## Dave Favero

**From:** Hoertt, Susan <SHoertt@haleyaldrich.com>
**Sent:** Tuesday, June 2, 2015 6:18 PM
**To:** carnagieM@michigan.gov
**Cc:** Blayer, Ronda (DEQ); mccabej@michigan.gov; Dave Favero
**Subject:** April 2015 Monitoring Data for Romulus Engineering Center, RACER Site#10020
**Attachments:** 2015-0602_HAI_37515_RACER Romulus Chembox_Screening Tables.pdf; 2015-0601 _HAI-Romulus_Table III_GW Countours Figures.pdf

Mary,
This correspondence is being sent on behalf of RACER in regard to the former Romulus Engineering Center, RACER Site#10020.

The attached files contain the summarized data of the April 14-15, 2015 field event conducted by Haley & Aldrich at the Romulus site. We are providing you a chembox figure that presents the soil and groundwater data collected through April 2015 and tables showing the criteria against which the detections were screened. Additionally, we are providing a summary table of the groundwater elevation measurements collected through April 2015 and the corresponding shallow groundwater potentiometric contour figures. Please note that the attached files include the September 2014 field event information previously provided to MDEQ on September 9, 2014.

The scope of work, approved by MDEQ via email on November 6, 2014, was conducted in accordance with procedures presented in the Field Sampling Plan and QAPP for the Site (Haley & Aldrich, September 24, 2012, approved by MDEQ in correspondence to RACER dated November 15, 2012). Pursuant to agreement with MDEQ, groundwater samples were collected from temporary wells (TW) 01-107 and TW 03-116 and the following down-gradient temporary wells: 01-101, 01-104, 01-105, and 02-109. Samples were analyzed for total and dissolved copper and total and dissolved selenium using laboratory method E 200.8. The validated data was screened against Michigan Part 201 Generic Cleanup Criteria (12/30/2013).

The analytical data for the groundwater samples collected from TW 01-107 and TW 03-116 are summarized below:

- In TW 01-107, total copper was detected in an amount below the groundwater surface water interface (GSI) screening criteria in September 2014. Total copper was detected above the GSI screening criteria in April 2015. Total and dissolved selenium were non-detect in the September 2014 and April 2015 sampling events. Total and dissolved copper and total and dissolved selenium were detected above the GSI screening criteria in the initial sampling event, which was conducted in February 2013.
- In TW 03-116, total copper was detected in amounts above the GSI screening criteria in September 2014 and April 2015. Total and dissolved selenium were non-detect in the September 2014 and April 2015 sampling events. Total and dissolved selenium were detected above the GSI screening criteria in the initial sampling event (February 2013).

Analytical results for the four down-gradient wells are below all screening criteria:

- Temporary wells 01-104, 01-105, and 02-109 had no detections of copper or selenium in the samples collected in September 2014 and April 2015. In TW 01-101, total copper was detected in September 2014 and total and dissolved copper were detected in April 2015; however, the detections were below all screening criteria.

Measurements of groundwater elevation in each of the 15 temporary wells located at the site were conducted during the April 2015 field event and show conditions generally similar to previous groundwater elevation measurement

events. The direction of groundwater flow remains toward the NE area of the site. The groundwater gradient is slightly shallower than it appeared in September 2014.

The results of the April 2015 field event continue to demonstrate that the constituents are not migrating off-site. This information will be captured in the amended RFI report for the Site.

The next sampling event planned for the site is July 2015. Per recent correspondence from MDEQ, we understand MDEQ will likely split samples, as it is anticipated the July 2015 event could be the final monitoring event for the Romulus site under this investigation. We propose conducting that event on July 14 and July 15, 2015. Please let us know if these dates are acceptable to you and we will confirm them with RACER and our field staff.

Please contact Dave Favero or me if you have any questions concerning the information conveyed in this correspondence.

Thank you.
Sue

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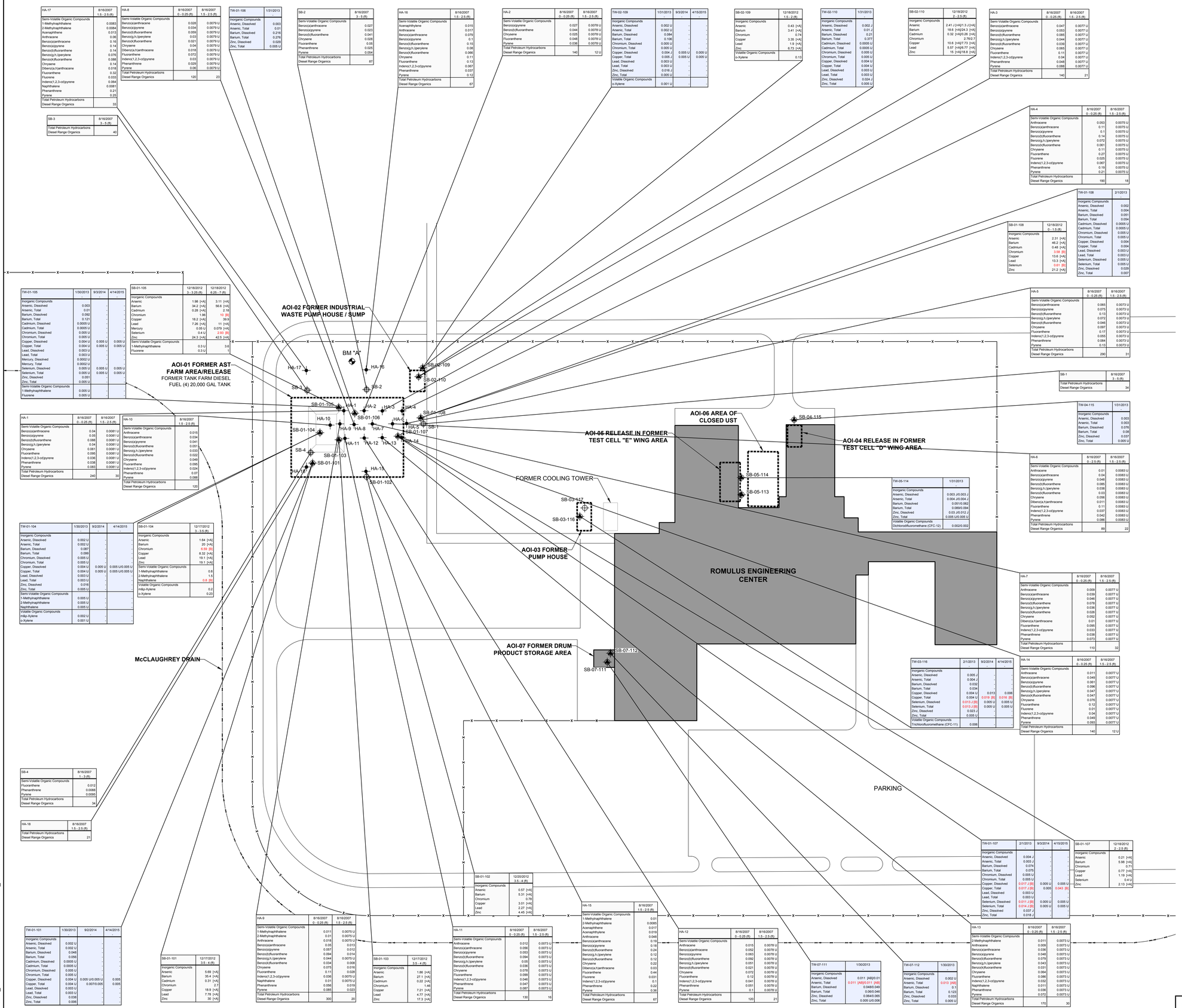
## LEGEND:

- FENCE
- McCLAUGHREY DRAIN
- BENCHMARK
- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- HISTORIC SOIL BORING LOCATION
- HISTORIC HAND AUGER SOIL BORING LOCATION

## NOTES:

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY GM POWERTRAIN.
2. THE SITE IS COMPLETELY DEMOLISHED.
3. BENCHMARK "A" ELEVATION = 664.49 (NAVD88) A TOP RAILROAD SPIKE IN NW FACE OF 22 INCH OAK. LOCATED 200± SOUTH AND 40± WEST OF THE NE FENCE CORNER AT 37350 ECORSE ROAD.
4. GROUNDWATER DATA SHOWN IN BLUE DATABOX. RESULT SHOWN IN MG/L.
   - [A] - NON-RESIDENTIAL DRINKING WATER CRITERIA
   - [B] - GROUNDWATER SURFACE WATER INTERFACE CRITERIA
   - [C] - NON-RESIDENTIAL GROUNDWATER VOLATILIZATION TO INDOOR AIR INHALATION CRITERIA
   - [D] - WATER SOLUBILITY
   - [E] -FLAMMABILITY AND EXPLOSIVITY SCREENING LEVEL
5. SOIL DATA SHOWN IN WHITE DATABOX. RESULT SHOWN IN MG/KG.
   - [<A] - LESS THAN STATEWIDE DEFAULT BACKGROUND LEVELS, NOT SCREENED FOR OTHER CRITERIA
   - [B] - GROUNDWATER SURFACE WATER INTERFACE PROTECTION CRITERIA
   - [C] - SOIL SATURATION CONCENTRATION SCREENING LEVELS
   - [D] - NON-RESIDENTIAL DRINKING WATER PROTECTION CRITERIA
   - [E] - NON-RESIDENTIAL SOIL VOLATILIZATION TO INDOOR AIR INHALATION CRITERIA
   - [F] - NON-RESIDENTIAL INFINITE SOURCE VOLATILE SOIL INHALATION CRITERIA
   - [G] - NON-RESIDENTIAL PARTICULATE SOIL INHALATION CRITERIA
   - [H] - NON-RESIDENTIAL DIRECT CONTACT CRITERIA
6. CHEMICALS SHOWN IN BOX WERE DETECTED AT THAT LOCATION IN SOIL AND/OR GROUNDWATER.
7. MICHIGAN PART 201 CRITERIA FROM 12/30/2013.
8. QUALIFIERS:
   U - NOT DETECTED ABOVE SHOWN REPORTING LIMIT
   J - ESTIMATED VALUE
9. FOR GSI CRITERIA BASED ON HARDNESS, A VALUE OF 150 MG/L WAS USED IN THE CALCULATION. THIS NUMBER IS BASED ON THE MDEQ DOCUMENT "*GROUNDWATER/SURFACE WATER INTERFACE PATHWAY COMPLIANCE OPTION*" DATED JUNE 2014. IT STATES THAT 150 MG/L MAY BE USED FOR THE SOUTHERN LOWER PENINSULA SURFACE WATER CALCULATIONS.




| HA-17 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| 1-Methylnaphthalene | | 0.0083 |
| 2-Methylnaphthalene | | 0.0084 |
| Acenaphthene | | 0.013 |
| Anthracene | | 0.06 |
| Benzo(a)anthracene | | 0.16 |
| Benzo(a)pyrene | | 0.14 |
| Benzo(b)fluoranthene | | 0.14 |
| Benzo(g,h,i)perylene | | 0.076 |
| Benzo(k)fluoranthene | | 0.088 |
| Chrysene | | 0.14 |
| Dibenz(a,h)anthracene | | 0.018 |
| Fluoranthene | | 0.32 |
| Fluorene | | 0.023 |
| Indeno(1,2,3-cd)pyrene | | 0.064 |
| Naphthalene | | 0.0081 |
| Phenanthrene | | 0.21 |
| Pyrene | | 0.25 |
| Total Petroleum Hydrocarbons Diesel Range Organics | | 33 |

| SB-3 | 8/16/2007 3 - 5 (ft) |
|---|---|
| Total Petroleum Hydrocarbons Diesel Range Organics | 40 |

| HA-8 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Benzo(a)anthracene | 0.028 | 0.0079 U |
| Benzo(a)pyrene | 0.034 | 0.0079 U |
| Benzo(b)fluoranthene | 0.059 | 0.0079 U |
| Benzo(g,h,i)perylene | 0.03 | 0.0079 U |
| Benzo(k)fluoranthene | 0.021 | 0.0079 U |
| Chrysene | 0.04 | 0.0079 U |
| Dibenz(a,h)anthracene | 0.018 | 0.0079 U |
| Fluoranthene | 0.072 | 0.0079 U |
| Indeno(1,2,3-cd)pyrene | 0.03 | 0.0079 U |
| Phenanthrene | 0.029 | 0.0079 U |
| Pyrene | 0.06 | 0.0079 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 120 | 23 |

| TW-01-106 | 1/31/2013 - |
|---|---|
| Inorganic Compounds | |
| Arsenic, Dissolved | 0.003 |
| Arsenic, Total | 0.01 |
| Barium, Dissolved | 0.216 |
| Barium, Total | 0.276 |
| Zinc, Dissolved | 0.029 |
| Zinc, Total | 0.005 U |

| SB-2 | 8/16/2007 3 - 5 (ft) |
|---|---|
| Semi-Volatile Organic Compounds | |
| Benzo(a)anthracene | 0.027 |
| Benzo(a)pyrene | 0.023 |
| Benzo(b)fluoranthene | 0.041 |
| Chrysene | 0.026 |
| Fluoranthene | 0.05 |
| Phenanthrene | 0.025 |
| Pyrene | 0.054 |
| Total Petroleum Hydrocarbons Diesel Range Organics | 87 |

| HA-16 | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|
| Semi-Volatile Organic Compounds | |
| Acenaphthylene | 0.015 |
| Anthracene | 0.017 |
| Benzo(a)anthracene | 0.079 |
| Benzo(a)pyrene | 0.1 |
| Benzo(b)fluoranthene | 0.15 |
| Benzo(g,h,i)perylene | 0.08 |
| Benzo(k)fluoranthene | 0.066 |
| Chrysene | 0.11 |
| Fluoranthene | 0.13 |
| Indeno(1,2,3-cd)pyrene | 0.067 |
| Phenanthrene | 0.037 |
| Pyrene | 0.12 |
| Total Petroleum Hydrocarbons Diesel Range Organics | 87 |

| HA-2 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Benzo(a)pyrene | 0.027 | 0.0078 U |
| Benzo(b)fluoranthene | 0.044 | 0.0078 U |
| Chrysene | 0.025 | 0.0078 U |
| Fluoranthene | 0.048 | 0.0078 U |
| Pyrene | 0.036 | 0.0078 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 140 | 12 U |

| TW-02-109 | 1/31/2013 - | 9/3/2014 - | 4/15/2015 - |
|---|---|---|---|
| Inorganic Compounds | | | |
| Arsenic, Dissolved | 0.002 U | - | - |
| Arsenic, Total | 0.002 U | - | - |
| Barium, Dissolved | 0.084 | - | - |
| Barium, Total | 0.106 | - | - |
| Chromium, Dissolved | 0.005 U | - | - |
| Chromium, Total | 0.005 U | - | - |
| Copper, Dissolved | 0.004 J | 0.005 U | 0.005 U |
| Copper, Total | 0.005 J | 0.005 U | 0.005 U |
| Lead, Dissolved | 0.003 U | - | - |
| Lead, Total | 0.003 U | - | - |
| Zinc, Dissolved | 0.016 J | - | - |
| Zinc, Total | 0.005 U | - | - |
| Volatile Organic Compounds | | | |
| o-Xylene | 0.001 U | - | - |

| SB-02-109 | 12/18/2012 1.5 - 2 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 0.43 [<A] |
| Barium | 3.41 [<A] |
| Chromium | 0.74 |
| Copper | 3.35 [<A] |
| Lead | 1.9 [<A] |
| Zinc | 6.73 [<A] |
| Volatile Organic Compounds | |
| o-Xylene | 0.13 |

| TW-02-110 | 1/31/2013 - |
|---|---|
| Inorganic Compounds | |
| Arsenic, Dissolved | 0.002 J |
| Arsenic, Total | 0.01 J |
| Barium, Dissolved | 0.21 |
| Barium, Total | 0.377 |
| Cadmium, Dissolved | 0.0005 U |
| Cadmium, Total | 0.0005 U |
| Chromium, Dissolved | 0.005 U |
| Chromium, Total | 0.005 U |
| Copper, Dissolved | 0.004 U |
| Copper, Total | 0.004 U |
| Lead, Dissolved | 0.003 U |
| Lead, Total | 0.003 U |
| Zinc, Dissolved | 0.024 J |
| Zinc, Total | 0.005 U |

| SB-02-110 | 12/18/2012 2 - 2.5 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 2.41 J [<A]1.3 J [<A] |
| Barium | 18.6 [<A]24.3 [<A] |
| Cadmium | 0.32 [<A]0.26 [<A] |
| Chromium | 2.76/2.7 |
| Copper | 10.6 [<A]7.73 [<A] |
| Lead | 5.57 [<A]6.77 [<A] |
| Zinc | 15 [<A]18.8 [<A] |

| HA-3 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Benzo(a)anthracene | 0.047 | 0.0077 U |
| Benzo(a)pyrene | 0.053 | 0.0077 U |
| Benzo(b)fluoranthene | 0.089 | 0.0077 U |
| Benzo(g,h,i)perylene | 0.044 | 0.0077 U |
| Benzo(k)fluoranthene | 0.039 | 0.0077 U |
| Chrysene | 0.065 | 0.0077 U |
| Fluoranthene | 0.11 | 0.0077 U |
| Indeno(1,2,3-cd)pyrene | 0.04 | 0.0077 U |
| Phenanthrene | 0.043 | 0.0077 U |
| Pyrene | 0.088 | 0.0077 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 140 | 21 |

| HA-4 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Anthracene | 0.053 | 0.0075 U |
| Benzo(a)anthracene | 0.11 | 0.0075 U |
| Benzo(a)pyrene | 0.1 | 0.0075 U |
| Benzo(b)fluoranthene | 0.14 | 0.0075 U |
| Benzo(g,h,i)perylene | 0.072 | 0.0075 U |
| Benzo(k)fluoranthene | 0.061 | 0.0075 U |
| Chrysene | 0.11 | 0.0075 U |
| Fluoranthene | 0.27 | 0.0075 U |
| Fluorene | 0.025 | 0.0075 U |
| Indeno(1,2,3-cd)pyrene | 0.067 | 0.0075 U |
| Phenanthrene | 0.19 | 0.0075 U |
| Pyrene | 0.21 | 0.0075 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 190 | 18 |

| SB-01-108 | 12/18/2012 0 - 1.5 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 2.31 [<A] |
| Barium | 46.2 [<A] |
| Cadmium | 0.46 [<A] |
| Chromium | 5.98 [B] |
| Copper | 13.6 [<A] |
| Lead | 13.3 [<A] |
| Selenium | 0.61 [B] |
| Zinc | 21.2 [<A] |

| TW-01-108 | 2/1/2013 - |
|---|---|
| Inorganic Compounds | |
| Arsenic, Dissolved | 0.002 |
| Arsenic, Total | 0.004 |
| Barium, Dissolved | 0.051 |
| Barium, Total | 0.054 |
| Cadmium, Dissolved | 0.0005 U |
| Cadmium, Total | 0.0005 U |
| Chromium, Dissolved | 0.005 U |
| Chromium, Total | 0.005 U |
| Copper, Dissolved | 0.004 |
| Copper, Total | 0.004 |
| Lead, Dissolved | 0.003 U |
| Lead, Total | 0.003 U |
| Selenium, Dissolved | 0.005 U |
| Selenium, Total | 0.005 U |
| Zinc, Dissolved | 0.029 |
| Zinc, Total | 0.007 |

| HA-5 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Benzo(a)anthracene | 0.065 | 0.0073 U |
| Benzo(a)pyrene | 0.075 | 0.0073 U |
| Benzo(b)fluoranthene | 0.13 | 0.0073 U |
| Benzo(g,h,i)perylene | 0.072 | 0.0073 U |
| Benzo(k)fluoranthene | 0.046 | 0.0073 U |
| Chrysene | 0.097 | 0.0073 U |
| Fluoranthene | 0.17 | 0.0073 U |
| Indeno(1,2,3-cd)pyrene | 0.055 | 0.0073 U |
| Phenanthrene | 0.084 | 0.0073 U |
| Pyrene | 0.13 | 0.0073 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 290 | 31 |

| SB-1 | 8/16/2007 3 - 5 (ft) |
|---|---|
| Total Petroleum Hydrocarbons Diesel Range Organics | 34 |

| TW-04-115 | 1/31/2013 - |
|---|---|
| Inorganic Compounds | |
| Arsenic, Dissolved | 0.003 |
| Arsenic, Total | 0.002 |
| Barium, Dissolved | 0.076 |
| Barium, Total | 0.08 |
| Zinc, Dissolved | 0.007 |
| Zinc, Total | 0.005 U |

| HA-6 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Anthracene | 0.01 | 0.0083 U |
| Benzo(a)anthracene | 0.04 | 0.0083 U |
| Benzo(a)pyrene | 0.048 | 0.0083 U |
| Benzo(b)fluoranthene | 0.085 | 0.0083 U |
| Benzo(g,h,i)perylene | 0.038 | 0.0083 U |
| Benzo(k)fluoranthene | 0.03 | 0.0083 U |
| Chrysene | 0.056 | 0.0083 U |
| Dibenz(a,h)anthracene | 0.011 | 0.0083 U |
| Fluoranthene | 0.11 | 0.0083 U |
| Indeno(1,2,3-cd)pyrene | 0.037 | 0.0083 U |
| Phenanthrene | 0.042 | 0.0083 U |
| Pyrene | 0.086 | 0.0083 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 89 | 22 |

| HA-7 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Anthracene | 0.009 | 0.0077 U |
| Benzo(a)anthracene | 0.039 | 0.0077 U |
| Benzo(a)pyrene | 0.046 | 0.0077 U |
| Benzo(b)fluoranthene | 0.079 | 0.0077 U |
| Benzo(g,h,i)perylene | 0.036 | 0.0077 U |
| Benzo(k)fluoranthene | 0.026 | 0.0077 U |
| Chrysene | 0.052 | 0.0077 U |
| Dibenz(a,h)anthracene | 0.01 | 0.0077 U |
| Fluoranthene | 0.095 | 0.0077 U |
| Indeno(1,2,3-cd)pyrene | 0.033 | 0.0077 U |
| Phenanthrene | 0.038 | 0.0077 U |
| Pyrene | 0.073 | 0.0077 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 110 | 32 |

| HA-14 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Anthracene | 0.011 | 0.0077 U |
| Benzo(a)anthracene | 0.049 | 0.0077 U |
| Benzo(a)pyrene | 0.061 | 0.0077 U |
| Benzo(b)fluoranthene | 0.096 | 0.0077 U |
| Benzo(g,h,i)perylene | 0.047 | 0.0077 U |
| Benzo(k)fluoranthene | 0.047 | 0.0077 U |
| Chrysene | 0.078 | 0.0077 U |
| Fluoranthene | 0.12 | 0.0077 U |
| Fluorene | 0.01 | 0.0077 U |
| Indeno(1,2,3-cd)pyrene | 0.04 | 0.0077 U |
| Phenanthrene | 0.049 | 0.0077 U |
| Pyrene | 0.093 | 0.0077 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 140 | 12 U |

| TW-03-116 | 2/1/2013 - | 9/2/2014 - | 4/14/2015 - |
|---|---|---|---|
| Inorganic Compounds | | | |
| Arsenic, Dissolved | 0.005 J | - | - |
| Arsenic, Total | 0.004 J | - | - |
| Barium, Dissolved | 0.032 | - | - |
| Barium, Total | 0.034 | - | - |
| Copper, Dissolved | 0.004 U | 0.013 | 0.006 |
| Copper, Total | 0.004 U | 0.016 [B] | 0.016 [B] |
| Selenium, Dissolved | 0.013 J [B] | 0.005 U | 0.005 U |
| Selenium, Total | 0.013 J [B] | 0.005 U | 0.005 U |
| Zinc, Dissolved | 0.023 J | - | - |
| Zinc, Total | 0.005 U | - | - |
| Volatile Organic Compounds | | | |
| Trichlorofluoromethane (CFC-11) | 0.006 | - | - |

| TW-01-105 | 1/30/2013 - | 9/3/2014 - | 4/14/2015 - |
|---|---|---|---|
| Inorganic Compounds | | | |
| Arsenic, Dissolved | 0.003 | - | - |
| Arsenic, Total | 0.01 | - | - |
| Barium, Dissolved | 0.092 | - | - |
| Barium, Total | 0.121 | - | - |
| Cadmium, Dissolved | 0.0005 U | - | - |
| Cadmium, Total | 0.0005 U | - | - |
| Chromium, Dissolved | 0.005 U | - | - |
| Chromium, Total | 0.005 U | - | - |
| Copper, Dissolved | 0.004 U | 0.005 U | 0.005 U |
| Copper, Total | 0.004 U | 0.005 U | 0.005 U |
| Lead, Dissolved | 0.003 U | - | - |
| Lead, Total | 0.003 U | - | - |
| Mercury, Dissolved | 0.0002 U | - | - |
| Mercury, Total | 0.0002 U | - | - |
| Selenium, Dissolved | 0.005 U | 0.005 U | 0.005 U |
| Selenium, Total | 0.005 U | 0.005 U | 0.005 U |
| Zinc, Dissolved | 0.051 | - | - |
| Zinc, Total | 0.005 U | - | - |
| Semi-Volatile Organic Compounds | | | |
| 1-Methylnaphthalene | 0.005 U | - | - |
| Fluorene | 0.005 U | - | - |

| SB-01-105 | 12/18/2012 3 - 3.25 (ft) | 12/18/2012 6.25 - 7 (ft) |
|---|---|---|
| Inorganic Compounds | | |
| Arsenic | 1.98 [<A] | 3.11 [<A] |
| Barium | 34.2 [<A] | 56.6 [<A] |
| Cadmium | 0.28 [<A] | 2.38 |
| Chromium | 1.96 | 10 [B] |
| Copper | 18.2 [<A] | 39.9 |
| Lead | 7.26 [<A] | 11 [<A] |
| Mercury | 0.05 U | 0.079 [<A] |
| Selenium | 0.4 U | 2.93 [B] |
| Zinc | 24.3 [<A] | 42.5 [<A] |
| Semi-Volatile Organic Compounds | | |
| 1-Methylnaphthalene | 0.3 U | 3.6 |
| Fluorene | 0.3 U | 1 |

| HA-1 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Benzo(a)anthracene | 0.04 | 0.0081 U |
| Benzo(a)pyrene | 0.05 | 0.0081 U |
| Benzo(b)fluoranthene | 0.068 | 0.0081 U |
| Benzo(g,h,i)perylene | 0.04 | 0.0081 U |
| Chrysene | 0.061 | 0.0081 U |
| Fluoranthene | 0.095 | 0.0081 U |
| Indeno(1,2,3-cd)pyrene | 0.036 | 0.0081 U |
| Phenanthrene | 0.038 | 0.0081 U |
| Pyrene | 0.083 | 0.0081 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 240 | 30 |

| HA-10 | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|
| Semi-Volatile Organic Compounds | |
| Anthracene | 0.015 |
| Benzo(a)anthracene | 0.034 |
| Benzo(a)pyrene | 0.041 |
| Benzo(b)fluoranthene | 0.051 |
| Benzo(g,h,i)perylene | 0.033 |
| Benzo(k)fluoranthene | 0.022 |
| Chrysene | 0.049 |
| Fluoranthene | 0.056 |
| Indeno(1,2,3-cd)pyrene | 0.024 |
| Phenanthrene | 0.07 |
| Pyrene | 0.088 |
| Total Petroleum Hydrocarbons Diesel Range Organics | 120 |

| TW-01-104 | 1/30/2013 - | 9/2/2014 - | 4/14/2015 - |
|---|---|---|---|
| Inorganic Compounds | | | |
| Arsenic, Dissolved | 0.002 U | - | - |
| Arsenic, Total | 0.002 U | - | - |
| Barium, Dissolved | 0.087 | - | - |
| Barium, Total | 0.099 | - | - |
| Chromium, Dissolved | 0.005 U | - | - |
| Chromium, Total | 0.005 U | - | - |
| Copper, Dissolved | 0.004 U | 0.005 U | 0.005 U/0.005 U |
| Copper, Total | 0.004 U | 0.005 U | 0.005 U/0.005 U |
| Lead, Dissolved | 0.003 U | - | - |
| Lead, Total | 0.003 U | - | - |
| Zinc, Dissolved | 0.016 | - | - |
| Zinc, Total | 0.005 U | - | - |
| Semi-Volatile Organic Compounds | | | |
| 1-Methylnaphthalene | 0.005 U | - | - |
| 2-Methylnaphthalene | 0.005 U | - | - |
| Naphthalene | 0.005 U | - | - |
| Volatile Organic Compounds | | | |
| m&p-Xylene | 0.002 U | - | - |
| o-Xylene | 0.001 U | - | - |

| SB-01-104 | 12/17/2012 3 - 3.5 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 1.64 [<A] |
| Barium | 20 [<A] |
| Chromium | 6.59 [B] |
| Copper | 8.32 [<A] |
| Lead | 19.1 [<A] |
| Zinc | 19.1 [<A] |
| Semi-Volatile Organic Compounds | |
| 1-Methylnaphthalene | 0.8 |
| 2-Methylnaphthalene | 1.5 |
| Naphthalene | 0.8 [B] |
| Volatile Organic Compounds | |
| m&p-Xylene | 0.2 |
| o-Xylene | 0.23 |

| SB-4 | 8/16/2007 1 - 3 (ft) |
|---|---|
| Semi-Volatile Organic Compounds | |
| Fluoranthene | 0.012 |
| Phenanthrene | 0.0088 |
| Pyrene | 0.0095 |
| Total Petroleum Hydrocarbons Diesel Range Organics | 34 |

| HA-18 | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|
| Total Petroleum Hydrocarbons Diesel Range Organics | 21 |

| SB-01-102 | 12/20/2012 3.5 - 4 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 0.57 [<A] |
| Barium | 5.31 [<A] |
| Chromium | 0.79 |
| Copper | 3.01 [<A] |
| Lead | 2.27 [<A] |
| Zinc | 4.45 [<A] |

| HA-9 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| 1-Methylnaphthalene | 0.011 | 0.0075 U |
| 2-Methylnaphthalene | 0.01 | 0.0075 U |
| Anthracene | 0.018 | 0.0075 U |
| Benzo(a)anthracene | 0.05 | 0.013 |
| Benzo(a)pyrene | 0.057 | 0.012 |
| Benzo(b)fluoranthene | 0.094 | 0.014 |
| Benzo(g,h,i)perylene | 0.044 | 0.0075 U |
| Benzo(k)fluoranthene | 0.034 | 0.008 |
| Chrysene | 0.075 | 0.016 |
| Fluoranthene | 0.11 | 0.028 |
| Indeno(1,2,3-cd)pyrene | 0.038 | 0.0075 U |
| Naphthalene | 0.01 | 0.0075 U |
| Phenanthrene | 0.056 | 0.019 |
| Pyrene | 0.085 | 0.023 |
| Total Petroleum Hydrocarbons Diesel Range Organics | 300 | 20 |

| HA-11 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Anthracene | 0.012 | 0.0073 U |
| Benzo(a)anthracene | 0.056 | 0.0073 U |
| Benzo(a)pyrene | 0.053 | 0.0073 U |
| Benzo(b)fluoranthene | 0.094 | 0.0073 U |
| Benzo(g,h,i)perylene | 0.05 | 0.0073 U |
| Benzo(k)fluoranthene | 0.036 | 0.0073 U |
| Chrysene | 0.078 | 0.0073 U |
| Fluoranthene | 0.099 | 0.0073 U |
| Indeno(1,2,3-cd)pyrene | 0.046 | 0.0073 U |
| Phenanthrene | 0.047 | 0.0073 U |
| Pyrene | 0.087 | 0.0073 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 130 | 16 |

| HA-15 | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|
| Semi-Volatile Organic Compounds | |
| 1-Methylnaphthalene | 0.01 |
| 2-Methylnaphthalene | 0.0085 |
| Acenaphthene | 0.017 |
| Acenaphthylene | 0.019 |
| Anthracene | 0.046 |
| Benzo(a)anthracene | 0.19 |
| Benzo(a)pyrene | 0.18 |
| Benzo(b)fluoranthene | 0.24 |
| Benzo(g,h,i)perylene | 0.12 |
| Benzo(k)fluoranthene | 0.12 |
| Chrysene | 0.22 |
| Dibenz(a,h)anthracene | 0.03 |
| Fluoranthene | 0.44 |
| Fluorene | 0.031 |
| Indeno(1,2,3-cd)pyrene | 0.1 |
| Phenanthrene | 0.22 |
| Pyrene | 0.36 |
| Total Petroleum Hydrocarbons Diesel Range Organics | 67 |

| HA-12 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| Anthracene | 0.015 | 0.0078 U |
| Benzo(a)anthracene | 0.052 | 0.0078 U |
| Benzo(a)pyrene | 0.063 | 0.0078 U |
| Benzo(b)fluoranthene | 0.092 | 0.0078 U |
| Benzo(g,h,i)perylene | 0.051 | 0.0078 U |
| Benzo(k)fluoranthene | 0.021 | 0.0078 U |
| Chrysene | 0.072 | 0.0078 U |
| Fluoranthene | 0.12 | 0.0078 U |
| Indeno(1,2,3-cd)pyrene | 0.041 | 0.0078 U |
| Phenanthrene | 0.051 | 0.0078 U |
| Pyrene | 0.1 | 0.0078 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 120 | 21 |

| SB-01-103 | 12/17/2012 3.5 - 4 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 1.86 [<A] |
| Barium | 27.1 [<A] |
| Cadmium | 0.22 [<A] |
| Chromium | 1.45 |
| Copper | 7.21 [<A] |
| Lead | 4.77 [<A] |
| Zinc | 17.3 [<A] |

| SB-01-101 | 12/17/2012 3.5 - 4 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 5.69 [<A] |
| Barium | 35.4 [<A] |
| Cadmium | 0.31 [<A] |
| Chromium | 2.7 |
| Copper | 18.9 [<A] |
| Lead | 7.78 [<A] |
| Zinc | 30 [<A] |

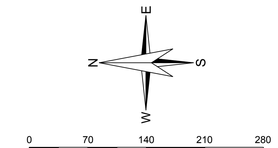
| TW-07-111 | 1/30/2013 - |
|---|---|
| Inorganic Compounds | |
| Arsenic, Dissolved | 0.011 [A][0.01 |
| Arsenic, Total | 0.011 [A][0.011 [A][0. |
| Barium, Dissolved | 0.0495 [A] |
| Barium, Total | 0.0613 [A] |
| Zinc, Dissolved | 0.0640 [A] |
| Zinc, Total | 0.005 U/0.006 |

| TW-07-112 | 1/30/2013 - |
|---|---|
| Inorganic Compounds | |
| Arsenic, Dissolved | 0.002 U |
| Arsenic, Total | 0.013 [A][0. |
| Barium, Dissolved | 0.1 |
| Barium, Total | 0.123 |
| Zinc, Dissolved | 0.033 |
| Zinc, Total | 0.005 U |

| TW-01-107 | 2/1/2013 - | 9/3/2014 - | 4/15/2015 - |
|---|---|---|---|
| Inorganic Compounds | | | |
| Arsenic, Dissolved | 0.004 J | - | - |
| Arsenic, Total | 0.003 J | - | - |
| Barium, Dissolved | 0.074 | - | - |
| Barium, Total | 0.075 | - | - |
| Chromium, Dissolved | 0.005 U | - | - |
| Chromium, Total | 0.005 U | - | - |
| Copper, Dissolved | 0.017 J [B] | 0.005 U | 0.005 U |
| Copper, Total | 0.017 J [B] | 0.005 | 0.043 [B] |
| Lead, Dissolved | 0.003 U | - | - |
| Lead, Total | 0.003 U | - | - |
| Selenium, Dissolved | 0.011 J [B] | 0.005 U | 0.005 U |
| Selenium, Total | 0.014 J [B] | 0.005 U | 0.005 U |
| Zinc, Dissolved | 0.037 J | - | - |
| Zinc, Total | 0.018 J | - | - |

| SB-01-107 | 12/18/2012 2 - 2.5 (ft) |
|---|---|
| Inorganic Compounds | |
| Arsenic | 0.21 [<A] |
| Barium | 5.98 [<A] |
| Chromium | 0.71 |
| Copper | 0.77 [<A] |
| Lead | 1.19 [<A] |
| Selenium | 0.4 U |
| Zinc | 2.13 [<A] |

| HA-13 | 8/16/2007 0 - 0.25 (ft) | 8/16/2007 1.5 - 2.5 (ft) |
|---|---|---|
| Semi-Volatile Organic Compounds | | |
| 2-Methylnaphthalene | 0.011 | 0.0073 U |
| Anthracene | 0.009 | 0.0073 U |
| Benzo(a)anthracene | 0.036 | 0.0073 U |
| Benzo(a)pyrene | 0.048 | 0.0073 U |
| Benzo(b)fluoranthene | 0.079 | 0.0073 U |
| Benzo(g,h,i)perylene | 0.043 | 0.0073 U |
| Benzo(k)fluoranthene | 0.031 | 0.0073 U |
| Chrysene | 0.064 | 0.0073 U |
| Fluoranthene | 0.086 | 0.0073 U |
| Indeno(1,2,3-cd)pyrene | 0.032 | 0.0073 U |
| Naphthalene | 0.011 | 0.0073 U |
| Phenanthrene | 0.036 | 0.0073 U |
| Pyrene | 0.072 | 0.0073 U |
| Total Petroleum Hydrocarbons Diesel Range Organics | 170 | 30 |




HALEY ALDRICH

FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECORSE ROAD
ROMULUS, MICHIGAN

DRAFT

# SOIL AND GROUNDWATER ANALYTICAL DATA

SCALE: AS SHOWN
MAY 2015

FIGURE 7

G:\37515-ROMULUS_THRU 10-18-2011_DTR AFTER\GLOBAL\CAD\37515-005_DATABOXES-R4.DWG

**TABLE I**
**SUMMARY OF PART 201 SCREENING CRITERIA FOR SOIL**
**RACER FORMER ROMULUS ENGINEERING CENTER**
**ROMULUS, MI**

| chemical_name | Statewide Default Background Level Numbers | Groundwater Surface Water Interface (GSI) Protection Criteria | Soil Saturation Concentration Screening Level | Nonresidential Drinking Water Protection (DWP) Criteria | Soil Volatilization to Indoor Air Inhalation Criteria | Infinite Source Volatile Soil Inhalation Criteria (VSIC) | Particulate Soil Inhalation Criteria | Soil Direct Contact Criteria |
|---|---|---|---|---|---|---|---|---|
| **Inorganic Compounds (mg/kg)** | | | | | | | | |
| Arsenic | 5.8 | 4.6 | - | 4.6 | - | - | 910 | 37 |
| Barium | 75 | 440 | - | 1300 | - | - | 150000 | 130000 |
| Cadmium | 1.2 | 3 | - | 6 | - | - | 2200 | 2100 |
| Chromium | - | 3.3 | - | 30 | - | - | 240 | 9200 |
| Copper | 32 | 73 | - | 5800 | - | - | 59000 | 73000 |
| Lead | 21 | 2500 | - | 700 | - | - | 44000 | 900 |
| Mercury | 0.13 | 0.0012 | - | 1.7 | 89 | 62 | 8800 | 580 |
| Selenium | 0.41 | 0.4 | - | 4 | - | - | 59000 | 9600 |
| Zinc | 47 | 170 | - | 5000 | - | - | - | 630000 |
| **Semi-Volatile Organic Compounds (mg/kg)** | | | | | | | | |
| 1-Methylnaphthalene | - | 4.2 | - | 170 | 4900 | 1800 | 290000 | 26000 |
| 2-Methylnaphthalene | - | 4.2 | - | 170 | 4900 | 1800 | 290000 | 26000 |
| Acenaphthene | - | 8.7 | - | 880 | 350000 | 97000 | 6200000 | 130000 |
| Acenaphthylene | - | - | - | 17 | 3000 | 2700 | 1000000 | 5200 |
| Anthracene | - | - | - | 41 | 1000000 | 1600000 | 29000000 | 730000 |
| Benzo(a)anthracene | - | - | - | - | - | - | - | 80 |
| Benzo(a)pyrene | - | - | - | - | - | - | 1900 | 8 |
| Benzo(b)fluoranthene | - | - | - | - | - | - | - | 80 |
| Benzo(g,h,i)perylene | - | - | - | - | - | - | 350000 | 7000 |
| Benzo(k)fluoranthene | - | - | - | - | - | - | - | 800 |
| Chrysene | - | - | - | - | - | - | - | 8000 |
| Dibenz(a,h)anthracene | - | - | - | - | - | - | - | 8 |
| Fluoranthene | - | 5.5 | - | 730 | 1000000 | 890000 | 4100000 | 130000 |
| Fluorene | - | 5.3 | - | 890 | 1000000 | 150000 | 4100000 | 87000 |
| Indeno(1,2,3-cd)pyrene | - | - | - | - | - | - | - | 80 |
| Naphthalene | - | 0.73 | - | 100 | 470 | 350 | 88000 | 52000 |
| Phenanthrene | - | 2.1 | - | 160 | 5100 | 190 | 2900 | 5200 |
| Pyrene | - | - | - | 480 | 1000000 | 780000 | 2900000 | 84000 |
| **Total Petroleum Hydrocarbons (mg/kg)** | | | | | | | | |
| Diesel Range Organics | - | - | - | - | - | - | - | - |
| **Volatile Organic Compounds (mg/kg)** | | | | | | | | |
| m&p-Xylene | - | 0.82 | 150 | 5.6 | 12000 | 54000 | 130000000 | 1000000 |
| o-Xylene | - | 0.82 | 150 | 5.6 | 12000 | 54000 | 130000000 | 1000000 |

**Notes and Abbreviations:**
1. The table shows detected compounds in soil.
2. The following surrogates are used for analytes that did not have published screening criteria:
   - Total Xylene is used for m&p-Xylene and o-Xylene
   - 2-Methylnaphthalene is used for 1-Methylnaphthalene
   - Chromium (VI) is used for Total Chromium
3. Michigan Part 201 Generic Cleanup Criteria, dated 12/30/2013.

**TABLE II**
**SUMMARY OF PART 201 SCREENING CRITERIA FOR GROUNDWATER**
**RACER FORMER ROMULUS ENGINEERING CENTER**
**ROMULUS, MI**

| chemical_name | Non-Residential Drinking Water Criteria | Groundwater Surface Water Interface (GSI) Criteria | Nonresidential Groundwater Volatilization to Indoor Air Inhalation | Water Solubility Criteria | Flammability and Explosivity Screening Levels |
|---|---|---|---|---|---|
| **Inorganic Compounds (mg/L)** | | | | | |
| Arsenic | 0.01 | 0.01 | - | - | - |
| Arsenic, dissolved | 0.01 | 0.01 | - | - | - |
| Barium | 2 | 0.67 | - | - | - |
| Barium, dissloved | 2 | 0.67 | - | - | - |
| Copper | 1 | 0.013 | - | - | - |
| Copper, dissolved | 1 | 0.013 | - | - | - |
| Selenium | 0.05 | 0.005 | - | - | - |
| Selenium, dissolved | 0.05 | 0.005 | - | - | - |
| Zinc | 5 | 0.17 | - | - | - |
| Zinc, dissolved | 5 | 0.17 | - | - | - |
| **Volatile Organic Compounds (mg/L)** | | | | | |
| Dichlorodifluoromethane (CFC-12) | 4.8 | - | 300 | 300 | - |
| Trichlorofluoromethane (CFC-11) | 7.3 | - | 1100 | 1100 | - |

**Notes and Abbreviations:**
1. The table shows detected compounds in groundwater.
2. Michigan Part 201 Generic Cleanup Criteria, dated 12/30/2013.

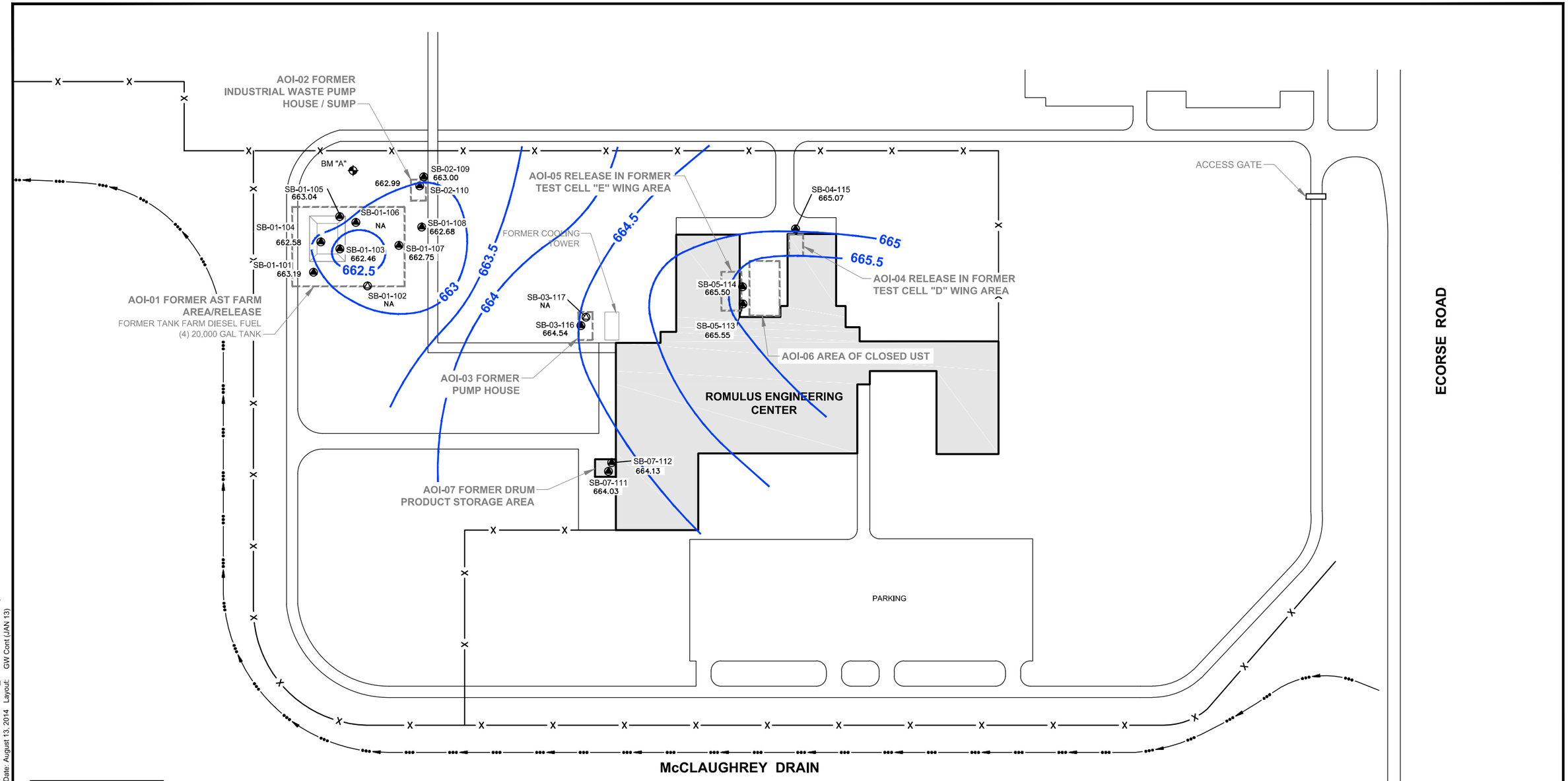
**TABLE III (Updated April 2, 2015)**
TEMPORARY MONITORING WELL INVENTORY AND COMPLETION SUMMARY
RACER FORMER ROMULUS ENGINEERING CENTER
ROMULUS, MICHIGAN

**DRAFT**

| Well ID | AOI Location | Date Installed | Approximate Location | | Ground Elevation (ft. AMSL) | Top of Riser Elevation (ft. AMSL) | Well Diameter (in.) | Depth of Well from ground surface (ft.) | Screened Interval (ft BGS) | Screen Elevation (ft. AMSL) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Northing | Easting | | | | | | |
| 01-101 | AOI-01 | 12/17/2012 | 277830.45 | 13382927.68 | 664.61 | 666.46 | 1.5 | 8 | 3-8 | 661.61 - 665.61 |
| 01-103 | AOI-01 | 12/18/2012 | 277779.47 | 13382976.34 | 663.98 | 665.58 | 1.5 | 10 | 5-10 | 658.98 - 653.98 |
| 01-104 | AOI-01 | 12/17/2012 | 277817.94 | 13382989.27 | 665.05 | 666.01 | 1.5 | 14 | 9-14 | 656.05 - 651.05 |
| 01-105 | AOI-01 | 12/18/2012 | 277782.11 | 13383041.15 | 665.16 | 665.71 | 1.5 | 10 | 5-10 | 660.16 - 655.16 |
| 01-106 | AOI-01 | 12/18/2012 | 277749.46 | 13383030.55 | 661.09 | 664.12 | 1.5 | 13 | 3-13 | 658.09 - 648.09 |
| 01-107 | AOI-01 | 12/20/2012 | 277661.69 | 13382987.52 | 662.91 | 665.77 | 1.5 | 7 | 2-7 | 660.91 - 655.91 |
| 01-108 | AOI-01 | 12/20/2012 | 277617.38 | 13383025.68 | 662.01 | 664.94 | 1.5 | 7 | 2-7 | 660.01 - 655.01 |
| 02-109 | AOI-02 | 12/18/2012 | 277616.85 | 13383125.95 | 665.20 | 666.95 | 1.5 | 13 | 3-13 | 662.20 - 652.20 |
| 02-110 | AOI-02 | 12/18/2012 | 277624.32 | 13383107.85 | 664.81 | 666.44 | 1.5 | 9 | 4-9 | 660.81 - 655.81 |
| 07-111 | AOI-07 | 12/18/2012 | 277227.83 | 13382549.99 | 664.82 | 665.68 | 1.5 | 9 | 4-9 | 660.82 - 655.82 |
| 07-112 | AOI-07 | 12/18/2012 | 277222.09 | 13382567.78 | 664.56 | 665.91 | 1.5 | 8.5 | 3.5-8.5 | 661.06 - 656.06 |
| 05-113 | AOI-05 | 12/19/2012 | 276970.49 | 13382893.70 | 665.50 | 667.36 | 1.5 | 8 | 3-8 | 662.50 - 657.50 |
| 05-114 | AOI-05 | 12/19/2012 | 276972.49 | 13382927.88 | 665.53 | 668.56 | 1.5 | 7 | 2-7 | 663.53 - 658.53 |
| 04-115 | AOI-04 | 12/19/2012 | 276870.59 | 13383047.21 | 665.41 | 666.57 | 1.5 | 9 | 4-9 | 661.41 - 656.41 |
| 03-116 | AOI-03 | 12/19/2012 | 277292.61 | 13382839.32 | 665.46 | 668.15 | 1.5 | 10 | 5-10 | 660.46 - 655.46 |

| Date of GW Level Monitoring | 1/30/2013 | | | 7/25/2013 | | | 10/3/2013 | | | 4/15/2014 | | | 7/17/2014 | | | 9/2/2014 | | | 4/14/2015 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Well ID | Measured Depth to Bottom from TOR (ft.) | Depth to Water (ft. below TOR) | GW Elevation (ft. AMSL) | Measured Depth to Bottom from TOR (ft.) | Depth to Water (ft. below TOR) | GW Elevation (ft. AMSL) | Measured Depth to Bottom from TOR (ft.) | Depth to Water (ft. below TOR) | GW Elevation (ft. AMSL) | Measured Depth to Bottom from TOR (ft.) | Depth to Water (ft. below TOR) | GW Elevation (ft. AMSL) | Measured Depth to Bottom from TOR | Depth to Water (ft below TOR) | GW Elevation (ft. AMSL) | Measured Depth to Bottom from TOR | Depth to Water (ft below TOR) | GW Elevation (ft. AMSL) | Measured Depth to Bottom from TOR | Depth to Water (ft below TOR) | GW Elevation (ft. AMSL) |
| 01-101 | 10.03 | 3.27 | 663.19 | NT | 4.55 | 661.91 | 10.05 | 6.75 | 659.71 | 10.05 | 3.08 | 663.38 | 10.05 | 6.21 | 660.25 | 10.05 | 6.09 | 660.37 | 10.05 | 3.10 | 663.36 |
| 01-103 | 11.55 | 3.12 | 662.46 | NT | 2.20 | 663.38 | 11.60 | 3.23 | 662.35 | 11.60 | 1.93 | 663.65 | 11.60 | 2.63 | 662.95 | 11.60 | 2.54 | 663.04 | 11.60 | 2.10 | 663.48 |
| 01-104 | 15.03 | 3.43 | 662.58 | NT | 2.90 | 663.11 | 15.08 | 4.02 | 661.99 | 15.05 | 2.55 | 663.46 | 15.05 | 3.46 | 662.55 | 15.05 | 3.17 | 662.84 | 15.05 | 2.60 | 663.41 |
| 01-105 | 10.30 | 2.67 | 663.04 | NT | 2.40 | 663.31 | 10.05 | 2.72 | 662.99 | 10.04 | 2.34 | 663.37 | 10.04 | 2.61 | 663.10 | 10.04 | 2.43 | 663.28 | 10.04 | 2.30 | 663.41 |
| 01-106 | NT | NT | NT | NT | 1.41 | 662.71 | 16.65 | 0.95 | 663.17 | 16.60 | 0.68 | 663.44 | 16.60 | 0.83 | 663.29 | 16.60 | 0.75 | 663.37 | 16.60 | 0.65 | 663.47 |
| 01-107 | 10.03 | 3.02 | 662.75 | NT | 2.40 | 663.37 | 10.05 | 2.62 | 663.15 | 10.04 | 2.32 | 663.45 | 10.04 | 2.5 | 663.27 | 10.04 | 2.42 | 663.35 | 10.04 | 2.25 | 663.52 |
| 01-108 | 10.30 | 2.26 | 662.68 | NT | 1.55 | 663.39 | 10.03 | 1.76 | 663.18 | 10.00 | 1.48 | 663.46 | 10.00 | 1.66 | 663.28 | 10.00 | 1.58 | 663.36 | 10.00 | 1.36 | 663.58 |
| 02-109 | 15.03 | 3.95 | 663.00 | NT | 4.02 | 662.93 | 15.05 | 4.65 | 662.30 | 15.05 | 3.85 | 663.10 | 15.05 | 4.46 | 662.49 | 15.05 | 4.10 | 662.85 | 15.05 | 3.85 | 663.10 |
| 02-110 | 10.02 | 3.45 | 662.99 | NT | 3.18 | 663.26 | 10.05 | 3.48 | 662.96 | 10.03 | 3.15 | 663.29 | 10.03 | 3.39 | 663.05 | 10.03 | 3.20 | 663.24 | 10.03 | 3.14 | 663.30 |
| 07-111 | 10.03 | 1.65 | 664.03 | NT | 2.10 | 663.58 | 10.05 | 2.73 | 662.95 | 10.05 | 1.81 | 663.87 | 10.05 | 2.31 | 663.37 | 10.05 | 2.00 | 663.68 | 10.05 | 1.96 | 663.72 |
| 07-112 | 10.00 | 1.78 | 664.13 | NT | 2.26 | 663.65 | 10.07 | 2.91 | 663.00 | 10.05 | 1.95 | 663.96 | 10.05 | 2.48 | 663.43 | 10.05 | 2.14 | 663.77 | 10.05 | 2.11 | 663.80 |
| 05-113 | NT | 1.81 | 665.55 | NT | 2.30 | 665.06 | 10.05 | 2.91 | 664.45 | 10.03 | 2.03 | 665.33 | 10.03 | 2.53 | 664.83 | 10.03 | 2.06 | 665.30 | 10.03 | 2.44 | 664.92 |
| 05-114 | 10.02 | 3.06 | 665.50 | NT | 3.56 | 665.00 | 10.06 | 4.15 | 664.41 | 10.05 | 3.01 | 665.55 | 10.05 | 3.75 | 664.81 | 10.05 | 3.40 | 665.16 | 10.05 | 3.70 | 664.86 |
| 04-115 | 10.30 | 1.50 | 665.07 | NT | 2.50 | 664.07 | 10.07 | 3.94 | 662.63 | 10.05 | 1.95 | 664.62 | 10.05 | 3.21 | 663.36 | 10.05 | 2.25 | 664.32 | 10.05 | 2.40 | 664.17 |
| 03-116 | 12.55 | 3.61 | 664.54 | NT | 4.22 | 663.93 | 12.60 | 4.98 | 663.17 | 12.60 | 4.13 | 664.02 | 12.60 | 4.55 | 663.60 | 12.60 | 4.14 | 664.01 | 12.60 | 4.20 | 663.95 |

**Notes:**
AMSL = Above Mean Sea Level
AOI = Area of Interest
BGS = Below Ground Surface
ft. = Feet
GW = Groundwater
in. = Inches
NT = Not Taken
TOR = Top of Riser




**DRAFT**

## LEGEND

- FENCE LINE
- McCLAUGHREY DRAIN
- TEMPORARY MONITORING WELL
- SOIL BORING
- BENCHMARK
- 665 — GROUNDWATER CONTOUR LINE
- 665.07 — GROUNDWATER ELEVATION

## NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY GM POWERTRAIN.
2. THE SITE IS COMPLETELY DEMOLISHED.
3. BENCHMARK "A" ELEVATION = 664.49 (NAVD88) A TOP RAILROAD SPIKE IN NW FACE OF 22 INCH OAK. LOCATED 200'± SOUTH AND 40'± WEST OF THE NE FENCE CORNER AT 37350 ECORSE ROAD.

N E S W

0 200 400

APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

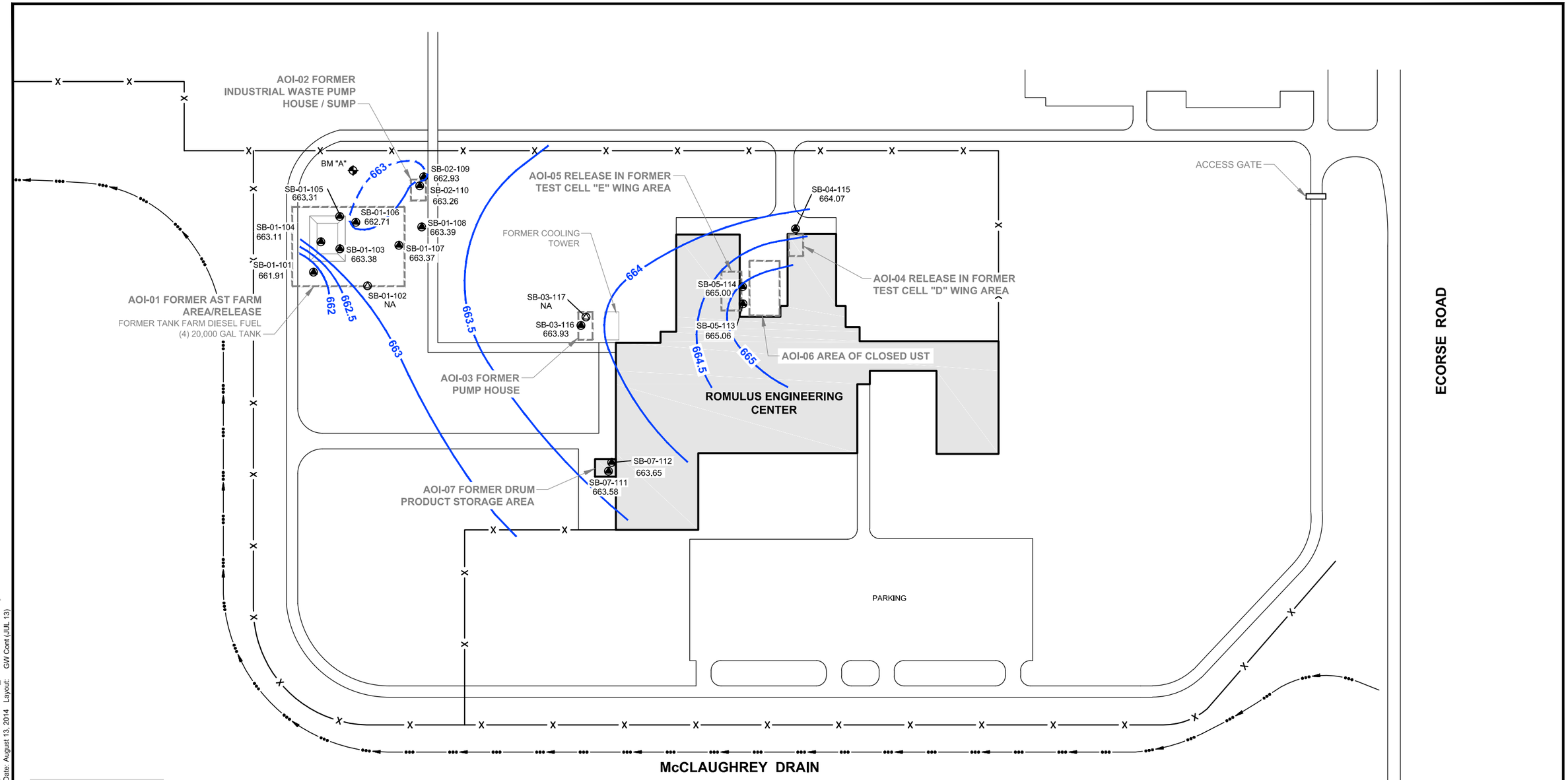
FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECORSE ROAD
ROMULUS, MICHIGAN

# SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS JANUARY 30, 2013

SCALE: AS SHOWN
AUGUST 2014

FIGURE 1

Drawing Name: G:\37515-Romulus Engineering Center\005-RFI Implementation\CAD\37515-005_08 GW CNTRS 2014.dwg
Operator Name: ROWLAND, QUA
Plot Date: August 13, 2014 Layout: GW Cont (JAN 13)




**DRAFT**

## LEGEND

- FENCE LINE
- McCLAUGHREY DRAIN
- TEMPORARY MONITORING WELL
- SOIL BORING
- BENCHMARK
- 665 — GROUNDWATER CONTOUR LINE
- 665.07 — GROUNDWATER ELEVATION

## NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY GM POWERTRAIN.
2. THE SITE IS COMPLETELY DEMOLISHED.
3. BENCHMARK "A" ELEVATION = 664.49 (NAVD88) A TOP RAILROAD SPIKE IN NW FACE OF 22 INCH OAK. LOCATED 200'± SOUTH AND 40'± WEST OF THE NE FENCE CORNER AT 37350 ECORSE ROAD.

N E S W

0 200 400

APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECORSE ROAD
ROMULUS, MICHIGAN

# SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS JULY 25, 2013

SCALE: AS SHOWN
AUGUST 2014

FIGURE 2

Drawing Name: G:\37515-Romulus Engineering Center\005-RFI Implementation\CAD\37515-005_08 GW CNTRS 2014.dwg
Operator Name: ROWLAND, QUA
Plot Date: August 13, 2014 Layout: GW Cont (JUL 13)

AOI-02 FORMER INDUSTRIAL WASTE PUMP HOUSE / SUMP

BM "A"

662.30
SB-02-109

SB-02-110
662.96

663

AOI-05 RELEASE IN FORMER TEST CELL "E" WING AREA

SB-01-105
662.99

SB-01-106
663.17

SB-01-108
663.18

SB-01-104
661.99

SB-01-103
662.35

SB-01-107
663.15

SB-01-101
659.71

SB-01-102

660
660.5
661
661.5
662
662.5

AOI-01 FORMER AST FARM AREA/RELEASE
FORMER TANK FARM DIESEL FUEL
(4) 20,000 GAL TANK

FORMER COOLING TOWER

SB-03-117

SB-03-116
663.17

AOI-03 FORMER PUMP HOUSE

663

SB-04-115
662.63

AOI-04 RELEASE IN FORMER TEST CELL "D" WING AREA

SB-05-114
664.41

SB-05-113
664.45

664

AOI-06 AREA OF CLOSED UST

663.5

ROMULUS ENGINEERING CENTER

SB-07-112
663.00

SB-07-111
662.95

AOI-07 FORMER DRUM PRODUCT STORAGE AREA

PARKING

ACCESS GATE

ECORSE ROAD

McCLAUGHREY DRAIN

DRAFT

## LEGEND

- FENCE LINE
- McCLAUGHREY DRAIN
- TEMPORARY MONITORING WELL
- SOIL BORING
- BENCHMARK
- 662.5 — GROUNDWATER CONTOUR LINE
- 662.95 — GROUNDWATER ELEVATION

## NOTES

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY GM POWERTRAIN.
2. THE SITE IS COMPLETELY DEMOLISHED.
3. BENCHMARK "A" ELEVATION = 664.49 (NAVD88) A TOP RAILROAD SPIKE IN NW FACE OF 22 INCH OAK. LOCATED 200'± SOUTH AND 40'± WEST OF THE NE FENCE CORNER AT 37350 ECORSE ROAD.

E N S W

0 200 400

APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

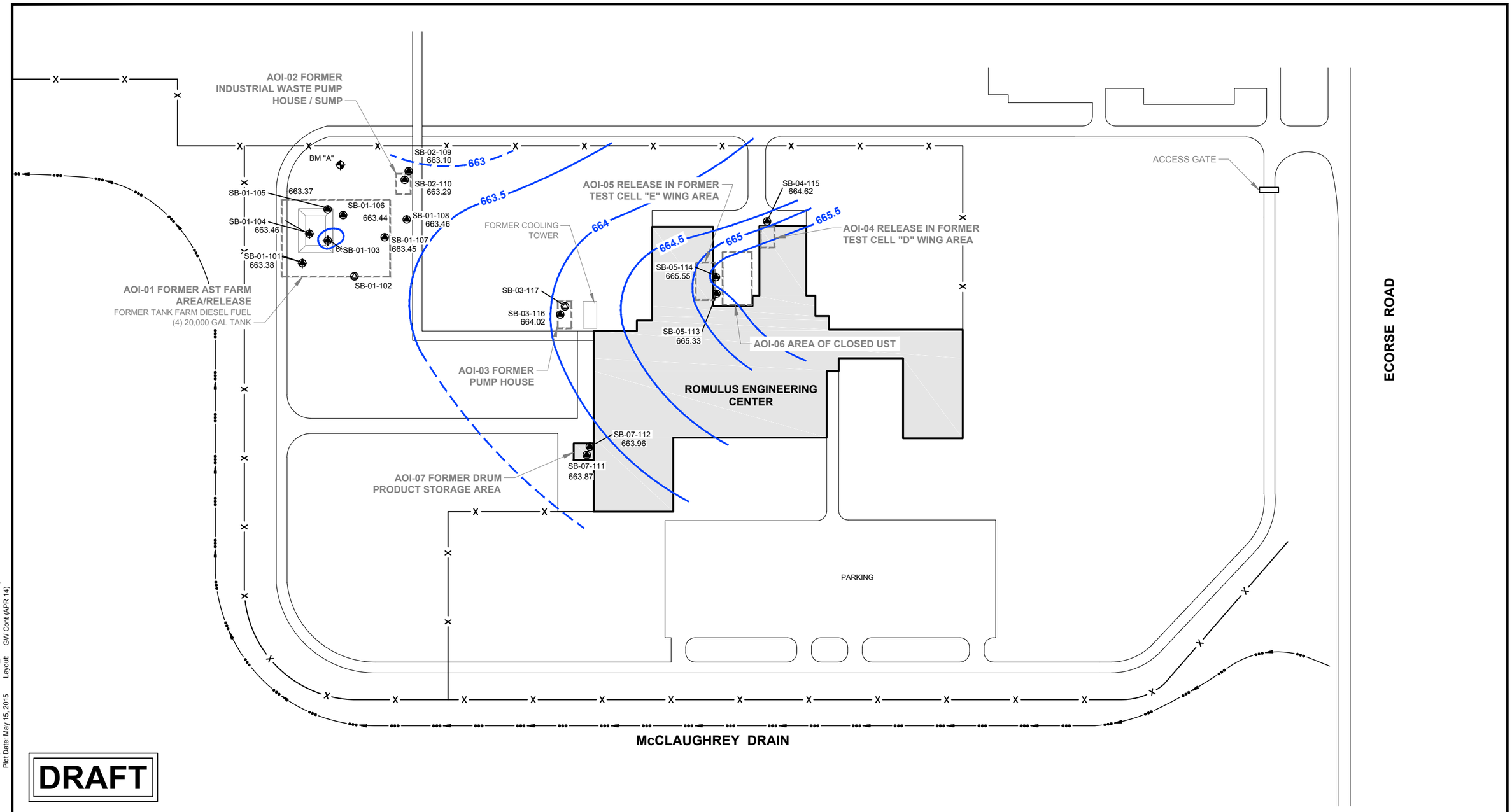
FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECORSE ROAD
ROMULUS, MICHIGAN

# SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS OCTOBER 3, 2013

SCALE: AS SHOWN
AUGUST 2014

FIGURE 3

Drawing Name: G:\37515-Romulus Engineering Center\005-RFI Implementation\CAD\37515-005_08 GW CNTRS 2014.dwg Plot Date: August 13, 2014 Layout: GW Cont (OCT 13)
Operator Name: ROWLAND, QUA




DRAFT

**LEGEND**

- FENCE LINE
- McCLAUGHREY DRAIN
- TEMPORARY MONITORING WELL
- SOIL BORING
- BENCHMARK
- 664 — GROUNDWATER CONTOUR LINE
- 663.93 — GROUNDWATER ELEVATION

**NOTES**

1. BASE MAP DEVELOPED FROM SITE PLAN PROVIDED BY GM POWERTRAIN.
2. THE SITE IS COMPLETELY DEMOLISHED.
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N E S W

0 200 400

APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

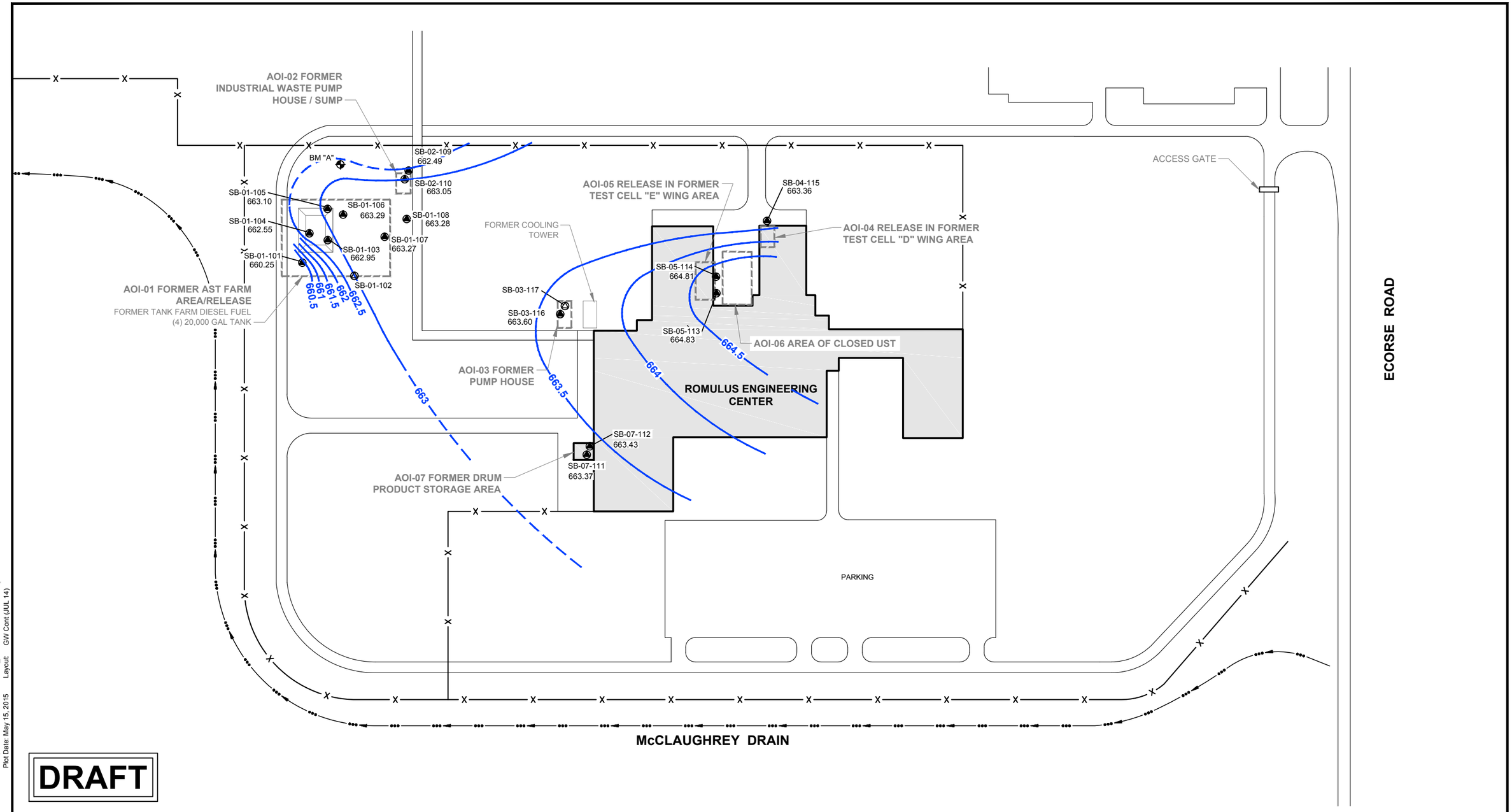
FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECORSE ROAD
ROMULUS, MICHIGAN

# SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS APRIL 15, 2014

SCALE: AS SHOWN
AUGUST 2014

FIGURE 3

Drawing Name: G:\37515-Romulus Engineering Center\005-RFI Implementation\CAD\37515-005_08 GW CNTRS 2014.dwg
Operator Name: ROWLAND, QUA
Plot Date: May 15, 2015 Layout: GW Cont (APR 14)




**DRAFT**

## LEGEND

- FENCE LINE
- McCLAUGHREY DRAIN
- TEMPORARY MONITORING WELL
- SOIL BORING
- BENCHMARK
- 664 — GROUNDWATER CONTOUR LINE
- 663.93 — GROUNDWATER ELEVATION

## NOTES

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N E S W

0 200 400

APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

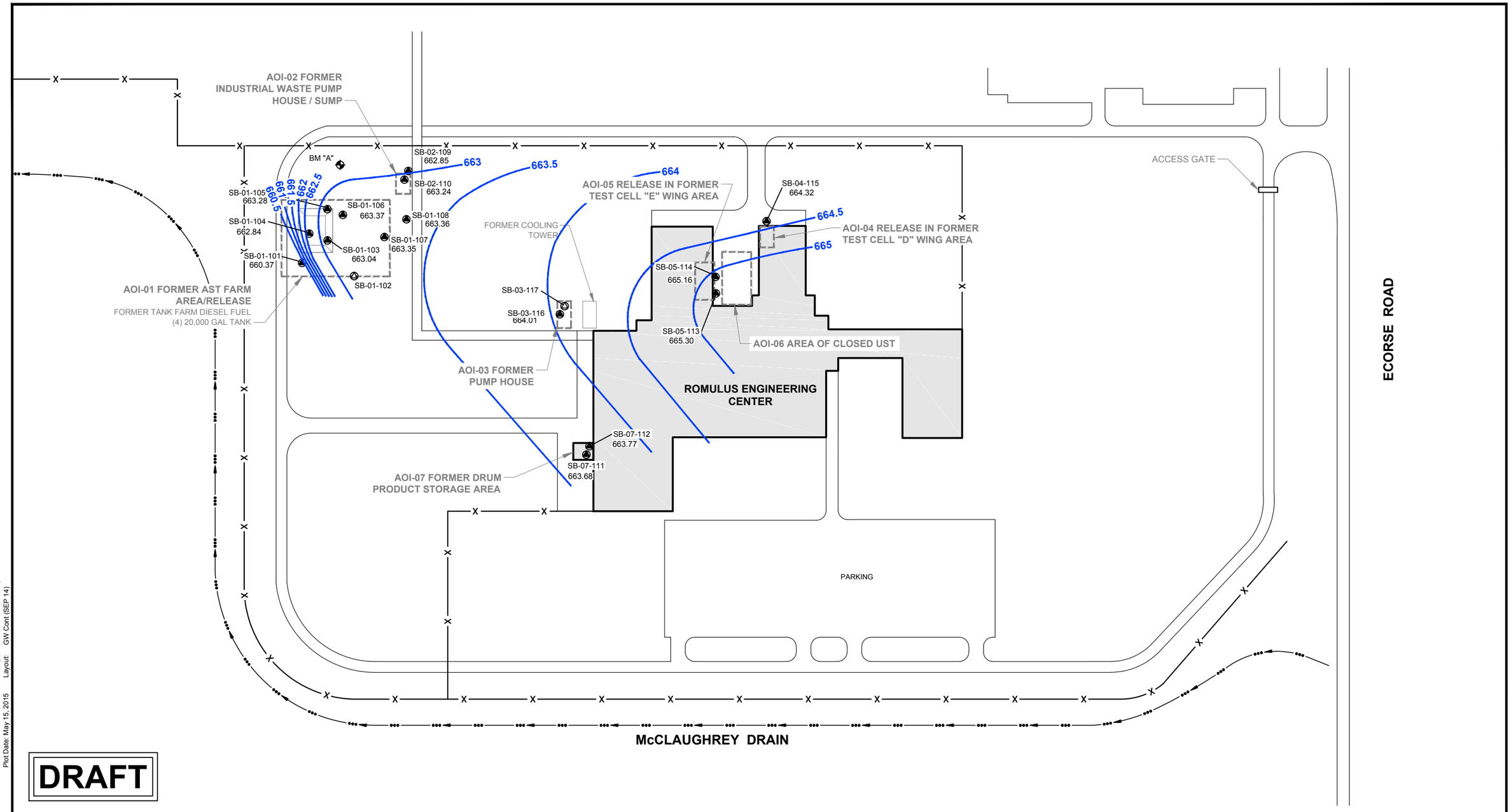
FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECORSE ROAD
ROMULUS, MICHIGAN

# SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS JULY 17, 2014

SCALE: AS SHOWN
AUGUST 2014

FIGURE 2

Drawing Name: G:\37515-Romulus Engineering Center\005-RFI Implementation\CAD\37515-005_08 GW CNTRS 2014.dwg
Operator Name: ROWLAND, QUA
Plot Date: May 15, 2015 Layout: GW Cont (JUL 14)




**DRAFT**

## LEGEND

- FENCE LINE
- McCLAUGHREY DRAIN
- TEMPORARY MONITORING WELL
- SOIL BORING
- BENCHMARK
- 664 — GROUNDWATER CONTOUR LINE
- 663.93 — GROUNDWATER ELEVATION

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N E S W

0 200 400

APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

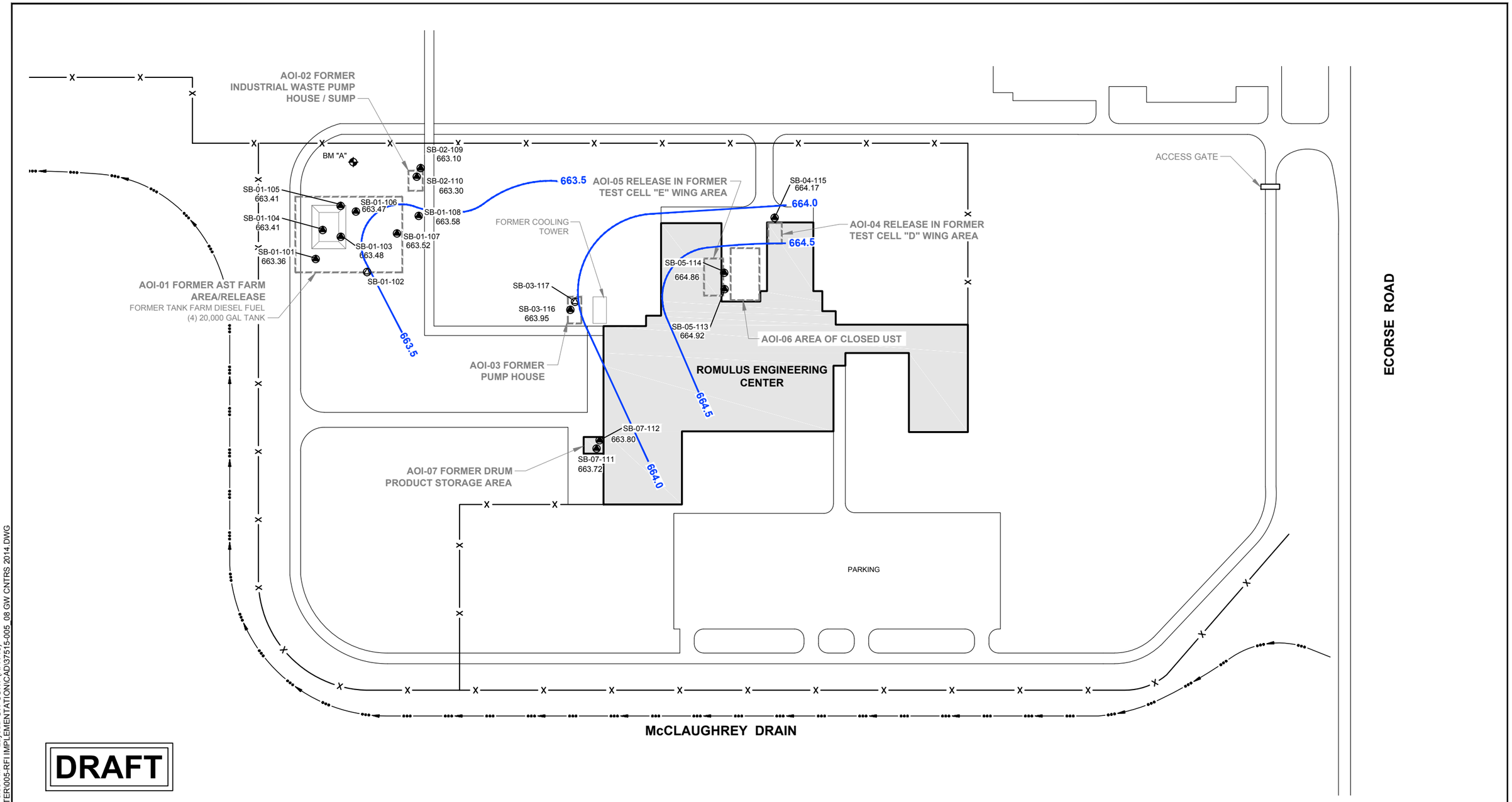
FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECORSE ROAD
ROMULUS, MICHIGAN

# SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS SEPTEMBER 2, 2014

SCALE: AS SHOWN
SEPTEMBER 2014

FIGURE 1

Drawing Name: G:\37515-Romulus Engineering Center\005-RFI Implementation\CAD\37515-005_08 GW CNTRS 2014.dwg
Operator Name: ROWLAND, QUA
Plot Date: May 15, 2015 Layout: GW Cont (SEP 14)




**DRAFT**

## LEGEND

- FENCE LINE
- McCLAUGHREY DRAIN
- TEMPORARY MONITORING WELL
- SOIL BORING
- BENCHMARK
- 664 — GROUNDWATER CONTOUR LINE
- 663.93 — GROUNDWATER ELEVATION

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N

0 200 400
SCALE IN FEET

HALEY ALDRICH

FORMER ROMULUS ENGINEERING CENTER
RACER SITE ID 1002
37350 ECOURSE ROAD
ROMULUS, MICHIGAN

# SHALLOW GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS APRIL 14, 2015

SCALE: AS SHOWN
APRIL 2015

FIGURE 1

ROWLAND, QUA Printed: 6/1/2015 3:00 PM Layout: GW CONT (APR 15)
G:\37515-ROMULUS ENGINEERING CENTER\005-RFI IMPLEMENTATION\CAD\37515-005_08 GW CNTRS 2014.DWG