | 1.97 | 1.90 | #DIV/0! | #DIV/0! |



Optimum Moisture Content: 9.2 %

Maximum Dry Density: 1.99 g/cm³ 124.24 lbs/ft³

GRAIN SIZE ANALYSIS

Sieve Analysis

Project: LBWL - Erickson Ash Impoundment Reconfiguration

Wt. of Soil Container (g):
W. of Container w/Dry Soil (g):
431.00
644.50
Wt. of Dry Soil (g):
613.50



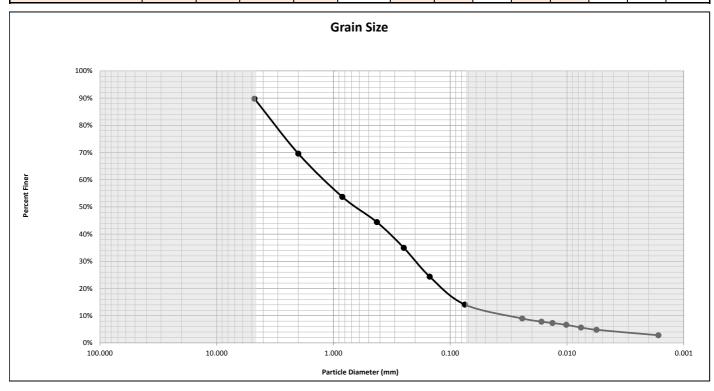
| Sieve Number | Diameter (mm) | Mass of Sieve (g) | Mass of Sieve/Soil (g) | Soil Retained (g) | Percent Retained | Percent Passing |
|--------------|------------------|-------------------------|------------------------------|-------------------------|---------------------|--------------------|
| 4 | 4.750 | 419.50 | 482.00 | 62.5 | 10.2% | 89.8% |
| 10 | 2.000 | 391.00 | 515.00 | 124.0 | 20.2% | 69.6% |
| 20 | 0.840 | 322.00 | 419.50 | 97.5 | 15.9% | 53.7% |
| 40 | 0.425 | 284.50 | 341.50 | 57.0 | 9.3% | 44.4% |
| 60 | 0.250 | 264.50 | 322.50 | 58.0 | 9.5% | 35.0% |
| 100 | 0.150 | 258.00 | 323.00 | 65.0 | 10.6% | 24.4% |
| 200 | 0.075 | 244.50 | 307.50 | 63.0 | 10.3% | 14.1% |
| Pan | | 366.50 | 451.50 | 85.0 | 13.9% | 0.2% |
| | | | | 612.0 | | |

 $\begin{array}{ccc} C_u\colon & & 40 \\ C_c\colon & & 1 \end{array}$ Well Graded

Hydrometer Analysis

Test Date: 8-Jul-14
Hydrometer Number: 152H
Specific Gravity of Soil: 2.55
Dispersing Agent: SHMP
Weight of Soil Sample (g): 85
Zero Correction: 7
Meniscus Correction: 0

| Date | Time | Elapsed Time (min) | Temp °C | Hydrom. Reading | Corrected Hydrom. Reading | L | k | D (mm) | C _T | а | R _c | Р | P _A |
|------|------|--------------------------|---------|--------------------|---------------------------------|------|---------|---------|----------------|------|----------------|------|----------------|
| | | 0 | 24 | 70 | 70 | 6.5 | 0.01342 | | 1 | 1.02 | | | |
| | | 2 | 24 | 60 | 60 | 6.5 | 0.01342 | 0.02419 | 1 | 1.02 | 54 | 64.8 | 9.0% |
| | | 5 | 24 | 53 | 53 | | | 0.01655 | | 1.02 | 47 | 56.4 | 7.8% |
| | | 8 | 24 | 50 | 50 | 7.9 | 0.01342 | 0.01334 | 1 | 1.02 | 44 | 52.8 | 7.3% |
| | | 15 | 24 | 46 | 46 | | | 0.01016 | | 1.02 | 40 | 48.0 | 6.7% |
| | | 30 | 24 | 40 | 40 | 9.6 | 0.01342 | 0.00759 | 1 | 1.02 | 34 | 40.8 | 5.7% |
| | | 60 | 24 | 35 | 35 | | | 0.00559 | | 1.02 | 29 | 34.8 | 4.8% |
| | | 827 | 24 | 23 | 23 | 12.5 | 0.01342 | 0.00165 | 1 | 1.02 | 17 | 20.4 | 2.8% |
| | | | | | | | | | | | | | |



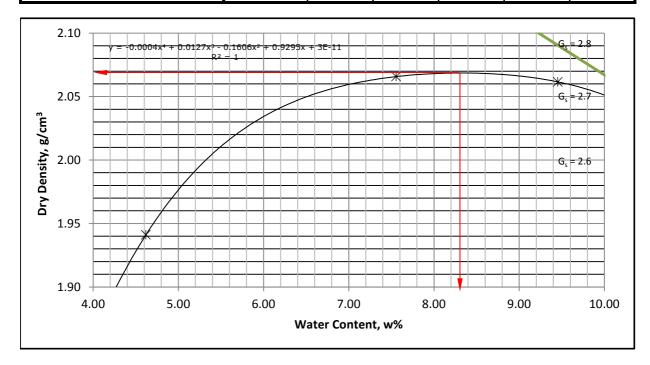
Test Method: Standard Proctor (Method A) ASTM 698

Test Date: 8-Jun-14
Test Personnel: T. Mayotte
Project: LBWL - Erickson

Sample: EW-F-02 Visual Classification of Soil: SC-SM



| Test No. | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|
| w% (assumed) | 4.00 | 6.00 | 8.00 | 10.00 | | |
| WC Tin No. | 30 | 2C | 1T | 2D | | |
| $M_c(g)$ | 14.10 | 14.09 | 13.76 | 13.96 | | |
| M _{cms} (g) | 98.80 | 98.36 | 93.89 | 109.27 | | |
| $M_{cds}(g)$ | 95.06 | 92.44 | 86.97 | 99.52 | | |
| $M_s(g)$ | 80.96 | 78.35 | 73.21 | 85.56 | 0.00 | 0.00 |
| $M_w(g)$ | 3.74 | 5.92 | 6.92 | 9.75 | 0.00 | 0.00 |
| w% | 4.62 | 7.56 | 9.45 | 11.40 | #DIV/0! | #DIV/0! |
| Mold No. | Α | Α | Α | Α | | |
| Mold Vol (cm ³) | 952.61 | 952.61 | 952.61 | 952.61 | | |
| M _{mold} (g) | 2287.00 | 2287.00 | 2287.00 | 2287.00 | | |
| $M_m + M_{cs}(g)$ | 4221.50 | 4403.50 | 4436.50 | 4391.50 | | |
| M _{mms} (g) | 1934.50 | 2116.50 | 2149.50 | 2104.50 | 0.00 | 0.00 |
| ρ _{ws} (g/cm ³) | 2.03 | 2.22 | 2.26 | 2.21 | #DIV/0! | #DIV/0! |
| ρ _d (g/cm ³) | 1.94 | 2.07 | 2.06 | 1.98 | #DIV/0! | #DIV/0! |



Optimum Moisture Content: 8.25 %

Maximum Dry Density: 2.07 g/cm³ 129.23 lbs/ft³

Test Method: Standard Proctor (Method A) ASTM 698

Test Date: 10-Jun-14
Test Personnel: TJM

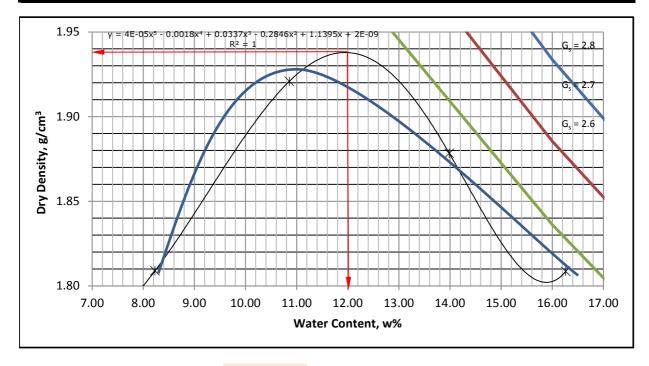
Project:

Sample: EW-F-03

Visual Classification of Soil:



| Test No. | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|
| w% (assumed) | 4.00 | 7.00 | 10.00 | 13.00 | 15.00 | |
| WC Tin No. | 1F | 2C | 31 | 4B | 2A | |
| $M_{c}(g)$ | 13.87 | 14.08 | 13.76 | 13.91 | 13.84 | |
| $M_{cms}(g)$ | 99.70 | 97.85 | 86.56 | 90.44 | 94.33 | |
| $M_{cds}(g)$ | 95.52 | 91.48 | 79.43 | 81.05 | 83.07 | |
| $M_s(g)$ | 81.65 | 77.40 | 65.67 | 67.14 | 69.23 | 0.00 |
| $M_w(g)$ | 4.18 | 6.37 | 7.13 | 9.39 | 11.26 | 0.00 |
| w% | 5.12 | 8.23 | 10.86 | 13.99 | 16.26 | #DIV/0! |
| Mold No. | В | В | В | В | В | |
| Mold Vol (cm ³) | 952.61 | 952.61 | 952.61 | 952.61 | 952.61 | |
| M _{mold} (g) | 2282.00 | 2282.00 | 2282.00 | 2282.00 | 2282.00 | |
| $M_m + M_{cs}(g)$ | 4037.00 | 4147.00 | 4310.50 | 4321.50 | 4285.00 | |
| M _{mms} (g) | 1755.00 | 1865.00 | 2028.50 | 2039.50 | 2003.00 | 0.00 |
| ρ_{ws} (g/cm ³) | 1.84 | 1.96 | 2.13 | 2.14 | 2.10 | #DIV/0! |
| ρ _d (g/cm ³) | 1.75 | 1.81 | 1.92 | 1.88 | 1.81 | #DIV/0! |



Optimum Moisture Content: 12 %

Maximum Dry Density: 1.94 g/cm³ 121.11 lbs/ft³

Test Method: Standard Proctor (Method A) ASTM 698

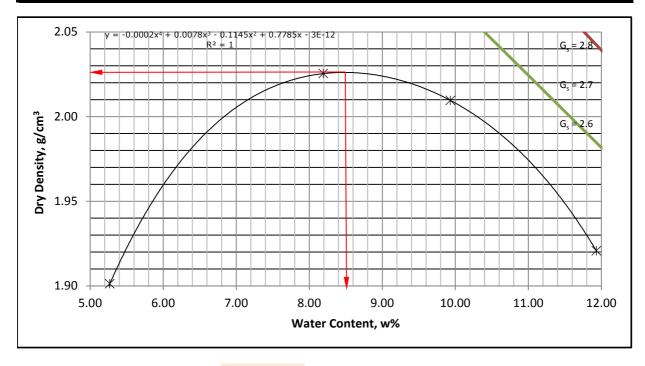
Test Date: 11-Jul-14
Test Personnel: TJM

Project:

Sample: EW-F-04 Visual Classification of Soil: Fine Sand



| Test No. | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|
| w% (assumed) | 4.00 | 7.00 | 10.00 | 13.00 | 15.00 | |
| WC Tin No. | 2D | 3P | 3N | 3K | | |
| $M_{c}(g)$ | 13.95 | 13.86 | 14.14 | 14.00 | | |
| $M_{cms}(g)$ | 101.07 | 107.88 | 119.07 | 109.97 | | |
| $M_{cds}(g)$ | 96.71 | 100.76 | 109.59 | 99.74 | | |
| $M_s(g)$ | 82.76 | 86.90 | 95.45 | 85.74 | 0.00 | 0.00 |
| $M_w(g)$ | 4.36 | 7.12 | 9.48 | 10.23 | 0.00 | 0.00 |
| w% | 5.27 | 8.19 | 9.93 | 11.93 | #DIV/0! | #DIV/0! |
| Mold No. | Α | Α | Α | Α | | |
| Mold Vol (cm ³) | 952.61 | 952.61 | 952.61 | 952.61 | | |
| M _{mold} (g) | 2287.00 | 2287.00 | 2287.00 | 2287.00 | | |
| $M_m + M_{cs}(g)$ | 4193.50 | 4374.50 | 4391.50 | 4335.00 | | |
| M _{mms} (g) | 1906.50 | 2087.50 | 2104.50 | 2048.00 | 0.00 | 0.00 |
| ρ_{ws} (g/cm ³) | 2.00 | 2.19 | 2.21 | 2.15 | #DIV/0! | #DIV/0! |
| ρ _d (g/cm ³) | 1.90 | 2.03 | 2.01 | 1.92 | #DIV/0! | #DIV/0! |



Optimum Moisture Content: 8.5 %

Maximum Dry Density: 2.017 g/cm³ 125.92 lbs/ft³

Test Method: Standard Proctor (Method A) ASTM 698

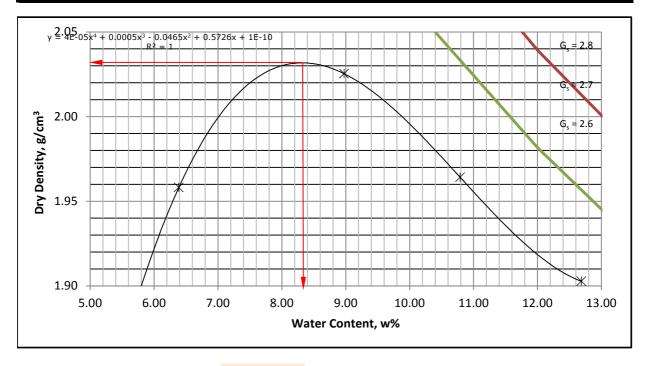
Test Date: 13-Jul-14
Test Personnel: TJM

Project:

Sample: EW-F-05 Visual Classification of Soil: Fine Sand



| Test No. | 1 | 2 | 3 | 4 | 5 | 6 |
|-------------------------------------|---------|---------|---------|---------|---------|---------|
| w% (assumed) | 4.00 | 7.00 | 9.00 | 11.00 | | |
| WC Tin No. | 3L | 2D | 3A | 3D | | |
| $M_{c}(g)$ | 14.03 | 13.96 | 13.97 | 13.94 | | |
| $M_{cms}(g)$ | 110.79 | 96.40 | 106.70 | 111.65 | | |
| $M_{cds}(g)$ | 104.98 | 89.61 | 97.67 | 100.65 | | |
| $M_s(g)$ | 90.95 | 75.65 | 83.70 | 86.71 | 0.00 | 0.00 |
| $M_w(g)$ | 5.81 | 6.79 | 9.03 | 11.00 | 0.00 | 0.00 |
| w% | 6.39 | 8.98 | 10.79 | 12.69 | #DIV/0! | #DIV/0! |
| Mold No. | Α | Α | Α | Α | | |
| Mold Vol (cm ³) | 952.61 | 952.61 | 952.61 | 952.61 | | |
| M _{mold} (g) | 2287.00 | 2287.00 | 2287.00 | 2287.00 | | |
| $M_m + M_{cs}(g)$ | 4271.50 | 4389.50 | 4360.00 | 4329.50 | | |
| M _{mms} (g) | 1984.50 | 2102.50 | 2073.00 | 2042.50 | 0.00 | 0.00 |
| ρ_{ws} (g/cm ³) | 2.08 | 2.21 | 2.18 | 2.14 | #DIV/0! | #DIV/0! |
| ρ _d (g/cm ³) | 1.96 | 2.03 | 1.96 | 1.90 | #DIV/0! | #DIV/0! |



Optimum Moisture Content: 8.3 %

Maximum Dry Density: 2.032 g/cm³ 126.86 lbs/ft³

Test Method: Standard Proctor (Method A) ASTM 698

Test Date: 11-Jul-14
Test Personnel: TJM

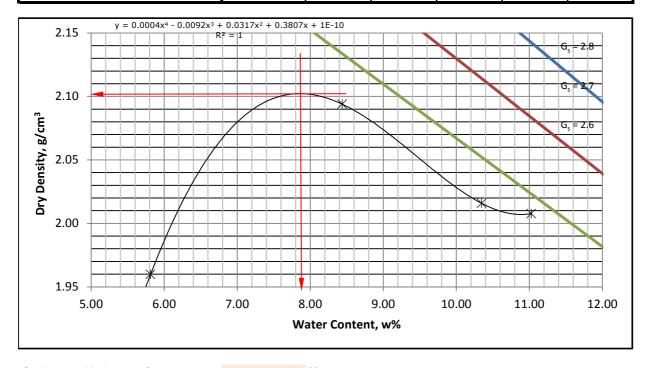
Project:

Sample: EW-F-06

Visual Classification of Soil:



| Test No. | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------------------------|---------|---------|---------|---------|---------|---------|
| w% (assumed) | 4.00 | 7.00 | 10.00 | 13.00 | 15.00 | |
| WC Tin No. | 3D | 3G | 3A | 3M | | |
| $M_c(g)$ | 13.94 | 14.04 | 13.97 | 13.95 | | |
| M _{cms} (g) | 95.48 | 106.17 | 99.41 | 104.27 | | |
| $M_{cds}(g)$ | 91.00 | 99.00 | 91.40 | 95.30 | | |
| $M_s(g)$ | 77.06 | 84.96 | 77.43 | 81.35 | 0.00 | 0.00 |
| $M_w(g)$ | 4.48 | 7.17 | 8.01 | 8.97 | 0.00 | 0.00 |
| w% | 5.81 | 8.44 | 10.34 | 11.03 | #DIV/0! | #DIV/0! |
| Mold No. | Α | Α | Α | Α | | |
| Mold Vol (cm ³) | 952.61 | 952.61 | 952.61 | 952.61 | | |
| M _{mold} (g) | 2287.00 | 2287.00 | 2287.00 | 2287.00 | | |
| $M_m + M_{cs}(g)$ | 4262.50 | 4450.00 | 4406.00 | 4410.50 | | |
| M _{mms} (g) | 1975.50 | 2163.00 | 2119.00 | 2123.50 | 0.00 | 0.00 |
| ρ _{ws} (g/cm ³) | 2.07 | 2.27 | 2.22 | 2.23 | #DIV/0! | #DIV/0! |
| ρ _d (g/cm ³) | 1.96 | 2.09 | 2.02 | 2.01 | #DIV/0! | #DIV/0! |



Optimum Moisture Content: 7.85 %

Maximum Dry Density: 2.1 g/cm³ 131.10 lbs/ft³